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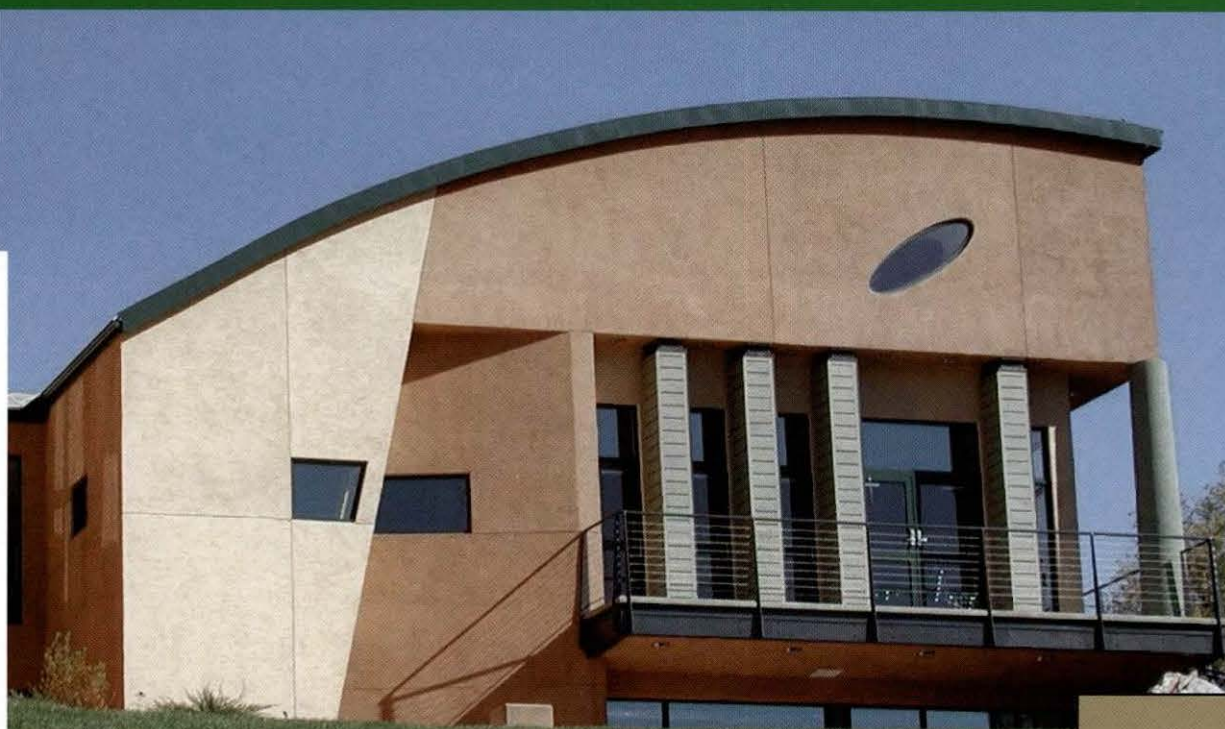
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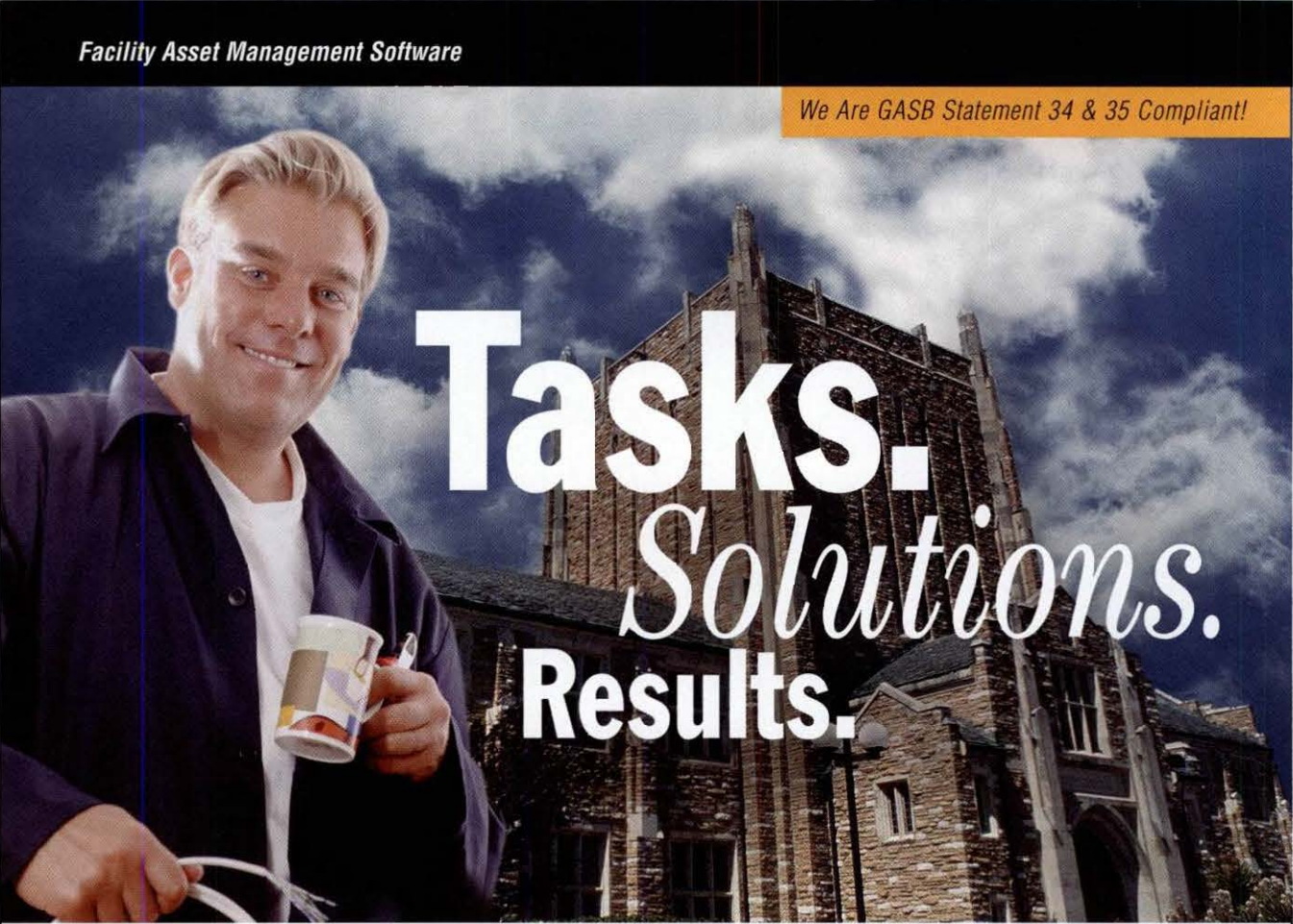
Facilities Manager

The official publication of APFA: The Association of Higher Education Facilities Officers

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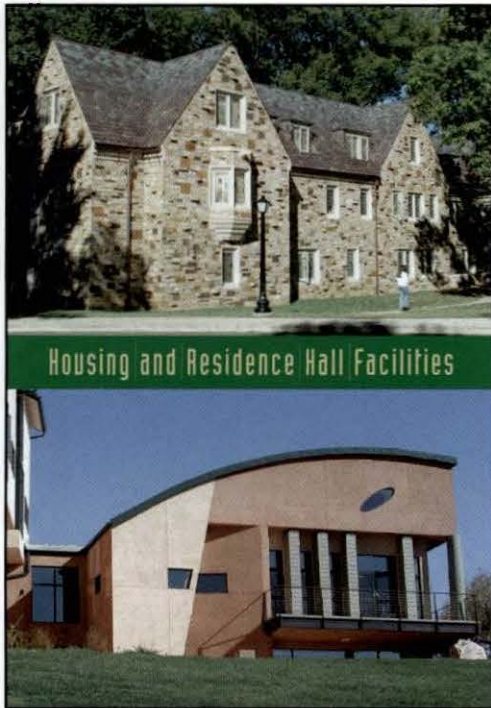
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Top: Rhodes College; bottom:
Colorado College

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Global Partner in Learning

From the Editor

by Steve Glazner

We were long overdue to produce

a theme issue on Housing and Residence Hall Facilities. Here we offer a quick overview of some of the pressing issues affecting housing and facilities professionals today. For more assistance and information regarding campus housing, we urge you to visit our strategic alliance partner, the Association of College and University Housing Officers-International, at www.acuho-i.org.

We're seeing more innovative approaches to the use of residence halls for food services, study and learning areas, student union activities, and more. Campus residence halls are big business for most institutions and provide both an important service and much-needed source of revenue. We thank Gary Thompson of North Carolina State University for his assistance and suggestions for this article and issue.

You'll also find articles describing the status of campus fire safety at U.S. institutions, a housing move-in program at Grand Valley State University, and the financing details for a residence hall renovation at Erskine College. We're also pleased to share a customer service success story from Emory University's custodial operation.

* * *

On another note, APPA is once again pleased to cosponsor the second Emergent Building Technologies Conference, February 3-5, 2002 in Las Vegas, Nevada. Integrating people, technology, and design, the EBTC is a leading resource for information and technical expertise for those involved in the design, building, maintenance,

and renovation of the non-residential and commercial construction industries. Our cosponsors again are the Construction Specifications Institute and the National Systems Contractors Association, with corporate sponsorship from the McGraw-Hill Construction Information Group. Endorsing societies include ACUTA, AIA, EDUCAUSE, and SCUP.

The EBTC provides attendees with the opportunity to discover solutions for the future within the built environment. Education sessions, workshops, and technical presentations address hot topics within the industry including: security, environmental issues, energy management, communications technology, and much more.

We're pleased also announce our distinguished keynote speakers:

- Daniel Burrus, a technology forecaster, will speak on *TechnoTrends: How to Use Technology to Go Beyond Your Competition*,
- Daniel H. Pink, author of *Free Agent Nation*, will speak on *The New Architecture of Work: How Earning a Living Has Become a Search for Meaning*, and
- Ben Schwegler, vice president and chief scientist of Walt Disney Imagineering Research and Development, will speak on this work to integrate a wide variety of design, construction, and operational data for all capital facility projects of the Walt Disney Company.

The time is now to register for the Emergent Building Technologies Conference at www.emergentbuildingtech.com/registerinfo.htm. All registrants will be invited to a special high-rollers Super Bowl party on February 3 courtesy of the Paris Hotel. We look forward to seeing you in Las Vegas. 🏰

In Memoriam

We recognize and honor the following APPA member who recently passed away.

- **John Parker,**
member formerly with the University of Tennessee, Knoxville.

Directory Updates

Please note the following additions and changes to the new 2001-2002 Membership Directory and Resource Guide:

Institutional Members

- Dave E. Brixen
david.brixen@asu.edu

- James E. Christenson
715-597-6324 phone
715-597-6324 fax

Business Partner Members

- **3D International**
Ron Hicks
(former APPA senior consultant)
Vice President
202-478-2500
hicks@3di.com

- **Diversified Intelligence**
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APPA Cosponsors Groundbreaking Survey

APPA cosponsored the first national survey of U.S. higher education environmental practices. *State of the Campus Environment: A National Report Card on*

Environmental Performance and Sustainability in Higher Education was conducted by the National Wildlife Federation (NWF) and Princeton Survey Research Associates (PSRA). Nearly 22 percent of schools surveyed responded and both NWF and PSRA believe that the results are "truly representative of college environmental practices across the nation."

The practices are sometimes progressive and sometimes conservative. For example, 80 percent of the schools who responded have introduced lighting efficiency upgrades, and 72 percent have installed efficient toilets, showerheads, and faucets. At the same time, only 26 percent of the participating schools' waste are diverted from landfills and incinerators.

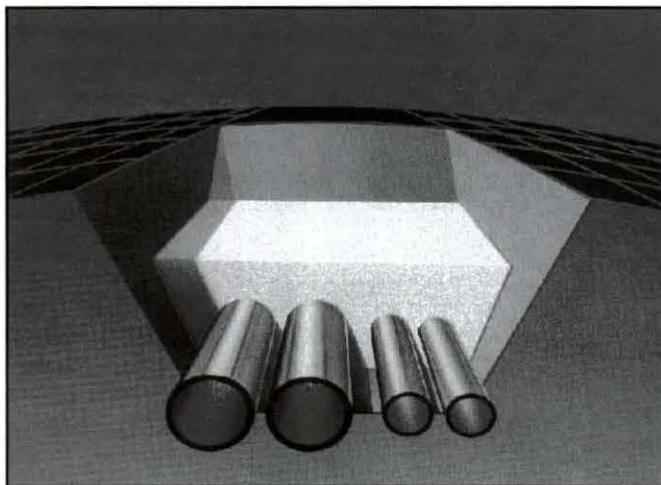
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The other area where schools are conservative is in educating students about environmental issues. Only 8 percent of the schools require that students take an environmental studies course, and not more than 10 percent of engineering and education programs offer an environmental studies course as part of its curriculum.

While the survey uncovered several areas where the higher education community isn't making the grade on environmental issues, the survey itself is the first step in ensuring improvements across the country. "For the first time, we can see broad trends that will help us set priorities and establish benchmarks for improving environmental performance and better educating because the two go hand in hand," says APPA Executive Vice President Lander Medlin.

Please visit www.nwf.org/campusecology for a complete copy of the report.

An Incentive to Conserve

Students at the University of Washington's Seattle campus are now required to pay an additional \$45 per quarter (\$3 per credit hour), while students at the Bothell and Tacoma campuses are required to pay an additional \$1 per on-campus credit hour. These additional fees will be used to cover the university's growing energy bills. The fee is temporary, but the university will bring in an estimated \$4.5 million.

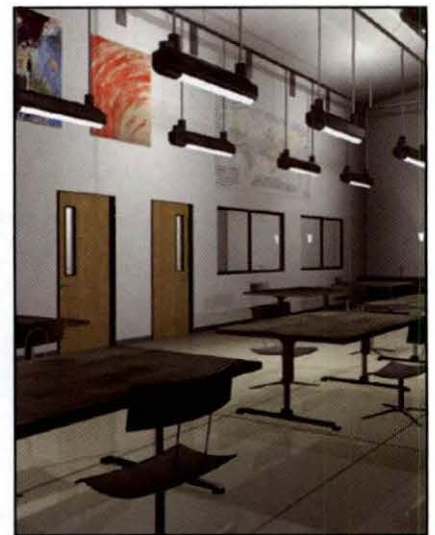
Before assessing the additional fees to students, the university tried to get the money from the Washington State Legislature but was unsuccessful. The students are unhappy about the fees, and the university regents approved the fees "reluctantly," instructing the administration to take steps to conserve as well.

Putting a New Face on Higher Education: A Texas Community College District Builds for Tomorrow

by Ann Hatch

Some buildings just need a facelift. Others need to be reborn. Some laboratories need the high-tech touch, and libraries must keep up with the times.

Those design and construction challenges signal major changes on campuses throughout the Dallas County Community College District, which is 35 years young in 2001. As a system, DCCCD serves one of the largest student populations throughout Texas—more than 50,000 students take credit courses on one of seven college campuses—and they expect facilities that will give them an edge in the job market and a solid

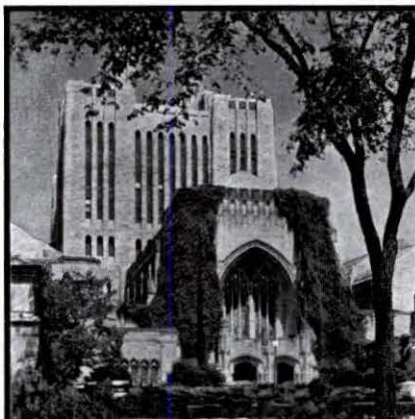


New art studio space and classroom at Brookhaven College.

foundation if they decide to transfer to a four-year college or university.

Those needs include: modern classrooms; better computer and laboratory facilities; new technology centers; new student services facilities; a community library; aesthetic storefronts; and infrastructure that can support each campus and every need.

But DCCCD planners take change in stride and think that building new facilities and improving learning envi-



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ronments for students is an integral part of their work. They successfully finished a six-year, \$70 million capital improvement project in 1996.

"DCCCD is larger than some four-year institutions, and we have many ongoing projects that have been designed to meet the needs of students, faculty and staff throughout our system," explained Clyde Porter, district director of facilities management and member of the American Institute of Architects. "The process involves planning, designing, bidding, awarding, and executing new construction or renovation projects on all of our campuses. Currently, we have ranked 14 projects at the top of our list at a cost of more than \$60 million, which includes costs for design, construction or remodeling, aesthetic review, and asbestos abatement when it's needed."

The district's seven colleges are Brookhaven in Carrollton (northeast Dallas); Cedar Valley in Lancaster (south Dallas); Eastfield in Mesquite (east Dallas); El Centro in downtown Dallas; Mountain View in Irving (southwest Dallas); North Lake in Las Colinas (west Dallas); and Richland in Garland (east Dallas).

Although construction, renovation, remodeling and relocation can be inconvenient, the students, visitors, and employees of DCCCD see progress. "We're making a difference," said Porter. "That's what we do." 🏢

Register Now!

Registration is now open for the *Institute for Facilities Management* (Tampa, Florida, January 13-19, 2002) at www.appa.org/education/institute, and for *The Leadership Academy* (Scottsdale, Arizona, June 10-14, 2002) at www.appa.org/education/plc.

Space is limited!

International APPA News

Southern African Universities Form APPA Association

President Gary Reynolds, Immediate Past President John Harrod, and Robert Kelly of the Australasia region were in Cape Town, South Africa in September to help organize a new southern African chapter of APPA.

For years, representatives from universities in southern Africa met to discuss issues relating to facilities management. This group, known as TIMCON (Tertiary Institutes Maintenance Conference), approached John Harrod wondering how they could become affiliated with APPA. The first step was attending the Educational Conference in Montreal. Ferdi Pieterse of Cape Technikon and Stan Dennis of Peninsula Technikon attended the meeting, where the Board decided that John and Gary would meet with TIMCON in Cape Town, South Africa. Robert Kelly also attended the meetings on behalf of AAPP, who volunteered to help with the project. The southern African association will undergo a similar process as AAPP did in becoming an APPA region.

This September that delegation arrived in Cape Town. Several days of meetings included presentations by John Harrod on the history of APPA; Robert Kelly on the formation of the AAPP region; and Gary Reynolds on the beneficial products and services that APPA can provide its southern Africa members.

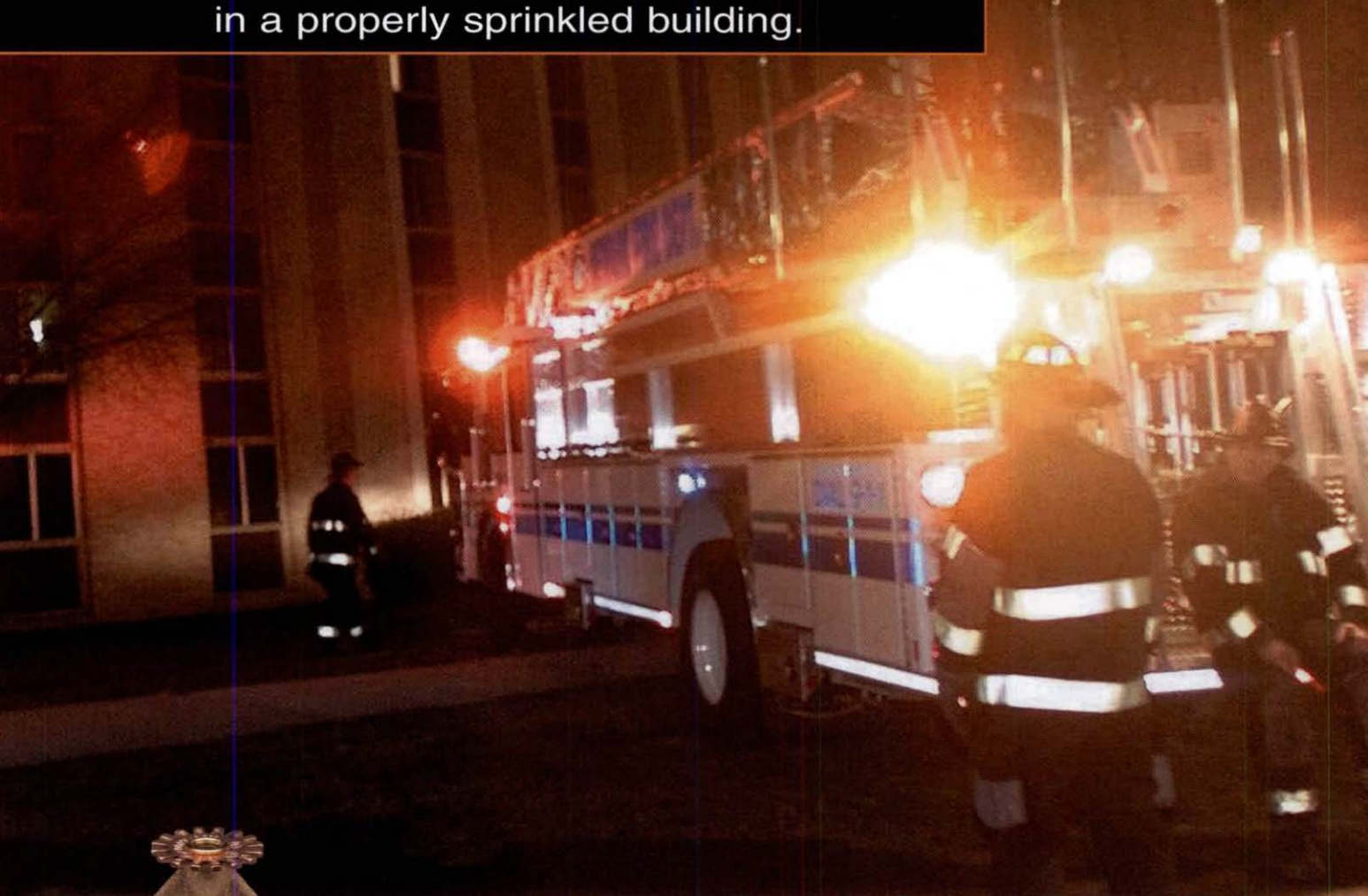
After several days of discussion, the group decided to form an association: Higher Education Facilities Management Association of South Africa (HEFMA). A constitution and dues structure for HEFMA was created and by the end of the year should be officially adopted.

Discussions remain ongoing and the exact structure of HEFMA is yet to be decided. However, "Our mission was very successful," says Gary Reynolds.



From left to right: Robert Quinn, University of Western Cape; Cedric Archilles, University of Western Cape; Desmond Kensley, Peninsula Technikon; Robert Kelly, Macquarie University; Gary Reynolds, The Colorado College; Stan Dennis, Peninsula Technikon; John Harrod, University of Wisconsin, Madison; Ferdi Pieterse, Cape Technikon. In the background: Table Mountain, Cape Town, South Africa.

in a properly sprinkled building.



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Executive Summary

What Really Matters? Moving Forward From September 11

by E. Lander Medlin

In the wake of the horrific tragedy of September 11, 2001 there is a sea of both individual emotions and organizational reflection.

Individuals across this great nation, and in fact across the world, are forever changed by the damaging events of that day. Our freedom, optimism, and joy tainted by terrorists' actions, we do not pretend to understand nor can we fathom their meaning or purpose. Before that day, we had been debating how the information age was changing the very fabric of our industry, profession, and community. Although still important, as we look to the future we face the larger questions of: What really matters? How do we begin again? How can APPA be of service?

Both individuals and institutions must wrestle with these and many, many more questions as we step boldly forward toward a new and different future. APPA is no exception. Therefore, it seems an important time for APPA, as a network of institutions and individuals representing educational facilities professionals globally, to reflect upon these questions and seek your feedback in the weeks and months ahead.

It has always been a source of inspiration knowing that this association exists to serve and support such an important endeavor as education in general, and the facilities profession specifically. "Building our children's future" as "global partners in learning" is a noble cause—indeed one we have been and will continue to be passionate about. We have always

believed that we provided many valuable services: focusing on your individual professional development, providing tools and resources for organizational improvement and excellence, and connecting a rich network of colleagues. The goals of these services are to improve individual job performance, build more productive organizations, connect an important community of professionals, and ultimately enrich your personal and professional lives. This is certainly what was important to you before this insanity occurred.

So the questions return: What really matters? How do we begin again? How can APPA be of service and

increase value to you and your institutions? We cannot answer these questions without your input and feedback. What are the issues, needs, and challenges we must address; the tools and resources we must arm ourselves with; and the educational programs and publications you most need?

As you, as we, consider these questions and concerns, it seems appropriate to take a moment to reflect on our association's direction and reaffirm its relevance and value in these turbulent times. What comes immediately to mind are the three desired outcomes from the strategic plan—the three Cs—competency,



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Lander Medlin is APPA's executive vice president. She can be reached at lander@appa.org.

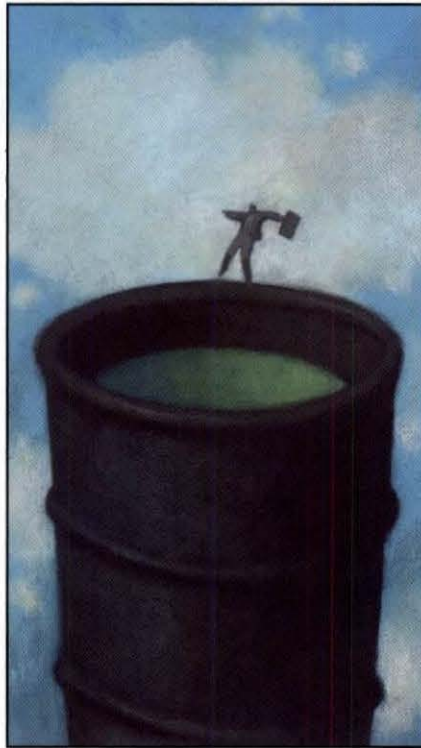
collaboration, and credibility. It is our belief that these three desired outcomes and the corresponding goals and initiatives focused on their long-term achievement are still quite valid, extremely relevant, highly meaningful, and maybe, just maybe, more important than ever before.

Accomplishing the three outcomes will mean we have become highly knowledgeable, educated, and ethical professionals ready to face any task requiring our technical, tactical, and strategic expertise—hence competency.

It will mean we have become strategic partners that are inclusive and accessible to all the stakeholders we serve and support—hence collaborative relationships. It will mean we have become valuable and influential advocates capable of providing meaningful and authoritative input into the institutional decision-making process—hence credibility.

We need to embrace all three outcomes as we come together as a united front in support of our institutions and our nation during their greatest time of need. A time when we must determine how best to maintain our freedom and, at the same time, protect our institutions, our communities, and ourselves. This is a time when we must recommit ourselves to the principles and fundamental values that we embody.

In the October 2001 issue of *Fortune* magazine, Joseph Nocera talks about capitalism's resiliency as the stock market opened for trading within four days of this surprise attack. He also focused attention on its fragility as there inevitably will be business and financial setbacks. As facilities professionals you have faced natural disasters and economic setbacks with amazing resiliency, yet you also understand the corresponding fragility these events can and will have on our institutions. And while we know that business as usual cannot happen, we also know that the institutions we support must find ways to transform



their services and resources to meet these unprecedented challenges head on.

So we must carry on at our institutions and within our communities. APPA too must carry on; APPA will carry on, as we firmly believe that the programs, products, and services offered by this association are the cornerstone and the foundation of the successful educational facilities professional. We, therefore, recommit ourselves to delivering the finest, most up-to-date educational programs representing the body of knowledge of the facilities profession. (Please see our Coming Events listing, or view the Education calendar at www.appa.org.) We provide informative publications and on-line information, materials and links to keep you abreast of the coming challenges and to address your changing needs (please visit www.appa.org/resources for a complete listing of our publications and other resources). We foster this rich network of facilities professionals through our awards and recognition programs (please visit www.appa.org/membership/awards for more information).

As we begin again to carry on our individual and organizational lives, it will take our best efforts; an effort in leadership that is an essential component of your jobs as facilities professionals. As aptly captured in a recent *Fast Company* magazine article, "The power of any community is a function of the strength of its connections. Let's be sure, during this difficult and perilous time, to make our connections even stronger than they have ever been."

A major source of strength comes from your connection with others who are facing similar challenges and concerns. You consist of a powerful network that will have a tremendously positive influence on your institutions and your community. By all accounts you are already doing so as you support blood drives, organize and contribute to various foundations/funds, offer assistance that is both technical and physical in nature, and provide much needed courage and strength during the aftermath. We applaud your commitment and your choosing to make a difference.

We are actively seeking your feedback, so please do not hesitate to e-mail me at lander@appa.org. You may also respond to our biweekly e-mail newsletter and/or visit our website. Tell us the new kinds of problems that you would like us to help you solve. Tell us the type of data, information, and knowledge you need us to research. Be sure to tell us what we should not change as well.

As you step boldly forward, APPA will do so with you. APPA will continue to provide you programs and services, tools and resources, and the network to learn from each other, to share experiences, and to develop an even stronger, more connected community in the months and years to come. 🏠

Membership Matters

New Membership Categories Include YOU

by Dina Murray

The mission statement in APPA's strategic plan states, "To support educational excellence with quality leadership and professional management through education, research, and recognition." This assertion cannot be accomplished without extending membership to a larger community of professionals.

In order to accomplish these goals, APPA realized that inclusiveness of all interested parties in the educational facilities profession must be a priority and that these individuals must be welcomed into APPA. In April 2001, APPA members voted to pass three new bylaws expanding the options available to APPA members.

These additions to the membership categories are included in APPA's Bylaws Article III (Membership), Section B of the 2001-2002 Membership Directory and Resource Guide.

The two new categories of membership are Retired and Individual. The Emeritus membership category has been revised significantly and no longer reflects the prior classification. The Individual membership category was established to accommodate facilities professionals who do not fit in any of the other membership categories. Also, members who are in transition and want to remain active in APPA will benefit from this new category.

Individual Membership

This new membership category will also give interested persons, who are not associated with an educational institution, an opportunity to participate and contribute to APPA.

Dina Murray is APPA's director of member services. She can be reached at dina@appa.org.



Examples of persons who might be eligible for this category include military personnel contemplating retirement from active duty and moving into the education field, someone in another profession considering a move into the education arena, or an individual between careers or jobs.

It is important to remember that only persons who are not eligible for any other membership category can apply for an Individual membership. Applications submitted will be approved under these stipulations. Benefits will include a subscription to the *Facilities Manager* magazine, a subscription to the e-newsletter *Inside APPA*, a listing in the membership directory, and a copy of the membership directory, among other benefits.

Individual members will not be able to vote, but can hold elective or appointive office. The cost of Individual membership in International APPA is \$170. This fee does not include regional membership. Individual members may join or be required to join a region based on each region's membership qualifications.

Emeritus Membership

With the new revised Emeritus membership category, your dedication to the educational facilities profession doesn't have to end with your retirement. Is that treasured day around the corner, or do you have years to go to plan for your retirement? Either way, APPA now has a membership category for you. In the past, Emeritus membership was the only option that was available to retired members. Now, Emeritus and Retired memberships are the two options available to retired facilities professionals.

Emeritus membership in APPA is now deemed a high honor that is only granted to retirees who have made significant contributions to the International APPA association, the region, chapter, and/or the facilities management profession. The Emeritus applicant must also be retired from the facilities management profession and have a continuing interest in the profession of facilities management and service in the association. The only qualifications for Emeritus membership prior to recent bylaws changes included retirement from the facilities management profession, membership in the association for a minimum of ten years, and the APPA Board of Directors' approval.

With the upgrade of qualifications, the level of honor of the Emeritus membership category has increased as well as the exclusivity to this prestigious category. Because of these members' dedication to APPA, the region, or chapter, emeritus members are celebrated with a variety of membership benefits. At this time, emeritus members do not have to pay dues. However, this is subject to change based upon the cost of providing services in the future, and subsequent approval by APPA's Board

of Directors. Other benefits include a subscription to *Facilities Manager* magazine, a subscription to the e-newsletter *Inside APPA*, a copy of the Membership Directory and Resource Guide, a listing in the directory, a special emeritus lapel pin, invitations to receptions, and special seating.

The numerous benefits listed above are awarded to those Emeritus members who have made significant contributions. Examples of contributions may include, but are not limited to, presentations at meetings, holding office at the chapter, region, or international level, participation on APPA committees, writing articles for *Facilities Manager* magazine, authoring books on the profession, recruitment of new members in the association, and serving on the faculty of the Institute for Facilities Management or Leadership Academy. These contributions and commitment to APPA are now being recognized and appreciation can be expressed to these distinguished retired members. Emeri-

The benefits for retired membership include a subscription to the *Facilities Manager* magazine, a subscription to *Inside APPA* e-newsletter, a copy of the Membership Directory and Resource Guide, a listing in the directory, as well as other benefits.

tus members will not be able to vote, but can hold appointed office.

Since not all retired members will meet the requirements for Emeritus membership, the Retired membership category was created. Because the educational facilities profession is always changing due to budget cuts, technological advancements, and a dwindling labor pool, your time commitment to APPA activities may have been limited. But this is understandable considering the average day of most members is not so average. Now the Retired membership category allows you to remain an active member of APPA. By approving the new bylaws, APPA has made

the commitment to accommodate all retired members.

Retired Members

The approved Bylaw Article III, Section B, Number 9, notes that Retired member status may be granted to an individual who has retired as a member in good standing. These individuals may have retired as an Institutional representative, an Associate member, an Affiliate member, or a Business Partner. The benefits for retired membership include a subscription to the *Facilities Manager* magazine, a subscription to *Inside APPA* e-newsletter, a copy of the Membership Directory and Resource Guide, a listing in the directory, as well as other benefits. Retired members will not be able to vote but can hold appointive office. The fee for these services is just \$90 per year. Your commitment to APPA and the educational facilities profession doesn't have to end just because you're retired.

If you are interested in receiving more information about the Emeritus, Retired, or Individual membership categories please contact Member Services at 703-684-1446. APPA is now accepting applications for Emeritus membership. Prospective Emeritus members will be asked to send their completed application to their region to initiate the approval process. Since the Retired and Individual membership categories will require more extensive programming changes to the database, these categories will not be officially offered until early 2002. A list of interested persons will be maintained and information will be distributed on the application process once it becomes available. This information will also be posted in *Inside APPA* and *Facilities Manager*.

These new membership categories will add to the diversity of APPA members encompassing a broader range of the educational facilities profession. Your patience is appreciated during this interim period as we strive to upgrade APPA membership services. 🏠

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What Business Are We In?

by James E. Christenson

There is nothing so useless as doing with great energy that which should not be done at all.

—Peter Drucker

I've shared some thoughts this year about change, empowerment, assessment, and the role of leadership. It's time for a reality check. What are our customers looking for? They may not give a hoot about any of these concepts. They're looking for a service or a product. The greatest leadership in the world is wasted if the group experiencing outstanding leadership, change, and empowerment doesn't produce something that is valued.

So what do education facilities management organizations produce? This may seem like a stupid question. But there are a few nuances of the typical mission that I would like to explore with you. Education facilities management organizations exist for two primary reasons that are sometimes in conflict.

They are on-site to directly serve the present customers: students, faculty, researchers, medical teams, and other members of the institution's internal community. And they are there as stewards of the institution's facilities assets on behalf of these same people, plus future customers, and the many stakeholders who are not members of this close-knit community. Their basic mission (or production), then, is service and stewardship.

Jim Christenson retired last year after serving 40 years in university and federal facilities management. He can be reached at jchrister@umich.edu.



In the service arena, the organization exists to respond to the reasonable requests of the campus community. I add "reasonable" because good service includes advising the customer against doing something dumb. Service covers the spectrum from responding to a call for more heat to building a complex laboratory to satisfying a vaguely articulated research objective.

One of the very important and basic service tasks is to make students, faculty, and staff members comfortable. Normally, people who have their basic needs satisfied can concentrate on higher level, creative activities. The facilities should enhance their efforts, not detract from them. In one sense, the people served by the facilities organization should not have to know that the organization exists. At least in the ideal world, they should have confidence that they will be comfortable without any action on their part, unless they have special needs.

Providing proper temperature, humidity, light, air quality, sound control, accessibility, and watertightness of the buildings is the starting point. But as you all know, even these

basic environmental attributes are much easier to list than to supply. It is immensely difficult, especially in older or poorly designed buildings, to deliver the ideal indoor environment. It takes the work of a variety of skilled people—people who are paid well to be good at what they do.

There has been much talk in America about the low wages paid for service as compared with manufacturing. We need to help institutional administrators understand that providing outstanding facilities service is not inexpensive. And the need for prompt service makes it even more costly. Besides, the list isn't complete.

The customer service list includes cleaning the buildings, making sure toilets are sanitary, interior painting, and keeping facilities maintained so they always work. It includes hanging pictures, making bookshelves, adjusting the desk chair, replacing a burned-out bulb, providing transportation when needed, designing and constructing a building, providing a scenic and safe outdoor environment, and more.

In providing customer service, we are in a world very similar to that of the entrepreneur or businessperson. We need to listen carefully to the voice of the customer. And, once more, who is that? Your primary customer isn't your boss. Sometimes the boss may think you work for him or her. But if that person is wise, she or he will realize that unless you respond to the expressed, valid needs of the students, faculty, researchers, medical teams, and other members of the institution's internal community, you aren't doing your job.

Listening to one person for direction is easy.

Listening to thousands of customers with multi-faceted needs is difficult. It means every member of the team must be trained to receive and act on the communications.

I've used a couple of phrases that bother some facilities professionals: "reasonable requests" and "valid needs." The more prestigious the institution, the more necessary is this aspect of providing service. Each dean, especially at such an institution, is determined to make a mark on history. This often involves facilities, either construction or adaptation. A dean typically has five years in which to accomplish the feat that will change the world in some area of study or research. The dean often does not, publicly at least, demonstrate interest in what follows his or her administration.

This is, of course, a harsh judgment. It would be grossly unfair to apply it to all deans; but the chief facilities officer should be aware of the tendency and be prepared to head off potential long-term damage. The demands by the customer may take the form of bypassing university planning, design, and aesthetic standards and processes to get a research facility constructed more rapidly.

Or it may head in a quite different direction: Seeking to build a spectacular facility that cannot be properly maintained. Examples of fallout from the latter requests are lights and smoke detectors installed in positions where they are inaccessible for maintenance. Many of us have assumed responsibility for buildings that had earned the designer an architectural award, but in which there are dozens of burned-out light bulbs that will never be replaced because there is no physical means to reach them within the soaring, sculptured atriums.

We have also inherited buildings that are scarred by additions that were designed and built in haste to fulfill an urgent need that is long forgotten. Only the shabby, out-of-character physical evidence remains. And, as we

Facilities have no voice of their own. The chief facilities officer is their only voice.

all know, the building will never be razed because the space within this monstrosity is too valuable. Similar problems on a smaller scale occur in some of the renovations requested by our customers.

When faced with customer expectations that are in conflict with the long-term institutional welfare, the facilities professional is on the borderline between service and stewardship. And that position can be as uncomfortable as that of the "fiddler on the roof." We may be perceived as a major obstacle in the narrow path to fame.

As service providers, we need to support the dean's initiative while precluding the diminishment of the long-term value of the facilities and the waste of financial resources. That is, we need to partner with customers to find a way to accomplish their objective while honoring the institution's traditions and standards, and ensuring long-term maintainability.

I've used the term "stewardship" a few times. What is it? Webster's dictionary defines it as "the careful and responsible management of something entrusted to one's care." That's an apt description of the second part of the facilities management organization's job. Years ago, physical plant directors thought it was their only job, even suggesting, only partly in jest, that the other members of the

campus community were just in the way. The chief facilities officer is entrusted with physical assets that, in replacement value, usually exceed the institution's financial endowment. Stewardship of these assets involves intelligently conceived and executed preventive, predictive, and corrective maintenance of all facilities and their components. It requires a full inventory of current and deferred plant renewal needs. But it isn't enough to hold out the alms box.

Facilities stewardship requires the chief facilities officer to identify potential sources of funds to perform cyclic renewal of facility components; to develop the strategy and rationale for reducing the accumulated renewal backlog; and to repeatedly, factually, and vividly describe the requirements and the potential solutions. Facilities have no voice of their own. The chief facilities officer is their only voice. That voice must be well informed, strong, and articulate.

The work of an education facilities professional is all about service and stewardship. Most of the work by the facilities management staff is physical, a rarity in the academic community. Rarer still are the skills required to perform such work. Many parents want their children to go to college, not to pursue a trade or a career in physical service.

In spite of increasing unemployment, most areas of America, at least, are severely short of people skilled in the trades and in high-quality maintenance. This puts an even higher premium on skilled leadership, appropriate and timely change, and enlightened empowerment, and ensures long tenure of these scarce and important people, who wield the wrenches, hammers, floor machines, and diagnostic equipment—the people on the front line. *They* are the ones who make the customer curse or smile. *They* are the ones the chief facilities officer is appointed to support with the best of leadership skills. 🏠



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The Challenges and Opportunities of Residence Hall Facilities

by Ruth E. Thaler-Carter

Today's facilities managers whose responsibilities include managing residence halls on college campuses face a daunting range of challenges.

According to Gary Thompson, assistant director for facilities for the Department of University Housing at North Carolina State University (NCSU) in Raleigh, North Carolina, the "laundry list" generally includes:

- *privatization/partnerization* of residence hall construction and management (third-party financing);
- *creating relationships* with the regular campus physical plant department—housing wants to be treated as a good customer of services and often has higher expectations or genuine needs for faster service as opposed to academic spaces;
- *facilities assessment*—needs to be done with the special consideration that these are living units, not academic facilities;
- *impact on budgets*—housing is self-supporting at most schools, and any room taken offline, whether for repair, maintenance, renovation or construction, cuts into budget and revenue expectations for the school;
- *accommodating big business*—"hotel" and conference business use of residential facilities in the summertime, intersessions, etc., and its impact on the ability to make needed repairs or undertake preventive maintenance;
- *increasing difficulties in scheduling maintenance*;
- *greater electrical demand* due to students bringing more appliances to campus;

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- *academic partnerships* with residence halls—providing services in living/learning environments;
- *developing a housing master plan* for the institution;
- *capital renewal/deferred maintenance* (CRDM) planning;
- *technical innovations* and new products for greater efficiencies; and
- *changing student needs* and preferences.

Different schools give these sweeping issues different priority. Here are some insights into what is happening at APPA-member campuses around the country.

Ongoing Concerns

Most of the issues facing facilities managers in the campus residential-life niche are familiar and recurring.

"The classic issue or challenge we face each year, both in our specific department and in residence life in general, is to have the halls ready by the time our students expect to move in," says Joan Schmidt, president of the Association of College & University Housing Officers-International (ACUHO-I) and associate director of Residence Life at the Central Michigan University, Mt. Pleasant, Michigan. "Summer is the only time for our maintenance crews or outside contractors to do any type of renovation work. That is also the time the majority of our painting, carpeting, tiling, plumbing, and carpentry issues are completed. Keeping in mind that we have more than a \$2 million summer conference program we have to work around to get this work done, and it becomes even more of a time issue. With older buildings, we simply have to continue our mechanical renovations to make them acceptable for our student population."

Central Michigan's "rather large" summer conference program is, says Schmidt, "a wonderful retention tool for our campus" but makes it difficult to schedule work.

The most common key issues for Gary Thompson include providing new housing for increased enrollments; renovating the existing inventory of buildings—"the majority of our campuses face an overwhelming capital need"; and the growing necessity of doing work when buildings are used year-round. "We have to do more work while our buildings are occupied nowadays," he says. "Campus residences are becoming like airports or hospitals—they're never closed."

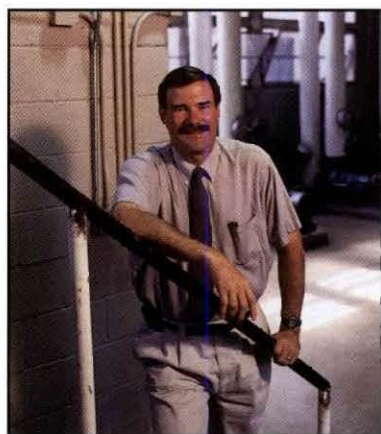
The financial aspects of having residential space go "offline"—closed temporarily for repair, maintenance, or renovation—creates challenges, as does the need to develop critical partnerships on campus. "Partnership" has become a catchword, but it is something we all have come to understand as vital," Thompson says.

Thompson expects to face continuing challenges in constructing new facilities for an increased student population, dealing with a \$100-million-plus deferred capital need, and continuing to do more work while residential buildings are occupied.

Capital renewal and deferred maintenance, changing student needs and preferences, and maintaining campus residential facilities used to house conferences rank as the three most challenging aspects of this niche for APPA President Gary Reynolds, P.E., director of facilities services at The Colorado College in Colorado Springs, Colorado. "The classic

issue is deferred maintenance and capital renewal," he says. Responding to what he calls the "social living" requirements of the Americans with Disabilities Act (ADA) and ever-more stringent safety guidelines also add to the challenge of managing campus housing.

Reynolds' institution houses 1,900 students in about 75 buildings and 2 million gross



Gary Reynolds, P.E., director of facilities services at The Colorado College

square feet of space. The Residential Life Department at The Colorado College has its own handyman, and a fund for capital improvements and maintenance, but Reynolds' department has the licensed plumber or electrician to do that specialized work and carries out the larger responsibilities, such as maintenance and capital construction.

"We have to use the capital asset most effectively and efficiently, which covers several of the main issues we all face," he notes. Thus, it makes sense for a college or university to use its residential facilities to house conferences during summer terms or intersessions, as long as everyone realizes that "then we can't get in to do maintenance and the kinds of



Western Ridge Housing Complex on The Colorado College campus

things we can't take care of all year when the buildings are in use as student residences."

Getting renovations and remodeling done on time and managing that can yield to an overflow or underfill of residential space on campus, are key recurring issues for Pat Kearney, executive director of housing for the University of California/Davis, whose institution often is viewed as an example of successful privatization in campus housing construction.

"We're having a fairly good year," says Kearney. "In the previous year, the construction market was so hot that contractors couldn't find people to do the work, so everything was down to the last minute."

Kearney's department is the contract administrator for third-party developers, serving 6,000 students (out of a student population of 26,000) in about 130 buildings. She sees many of the recurring issues for campus housing as having positive aspects—

"they mean things are going



Pat Kearney, executive director of housing for the University of California/Davis

well," she says. Major concerns include scheduling maintenance around constant use of the buildings and responding to a trend toward academic partnerships with residence halls, "which are important to many people in the community, so you have to have good interaction." Her campus has opened advising centers in residence halls for first-year students and faculty now are involved with special programs such as a floor for students who want to become teachers, making the residential space more heavily used in many more ways.

At Oklahoma State University in Stillwater, Oklahoma, one aspect of managing campus housing facilities is understand-



Thoreau Hall, UC-Davis

ing the nature of the student body's home environments, most of which are towns smaller than the university campus itself. "Many of our students come from towns where living with 600 people is simply too much," says Bob Huss, director of residential life at OSU. The university houses about 5,500 students, has added more than 10 buildings in the past year, and has about 20 for family housing. They have a total of about 50 buildings, ranging in style and scope from the traditional 14-story residence hall for several hundred students, to a small four-plex of two-bedroom apartments.

The campus has made a point of "starting new buildings before they were needed," says Huss. Capital renewal and deferred maintenance, from both financial and work planning aspects, lead his key issues.

New Issues in the New Year

While most issues involving managing campus residential life are familiar, a few new ones have cropped up this past year. For Gary Reynolds, one new challenge is adapting to the needs of a student who is hypersensitive to chemicals and other environmental elements. "Most of us have been wrestling with ADA requirements for the past ten years, but generally they are no longer new issues," he says.

"Students with special needs, such as those with allergies needing better air-conditioning service, are a challenge this year," Gary Thompson says. And students are getting savvy about using health conditions to get better living conditions: "They've figured out that saying you have an allergy means you're more likely to get a room with modern air conditioning."

Fire safety is of greater concern at some institutions this year, due to the Seton Hall fire and other events that brought public attention to that issue, according to Reynolds. In the wake of the September 11 terrorist attacks in New York City and at the Pentagon, some institutions may face new concerns about safety in general and protecting students in wheelchairs in particular.

Joan Schmidt of Central Michigan finds that new and continuing issues concern "fire safety, and the heightened

rules and regulations we must adhere to in our residential facilities. Our campus, as most, is studying the effects of new and/or proposed legislation and the budgets that will be needed to implement them," she says. Michigan higher education institutions also are dealing with "a state code concern with door closures on our residence-hall room-entrance doors. By December 2001, all doors in the state-supported institutions must have installed door closures that swing shut, so the doors do not remain open on their own," she says. "Obviously, this has been an expensive venture, as well as one of concern for residence life professionals who are encouraging a feeling of community on campus. Students want to keep their doors open so they can get to know the people who live around them, but propping doors is not supposed to happen."

Looking ahead, Schmidt expects to face a few new issues. "We are in the process of designing and building three new residence halls that will connect to four of our present halls," she says.

Schmidt also is hearing about issues elsewhere that she is lucky not to face at her institution: "Many schools, particularly in the south, are dealing with a tremendous problem with mold in apartments and residence halls on their campuses," she says. "They can't seem to get ahead of the problem and are spending countless hours trying to solve the issue."

In fact, the problem with mold infestation in residential settings has been the subject of a *New York Times Magazine* cover story and a "Rex Morgan, M.D." comic strip story line. At the University of Arizona, discovering allergy-triggering



**Joan Schmidt,
Central Michigan University,
and ACUHO-I President**



Larzelere Hall, Central Michigan University

mold in a dorm room was the last straw for one residence hall that already was approaching the end of its useful life. The building, originally a retirement home for the Knights of Columbus that had served as married-student housing for many years, already had been slated to be torn down within three years because the cost of repair and modernization was greater than practicable. It would have cost about \$2.5 million to check and clear all 358 units for mold, according to Arizona's Julia Rosen; the mold simply moved the demolition plans up to 2000. Plans for a replacement are in progress.

There was a silver lining to the mold issue, though. "Now we have a good response to water events," Rosen says. "We have training and can make an immediate response. We work jointly with risk management, facilities managers, and our insurance carrier to handle any incidents that might trigger mold."

It is not yet a problem for Central Michigan, but Schmidt also expects major electrical problems to evolve on campus. "Students bringing in computers, televisions, printers, scanners, micro/refrigerators, video games, and so on, will continue to exhaust our electrical systems," she predicts. "We also are building classrooms that are mediated in our residential colleges, which are an additional drain on electrical usage."

New buildings create their own special challenges, Huss finds. At OSU, "adjusting to new buildings is a new issue—there's always something that was missed in construction, so we're constantly finding and fixing little things."

Thompson as well finds that old buildings are making the new year somewhat challenging—"the inventory of aging buildings means more need for repairs and maintenance." The trend to changing standards of use—academic partnerships, using residential space year-round, etc.—also are increasing his department's workload.

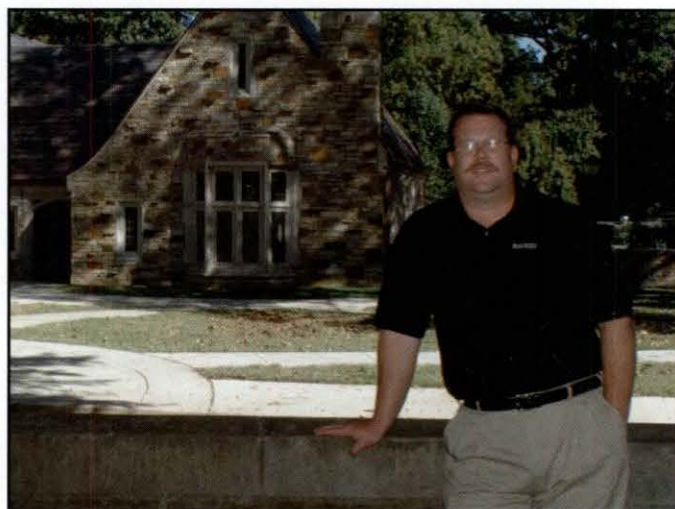
What Students Want

Student preferences not only play a large role in the nature of campus housing, but have been changing dramatically in recent years, giving facilities managers new demands to fulfill.

"I have seen student preferences changing over the years a great deal," says Schmidt. "Some of the things they are now requesting include private bedrooms, thermostats they can control, more space for all their 'stuff,' and lots more electrical outlets. We are incorporating all of these changes and suggestions in our new residence hall facilities."

Reynolds has seen similar trends: "In the last decade, we also have seen changing expectations of students in terms of what they expect from campus residences," he says.

In response, The Colorado College was just finishing and moving in the first students into a new apartment-style living environment for the fall 2001 session. That, Reynolds says, is only one example of a "relatively new phenomenon" reflecting the fact that "schools today are trying to provide various housing options, from dorms to apartment-style space to



Brian Foshee, Rhodes College

theme residences, such as old mansions converted into dorm space, as well as new houses we built for students with shared interests in areas such as languages, the arts, and environmental sciences."

That last option is one that campuses are seeing more and more, Reynolds notes, "especially at smaller schools," where the trend is toward creating "a blended academic/learning environment, like an academic village." Such activities and trends affect facilities managers in higher education by increasing the need to both renovate existing space and build new residential space, he notes.

At Rhodes College in Tennessee, residential life has a brand-new look. "East Village is the newest addition to the Rhodes residential experience," says Brian Foshee, director of physical plant. "Built in the Rhodes traditional Collegiate Gothic style, the new facility gives residents a balance of private apartments and gathering places for study, discussion, and social functions."

"The decision to construct the East Village was based on three factors: increased demand for on-campus housing; student desire to live in an apartment-style setting; and



Residence hall on the Rhodes College campus

confirmation of these factors through research and development of a residential master plan," says Foshee. The \$13.2-million project was financed through the sale of revenue bonds and completed in 14 months by a Memphis construction company.

The 74,000-square-foot, three-story complex has 200 beds in 50 fully furnished apartments, and targets upperclass students as its residents. Each apartment houses four students; 40 apartments have four single bedrooms in each unit, while 10 apartments have two double bedrooms in each unit. Each unit has a living room with a dining area and a kitchen with



Gary Thompson, North Carolina State University

sink, refrigerator, electric stove, microwave, and built-in cabinets. Cable, telephone, and Internet services are provided, both in the private bedrooms and in the living room; for security, there is card access at all entry doors. Common areas include a seminar room; lodge with fireplace; areas for study, meetings, or

socializing; and an outdoor terrace. There are also two laundry rooms in the complex. The school provides full maintenance, with housekeeping services for common areas and public restrooms. Four resident assistants will live in East Village to assist with any student concerns and coordinate social events for residents.

The increasing popularity of smaller campus housing facilities can work to the advantage of an institution. At OSU, "we found that students would pay more and line up to get into the smaller buildings, even if they were farthest from the library and thus not in desirable locations on campus," says Huss. As a result, "one goal of our current president is to put at least two of those high-rises to the ground," Huss notes.

For Huss, recurring issues include general cleanliness "keeping up with keeping stuff clean, because Oklahoma's red dirt gets into everything." Vandalism also can be a challenge—"it feels like a personal insult," he says of student damage to campus property such as furnishings and decor. "We've gone full-circle from fabric-covered furniture to very plain back to fabric, but it creates real challenges in upkeep and repair." In the face of long summers with extremely dry, hot weather, he is constantly trying to get support for keeping the grounds around residential buildings looking as good as the space surrounding the president's office and other presti-



Sullivan Hall, North Carolina State University

gious, high-visibility areas of the campus. "Elevators are always problematic," Huss adds.

Relations with the regular physical plant and facilities assessment are two areas that are not closely connected but are constant concerns, he says. One overriding issue is the difference in the impact of similar maintenance requests or repairs when they occur in residential versus academic space. "A light being out in a classroom is very different than a light being out in a residential room," he says. "You can take a little time to replace the light in the classroom, but it is absolutely critical that the light in the residential room be functional. There are very different priorities (in managing residential space), and these are challenges that our facilities people have to make clear."

Worth noting is Pat Kearney's recognition that student expectations demand good communications. "We believe in alerting parents and students ahead of time to any potential problems," she says. When construction looked like it might still be going on when a semester began, "we put pictures of our progress on a website so they could see where things stood. We had a good response to that—knowing there might be minor delays reduces any potential anger over arriving and finding things still in progress."

Where You Gonna Go?

Where do APPA members go for help and advice in dealing with the changing nature of campus residential life? Above and beyond APPA, there is a variety of help available. Cited most often by members was ACUHO-I. "The cross-country

network begins with ACUHO-I, and it has a strategic alliance with APPA," says Thompson.

Reynolds also mentioned the Society for College and University Planning (SCUP), the Council of Higher Education Management Associations (CHEMA), and the National Association of College and University Business Officers (NACUBO). "We look to other CHEMA members for resources, and APPA is looking to build relationships with these other organizations to create a vision of service and networking at a higher level."

Internal resources also are important, although often overlooked. "We have a good working relationship with the

physical facilities department," says Kearney. "When time was getting tight and workers were at a premium, I went there and created an arrangement so our contractor could pay overtime for finish work, which allowed us to open a new residence hall on time."

Thompson also suggests looking inward first. "Look for campus resources," he says. "Good relations with other departments are critical to our success in managing residential buildings on campus."

Schmidt also believes in using "the expertise of our in-house building maintenance workers, as well as the good folks in Facilities Management," she says. "We have a strong

relationship with other ACUHO-I colleagues whom we can turn to when we have a problem or we find out that they had encountered something similar. In addition, many ACUHO-I members take advantage of APPA programs and printed information, as well as ACUHO-I's *Talking Stick* magazine; entire issues have been devoted to maintenance concerns."

While "different associations provide different things" in the way of resources and advice, Reynolds says that a global view of the campus residential environment is key to effective use of campus residential assets. "I urge all APPA members to know what's going on in residential life, especially in ACUHO-I, such as the programmatic things we need to do to make residential life worth living," he says. "We need to understand the trends and implications. We need to understand the *entire* education environment." 🏠

Resources

Organizations:

- ACUHO-I, 614-292-0099, www.acuho-i.org
- SCUP
734-998-7832, www.scup.org

Recent publications:

http://www.appa.org/resources/Facilities_Manager/990506/article3.html
http://www.appa.org/resources/Facilities_Manager/981112/article2.html
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CAMPUS FIRE SAFETY TODAY

by Mike Thompson

Imagine heading to work on a cold but otherwise beautiful morning when you hear on the news that a fire has just occurred in one of your dormitories, killing three students and injuring another 62. This is exactly what happened to campus administrators and employees of Seton Hall University in New Jersey the morning of January 14, 2000. This fire, and several other recent fires with equally devastating effects, has resulted in increased awareness of fires in residential university facilities.

The early morning fire that engulfed the third-floor lounge of Seton Hall University's Boland Hall didn't last long and didn't destroy the building. In fact, the building sustained relatively little damage. The lounge and furnishings were much like those found in countless other student housing-type facilities throughout the country.

The fire, whose primary fuel source was a couch, rapidly grew, and with such intensity that it burned the paint off walls and doors and filled the building with smoke and toxic gases. Hearing screams for help and becoming aware of the smell of smoke, sleeping students realized that the fire alarms sounding in the building were not a fire drill or another nuisance alarm, but in fact the real thing. By this time however, it was too late for many students to evacuate without being exposed to the fire and its toxic byproducts.

On any campus, a dormitory fire of this magnitude—to require the services of a fire department to extinguish it—is a rare event. As such, it is natural to become complacent about fire safety, even going as far as crediting good fire safety prac-

tice or good luck. The United States Fire Administration reports that there are approximately 1,700 reported fires in U.S. dormitories and campus housing facilities each year.

It is important to understand that many more fires go unreported. These unreported fires are the ones that are extinguished by students or first responders such as campus police. They go unnoticed by local fire departments that are responsible for reporting such incidents. Although small, these fires have the same potential to turn a seemingly innocent event into tragedy.

DORMITORY FIRE STATISTICS 1992-1996:

- 8,000 fires between 1992-1996
- 405 civilian injuries
- \$40.5 million in property damage

NATURE OF OCCUPANCY AND OCCUPANTS THAT RELATE TO DAMAGES/INJURIES DUE TO FIRES IN DORMITORIES:

- Sleeping rooms - disoriented, potential for delayed response;
 - Nuisance fire alarms;
 - Resistance to evacuation;
 - Combustible ornamentation;
- Equipment abuse/vandalism; and
- Poor housekeeping by tenants

Mike Thompson is a supervisory fire protection engineer in Gage-Babcock & Associates' Washington, D.C. office. He can be reached at mthompson@gagebabcock.com. This is his first article for Facilities Manager.

LATEST FIRE LOSSES (MOST RECENT FIRES - DATA FROM MAY 2001)

DATE	LOCATION	OCCUPANCY	SUMMARY
5/31/01	Louisiana State Univ.	Residence Hall of origin, fire caused by radio	Damage contained to room on top of a dresser.
5/22/01	Univ. of Mass.	Dormitory	Candle fire, 2 students received minor burns. Single-station smoke detector went off and both tried to extinguish flames.
5/21/01	City Univ., London	College Building	Destroyed roof, 70 students safely evacuated.
5/21/01	Univ. of Washington	Horticultural Center and offices in the center	Fire destroyed laboratories, determined as arson.
5/19/01	John Carroll Univ.	Off-campus house	2 students killed in two separate fires. A third student who was injured died 5/25/01.
5/15/01	Univ. of Kentucky	Administration	Building destroyed by fire that apparently started by welding on the roof. Building was undergoing a \$1.3M renovation.
5/10/01	Babson College	Residence Hall	Fire contained to one room, and was due to a malfunctioning laptop computer.
5/8/01	Univ. of N.C.	Hi-rise dormitory	Damage contained to an area of about 50 sq. ft. No injuries were reported.
5/7/01	Oswego, NY	Off-campus apartment	18 people left homeless, many of them students, following a fire that destroyed most of a city block.
5/3/01	Univ. of Colorado	Off-campus apartment	Candle fire, fire heavily damaged one bedroom, 4 students displaced. No automatic sprinklers present and both smoke alarms had been previously disabled by the occupants.
5/1/01	Univ. of Texas	Hi-rise, off-campus housing	1 student killed, 1 critical injury.
5/1/01	Sacred Heart Univ.	Off-campus house	10 students left homeless.

Fire loss information pulled from the Campus Firewatch website www.campus-firewatch.com

FATAL COLLEGE/UNIVERSITY DORMITORY FIRES (1973-1997)

Date	Location	Civilian Deaths	Civilian Injuries
1973	Auburn University	0	0
1974	Kents Hill School, ME	1	0
1975	Tang Hall Dormitory, MIT	1	0
1976	Wilmarth Dorm, Skidmore College	1	60
1977	Providence College, RI	10	16
1979	Slippery Rock State College	1	3
1980	Dancer Hall, Univ. of North Iowa	1	0
1981	Davis Dormitory, Texas College	1	8
1982	Dormitory, University of Chicago	1	0
1982	Dormitory, Clark University	1	3
1986	Russel Apt. Bldg., Bush Campus	1	1
1987	Wesley College - Williams College	1	4
1997	CMSU, Foster-Knox Hall	1	0
1997	Hannings LN - UTM - Ellington Hall	1	5
1997	Gramercy Park, School of Visual Arts	1	0
1997	Greenville College, Kinney Hall	1	0

Source: National Fire Protection Association

Public Awareness and Expectations

Campus officials have the responsibility to provide a safe and secure environment for students, whether they are attending classes or taking a nap in their dorm room. In the wake of recent fatal dormitory and fraternity house fires, the public has become more conscious of fire safety on campuses. There is now a published checklist for parents to ask campus administrators specific questions relating to fire safety in dormitories.

In fact, there are at least four bills proposed by Congress this year concerning fire safety on campuses. One such bill, an amendment to the Higher Education Act of 1965 titled "Campus Fire Safety Right-to-Know Act," will, if enacted, require colleges and universities participating in any program under the bill to disclose fire safety standards and measures to all current and prospective students and employees. Some of the information that will have to be divulged include the number of fires, number of false alarms, level of fire safety training received and given, and whether or not dormitories, apartments, fraternities, and sororities are sprinklered.

The job of providing adequate fire safety in higher education facilities has never been under such scrutiny. A good campus fire safety program will include a balance between fire safety education and awareness to students and employees; strict enforcement of fire safety regulations; prevention; and adequate and maintained building fire protection features.

Training and enforcement programs are easy to implement and require marginal investment. However, training requires an educated and dedicated enforcement staff as well as constant maintenance. With high student turnover in campus housing, fire safety training becomes a continual effort. Training may also be considered marginally effective, particularly given the ages and the "I'm invincible" mindset of the typical campus student population.

Prevention is the fire safety program element that includes limiting potential fire sources and reducing the total fuel load that may exist. Although sources of ignition are numerous, a review of fire reports and investigative articles on campus fires indicates that arson, smoking, use of candles, cooking, and halogen lamps have become the primary sources of ignition in residential occupancies.

Coupled with limiting potential ignition sources, a good fire protection program should include a plan to minimize fuel sources. Potential fuel sources include overstuffed furniture, wall hangings and draperies, as well as ceilings and floor finishes. The quantity of this material, type, and installation configuration all affect the flammability of the material. For example, a certain type of carpet installed in accordance with the manufactures recommendations may be considered safe. However, the same carpet installed on the walls in the vertical position may result in a deadly flammable combination. There are standards to test interior finishes and their suitability for use in residential buildings.

Regardless of the training, enforcement, and prevention programs, building fire safety features must be addressed. No longer can administrators hang their hats on the age-old cliché of, "I don't need to make fire safety improvements to my dormitory because it met the code when it was built." Simply put, parents expect more for their children!

Many dormitory fire safety features can be improved without major financial implications or disruption to the buildings' occupants. In fact, my experience in surveying dormitories has confirmed that many, even those less than ten years old, are in need of fire safety improvements or maintenance and repair of existing fire safety features. Furthermore, there are many critical fire safety deficiencies that have historically contributed to high-profile residential fires that should be addressed even if the dormitory "met the codes"

when it was built. The following are five examples of building features that have been reported to be major contributing factors in residential fires.

1. **Stairwell Enclosures:** Exit stairwells are required to be fire-rated enclosures to afford a protected path to the exterior during a fire emergency. It is common to find the stairwell enclosures violated with penetrations for conduits and pipe; stairwell enclosures that are not fire-rated; stairwell doors with non-rated plate glass windows; broken closers and latches; and doors propped open. These conditions have the potential to allow the spread of fire products such as smoke and toxic gases to other floors as well as preventing the use of the stairwells for their intended purpose: an egress from the building. In older dormitories and in fraternity and sorority houses, open stairs are common between floors. This was the case in the University of North Carolina/Chapel Hill fraternity house fire that killed five students in 1996.
2. **Open Shafts and Unprotected Vertical Openings:** One of the paramount fire safety features of a building is to prevent the vertical spread of fire and fire products to other floors. In addition to stairwells, there are many residential buildings with numerous unprotected vertical openings between floors. This has been particularly prevalent in dormitories where electrical and plumbing improvements have been made, or where cable television and telecommunications networking has been installed without proper or adequate fire stopping.
3. **Interior Finish:** Today's building codes contain specific requirements for interior finishes, i.e., the materials applied to walls, ceilings, and floors. In residence halls that were constructed 30 to 50 years ago, it is common to find highly combustible materials attached to walls and ceilings. Most notable are wood fiber ceiling tiles attached to the structural floor above. These tiles alone, when exposed to a fire, will play a significant role in the development of the fire. Many times, an institution will install a new suspended ceiling below the existing one without removing the existing combustible tiles. This arrangement sets the scene for a potentially dangerous scenario that has occurred numerous times. A fire originating in the space above the suspended ceiling can go unnoticed, rapidly spreading and producing explosive gases, until it reaches such force as to almost explode down through the suspended ceiling.
In addition to the combustible ceiling tiles, combustible interior wall finish is common, most notably, inexpensive wood paneling, carpet, and textured wall finishings attached to walls. Most building codes have specific requirements for such interior finishes as they are installed. Wood paneling also has been determined to be a major contributing factor in the UNC fraternity house fire.
4. **Missing or Violated Fire Separations:** One method, very common in older buildings, to prevent or limit the spread

of a fire was the installation of fire separations or enclosures. Typically, this type of protection consisted of fire-rated enclosures around rooms containing large quantities of combustibles, fire-rated corridors, and fire-rated walls separating floors into separate fire areas. If doors have been removed or replaced with non-rated fire doors, closers and latches removed, or the fire-rated walls violated with penetrations, these enclosures will not provide the protection originally anticipated and will greatly increase the potential for a disaster.

5. **Inadequate Fire Protection Systems:** Building and fire codes applicable to buildings built 30 years ago required very little fire protection systems. More likely than not, the only fire protection systems required were manual fire alarm systems. Smoke detectors were in their early stages of development and fire suppression sprinkler systems were being installed only for property protection. In the past 30 years, remarkable efforts have occurred in the development of fire alarm and sprinkler systems.

Many facilities have since installed battery-operated smoke detectors in individual dorm rooms. Their sole purpose is to notify occupants of a fire within the room. These smoke detectors do not initiate the building evacuation system or initiate alarm notification to the local fire department. System detectors, which historically have been prone to false alarms, can now sense specific smoke conditions and adjust themselves to environmental conditions that typically resulted in unwanted alarms. As a result, false alarms, except those identified as mischief, can be greatly reduced with today's new fire alarm systems.

Many educational institutions are initiating programs to install system smoke detectors in individual dormitory rooms to act as single-station smoke detectors for smoke within the room. These are typically arranged to initiate the building evacuation alarms if not reset in a given time period or if a second fire alarm device goes into alarm mode.

Sprinkler systems, like fire alarm systems, have undergone major technological improvements in the last 20 years. No longer are sprinklers being justified for property protection, but rather, life safety. In fact, the National Fire Protection Association (www.nfpa.org) reports that there has never been a multiple death fire in a sprinklered building. New technology has enabled sprinklers to detect and suppress a fire long before it becomes a threat to building occupants.

In many cases, sprinkler systems are being retrofitted into existing campus housing facilities as a result of state or local legislation. In other cases, sprinklers are being retroactively installed to provide compensating features or an equivalency to correcting some other building fire safety deficiency or simply to improve the level of safety in the building. Today, in areas without mandated sprinklers legislation, campus administrators must weigh the advantages and disadvantages of such installations.

Unfortunately, with the installation of fire protection systems comes maintenance. Next to prisons, a campus residence hall has the reputation for the worst abuse of fire protection systems. Fire protection systems have design features that can be implemented into installation that will help minimize abuse. Two such features include the use of concealed or tamper-resistant sprinklers. However, such features should be thoroughly investigated and discussed with system designers prior to final design. Once installed, repair of damaged fire protection systems and scheduled maintenance are necessary evils that must be strictly implemented.

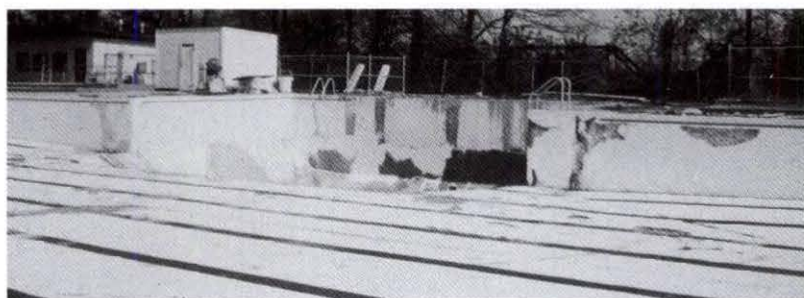
Those who have experienced fires on campus know that the combined direct and indirect loss far exceeds the direct monetary loss to the building, not including the adverse press and its financial fallout. Relocation and housing of displaced students is an enormous burden. The tragic fire at Longwood College in Virginia in April 2001 is an example of the disastrous consequences of a fire. The blaze, which occurred around 9:30 p.m., forced the evacuation of 400 students from adjacent dormitories. It began in a complex of historical classroom and office buildings undergoing a major renovation. In addition to destroying the school's signature building, the fire caused extensive damage to the campus infrastructure, required the evacuation of four residence halls, and caused

the cancellation of classes and final exams. Press reports indicate that one dormitory is still off line undergoing repairs, and that it won't be ready for occupancy until the spring semester 2002.

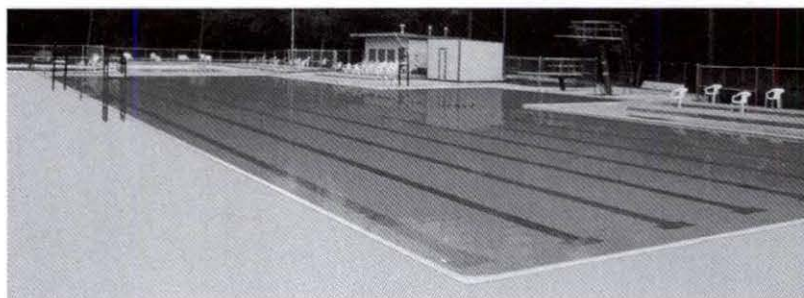
Given the relatively rare occurrence of fires in residence halls, few people outside of the fire protection profession have experience or can appreciate the subtle differences of building features that can contribute to or propagate a small fire into becoming one of disastrous proportions. Even fewer people can appreciate the speed at which a fire can develop into such a magnitude as to block escape routes or overcome sleeping occupants if appropriate fire safety features are not present or have become compromised. Given the right combination of fuel and air, fires in residential occupancies can reach deadly proportions within three minutes of ignition.

Awareness of campus fire safety has never been so public as it is today. As a result, campus administrators and housing officials have been challenged to review the existing fire and life safety features in residential facilities and to develop as well as implement improvement plans. This is necessary if they are to provide a level of safety consistent with the public interest. Such plans should include evaluations and improvements to existing training and prevention programs, enforcement procedures, fire protection systems, and building fire safety features maintenance programs, as well as plans to provide fire and life safety improvements deemed necessary to improve survivability. 🏠

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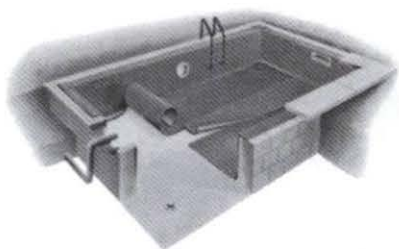


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HOUSING MOVE-IN

Builds a Foundation for Community



by Bill Lucksted, Donna Markus, and Janet Walls

Facilities professionals take pride in development and stewardship of buildings, landscapes, and infrastructures. After all, these operations provide tangible evidence of our endeavors. However, one of the most important things we build is not structural at all—it is the community we create for undergraduate, resident students. And one of the most important things to remember is that we can't do it alone. It takes a truly collaborative effort to establish a relationship with our students that we hope will last a lifetime.

From August 22-26, 2001, we moved more than 4,400 students into Grand Valley State University housing facilities. More than 400 executive officers, administrators, faculty, staff, and volunteers from across the institution joined together as a successful move-in team.

Our goal? For the GVSU "family" to sincerely and warmly welcome students back to the campus. Our approach? To work as a team to plan and then manage a process that would

create a unique, fun-filled, and memorable four-day event for all. This is the GVSU move-in story.

First the Facts

GVSU is a comprehensive, multi-campus, Michigan public university with 75 undergraduate and 15 graduate degree programs. The scenic 897-acre Allendale campus is located 12 miles west of downtown Grand Rapids and ten minutes from Lake Michigan. GVSU remains the fastest growing institution in Michigan, with a fall 2001 enrollment nearing 20,000.

The Facilities Services & Planning unit is made up of 171 staff members in five departments:

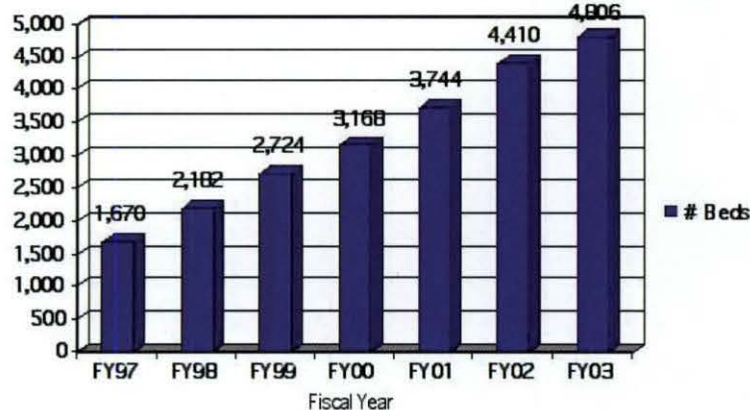
- Administration
- Facilities Planning
- Facilities Services
- Pew Campus & Regional Centers Operations
- Public Safety Services

With 128 employees, Facilities Services is the largest department. The 128-member workforce includes 112 custodial, grounds, maintenance, and service staff.

Since fiscal year 1997, we have added over 2,700 beds to the Allendale housing system at a rate of about 500 beds per year. This represents a 164 percent increase over the past six years. The system currently contains 4,410 beds in 60 buildings totaling 944,000 gross square feet. Facilities range from traditional-style freshmen living centers to apartments and theme housing.

Bill Lucksted is facilities services supervisor at Grand Valley State University, Allendale, Michigan, and can be reached at lucksteb@gvsu.edu. Donna Markus is GVSU's manager of special projects and can be reached at markusd@gvsu.edu. Janet Walls is the associate director of housing at GVSU and can be reached at wallsj@gvsu.edu.

GVSU Residential Student Housing Pattern of Growth



Allendale Campus

An Unusual Summer

Summer 2001 was filled with challenges that would affect our move-in preparations. The Michigan Department of Transportation had a \$50 million road reconstruction project in progress that centered on the main artery to the Allendale campus. GVSU Facilities Planning had \$106 million worth of construction projects underway, including the completion of new housing facilities scheduled for August 2001 occupancy, creation of new housing for August 2002 occupancy, interior renovation of two existing living centers, widening of Campus Drive, and construction of a 100-foot archway over the main entrance. For much of the summer, campus was affectionately referred to as a "destruction zone."

In the midst of construction, we managed summer camp season as groups moved in and out of housing facilities. The talents of custodial, grounds, and maintenance staff shone as they worked feverishly around contractors and campers to get buildings ready for the students to return.

Also with 2001 came the retirement of our top three executive officers—the President, Vice President for Finance & Administration, and Provost. President Mark Murray and Vice

President for Finance & Administration Tim Schad joined us in April and July, respectively, and were therefore new to the GVSU community and the annual move-in "madness."

It's the Process

Tim Thimmesch, director of facilities services, explains, "Move-in was something that several of our departments—Housing, Facilities, and Public Safety—noted as a process problem four years ago. We decided to work together to improve move-in at GVSU." This decision resulted in development of a planning initiative that has evolved to incorporate staff from all departments participating in the event.

Each spring, representatives from Housing, Facilities Services, Facilities Planning, Public Safety, Student Life, Registrar's Office, Food Services, and others begin to meet on a regular basis in anticipation of move-in.

Discussion topics include traffic control, parking, signage, food service arrangements, vehicle loading/unloading, volunteers, campus amenities, buying books, shuttle service, and development of the Welcome Center.

Planning Committee members return to their departments to share information and seek feedback for the committee, so that ultimately the planning effort extends across the campus community. After move-in, the committee reconvenes to talk about what went well, what didn't, and how to improve it for next year.

Don't Bite Off More Than You Can Chew

It would be extremely difficult for us to manage the chaos that would result if 4,400 students, their families, and vehicles arrived on the same day. One of the first decisions made by the Planning Committee was to spread the move over several days, with the schedule based on facility occupancy, traffic flow patterns, and our ability to load/unload vehicles while preventing gridlock at building entrances and parking lots. In a group of three living centers, for example, we may choose to schedule two for the first day and the third for another day. Housing advises residents in advance which day they are scheduled for move-in.

Keep 'Em Moving

One of the keys to success is having a well-organized system of movement. "From the time people enter campus to the time they're moved in," says Allen Wygant, director of public safety services, "they should be in motion. We should develop a route, identify the points along the route where there may be hesitation or confusion, and provide direction with staff or signs to keep up the momentum."

Public Safety staff greet vehicles entering campus and direct those headed for housing facilities to a white tent in a parking



lot across from the housing area. Once there, another officer issues each driver a color-coded dashboard card according to the student's residence. (These cards make it easy to tell at a glance where each vehicle belongs as it moves through the process.) Cars are then funneled through appropriate lanes to an intersection where an officer directs drivers to the correct buildings.

Housing, Facilities Services, and Public Safety work together to direct traffic on the campus interior in order to guide vehicles close to buildings for unloading. After a vehicle is unloaded, the driver is asked to move the car into one of the resident parking lots. We ask that no vehicle be left unattended in front of a building.

May the Staff Be With You

This is the most labor-intensive special event of the year for Facilities Services and Planning. The director of public safety along with 25 officers and student security personnel direct traffic and manage parking. The facilities services director and his supervisory staff are spread out at key locations to guide vehicles and manage the loading/unloading process.

Custodial and maintenance employees are stationed throughout the site. We make continual runs to remove trash and recyclables from 20 dumpsters placed strategically near facilities. The Customer Service Center is staffed each day to process work requests. All are clearly visible, wearing either uniforms or special shirts identifying them as Facilities Service & Planning employees. Once inside their rooms, students find a tabletop card with the phone number and website address of Facilities Services should they need further assistance.

The director of housing, assistant director, and associate director take turns in the Welcome Center and circulate through housing to answer questions and help families. Other Housing staff members are present at check-in tables at each building entrance. Resident Assistants and Multicultural Assistants mingle with residents and talk with family members to start the connection to GVSU on the first day.

Helping Hands

A special feature of GVSU move-in is the "Helping Hands" program managed by Housing. Almost 50 faculty and staff volunteered to help meet and greet families. It was not unusual to see President Murray or Vice President Tim Schad go by with an armload of boxes as they helped students unload.



Institute For Facilities Management Class of November 2001

APPA's Institute for Facilities Management congratulates the following individuals, who successfully completed the Institute in Scottsdale, Arizona.

Terry Adams, Stanford University
Garry Aumack, Rutgers University
J. Annette Bardouille, University of Michigan
Erik Burns, Pima Community College
Jennifer Campbell, The Catholic University of America
Paul Clark, University of Michigan
Lee D. Comer, West Virginia University
Joseph Fanelli, The School at Church Farm
Robert Fawbush, Catholic University
Joseph Ferritto, Case Western Reserve University
Mark Flynn, Northern Arizona University
Donna Forrester, University of California/San Diego
Nancy R. Gilchrist, Colorado State University
Jay Huneycutt, University of Arkansas
DeWayne Hurst, Claremont Colleges
Mike Hutchinson, Skidmore College
James J. Jedierowski, University of South Florida
Orfeo A. Kostrencich, University of Utah
Pete Lelonek, Iowa State University
Matthew S. Messer, Centre College
Roy A. Miller, Illinois Central College

Jeffrey Monteleone, University of California/Santa Barbara
Anthony Motto, University of Virginia
William Myers, University of LaVerne
Ronald E. Roberts, The University of Texas/Austin
Alicia Rodriguez, Rutgers University
James L. Rose, California State University/Long Beach
Stephen D. Ruble, University of Delaware
Leslie H. Smith, University of Michigan
Terry W. Starnes, University of Central Arkansas
Delmer Stidham, SEMO University
John L. Strickland, Campbell University
Lanny Tinker, Arkansas State University
Scott Towslee, Whitman College
Robert Unrath, University of Missouri/Columbia
Lawrence Wainwright, Valencia Community College
Richard D. Weil, Catholic University of America
Mark Wenger, Colonial Williamsburg Foundation
David Yen, Rutgers University
Jim Zavagno, San Jose State University

Twenty-four registered student organizations with approximately 275 students also volunteered to participate. What a pleasant surprise for a family to find five students waiting at their car to help unload and watch over belongings! "Helping Hands" volunteers and Housing staff wear "Ask Me" badges so they may be easily recognized.

Special Touches

Understanding that families are excited but also weary, we have implemented two services designed for customer convenience—a Welcome Center and shuttle service. Parents, especially, are appreciative of these options.

The Welcome Center is located in close proximity to housing in an upscale food service building. Representatives are stationed inside from Housing, Food Service, Financial Aid, Student Life, Campus Ministries, Public Safety, University Bookstore, Campus Wellness, and the Registrar's Office. This "one stop shopping" approach enables students to buy parking permits, get student IDs, check schedules, ask about upcoming events and have questions answered.

Two shuttle buses make continuous runs throughout move-in. A parking lot shuttle transports people (and empty boxes) to their vehicles or back to the Welcome Center. The University Bookstore shuttle drives back and forth from the Welcome Center to the University Bookstore. This service makes it possible for a family to leave their vehicle in a parking lot after unloading, and not have to move it again until they are ready to leave campus.

Make It Fun

The return of students to campus is a cause for celebration! We work very hard to create an atmosphere of joy throughout the event. All staff travel in golf carts. Student DJs play music outside of the Welcome Center. We use big Styrofoam hands to direct traffic. The director of housing pushes a Ben and Jerry's cart through the crowds as he hands out free ice cream. Facilities Services employees issue "litter bucks" (an idea borrowed from a fellow institution) to students who use ash urns or pick up litter—good for \$1 off beverages or food purchases on campus. Move-in is the highlight of the year for us, and we use the opportunity to share our enthusiasm with students and their families.

Customer Feedback

So, how do students and parents feel about move-in at GVSU?

- *This is so well organized—it's wonderful. Thank you so much!*
- *You guys really have move-in down to a science. Really well done.*
- *We moved our daughter into Kistler yesterday. I just want to compliment you on how well the move-in process worked. It couldn't have been any smoother. Amazing that you can do*

this so well and still have all of the construction going. It was a big help that there were so many people around to answer our questions. Thanks again.

- *I can't believe the free shuttle service is for students!*
- *I feel like I'm at Disney World with the service we've gotten here!*
- *If all of the GVSU staff are as nice as the ones I've met at move-in, it's going to be a great year!*

Compliments like these tell us we're headed in the right direction, and they make all of the hard work worth it.

Our Thoughts

What do we think makes the GVSU approach unique and successful?

Andy Beachnau, Director of Housing: "I believe staff at GVSU have a lot of pride in ownership in the campus. Staff have a clear sense of purpose and teamwork that creates an atmosphere that is professional and fun for resident students."

As the Facilities Services Supervisor, responsible for custodial service in housing facilities, Bill Lucksted attributes the success to his staff's flexibility and willingness to "go with the flow" and work together to prepare buildings for occupancy. Lucksted feels that another important factor is the synergy between all departments. "We start meeting together early to discuss the upcoming year's challenges, so that by August everything is starting to fall into place."

For Tim Thimmesch in Facilities Services, setting priorities is key. "Our students and their parents come first this time of year, and we want them to feel that way. We have made move-in a positive, organized, and smooth transition that helps to get our academic year started on a high note."

Creating Community

It is truly an extended family of administrators, faculty, staff, and students that connects to build a relationship with resident students. We hope to teach the meaning of community by example, not only through working well together but also by enjoying the process and approaching it as a gift we offer to the newest members of the GVSU family. How we choose to handle move-in determines whether students begin campus life feeling isolated or as members of a supportive community. "We tell people at Orientation how wonderful GVSU is," says Allen Wygant. "Move-in is our chance to prove it."

Welcome home. 🏠

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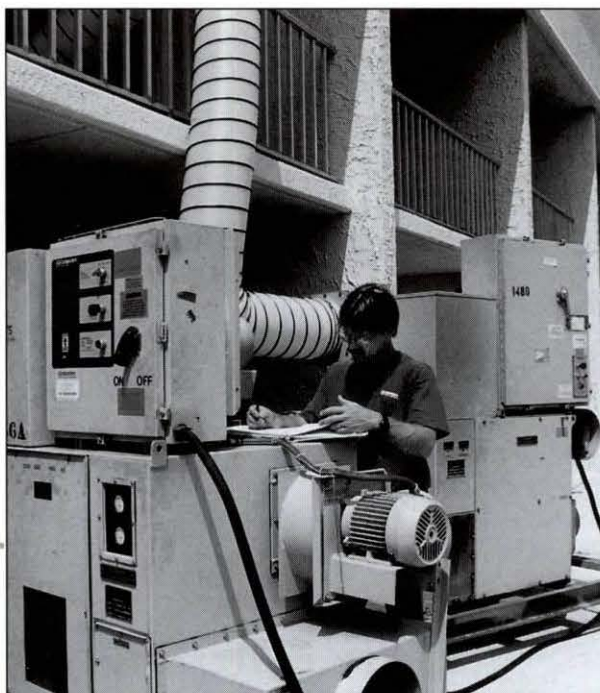
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DORM Renovations



To Increase Enrollment **or** Maintain Status Quo?

by William Stauff

The Erskine College Board of Trustees approved a \$2.7 million plan to renovate two dormitories on campus before the beginning of fall term 2001, with an overall plan to renovate all seven dorms on campus over three summers, at a cost of approximately \$10 million.

Erskine College, located in Due West, South Carolina, renovated Grier Hall for first-year men and Bonner Hall for upper-class women this past summer, and the projects were financed with tax-exempt bonds, says Erskine Board Chairman Bill Patrick of Greenwood, South Carolina.

"These are substantial, long-term renovations to these dorms," Patrick says. "We changed the complete layout of the rooms and lobbies, and we are intending for the major part of it to last 20 years."

"This project was unashamedly student-driven," says trustee Calvin Draffin of Due West, chair of the subcommittee on housing. "Both current and prospective students will benefit next year from these renovations."

Bill Stauff is vice president of finance and operations for Erskine College and Seminary, Due West, South Carolina; he can be reached at stauff@erskine.edu. Stauff is on the faculty at APPA's Institute for Facilities Management, and he has 20 years' experience at Harvard University and the University of Virginia in finance and facilities. Assistance on this article was provided by Jason Peevy, Erskine's public relations director.

During the planning, Draffin said the Dorm Renovation Committee attempted to create living spaces where students could "get together to watch television, rent movies, or just be together."

Senior Jennifer Metz of Irmo, South Carolina said these "community spaces" were important to students, and that the renovations will give them more flexibility in their rooms. "There's going to be more space in the rooms, and that will give us more options on how we want to arrange things," Metz says.

The renovations include creating common areas for students on each floor, new furniture for each room and the lobbies, new windows, renovated bathrooms, new laundries, handicap access, improved lighting and electrical upgrades, and more.

The renovations should be good news to incoming students. "I think it was wise to do a freshman and an upper-class dorm at the same time, and to do the work so quickly," says Erskine Admissions Director Jeff Craft. "This will help with our student morale and our recruitment efforts. It is just a great, great move by this board, and is going to have a huge impact on our campus."

According to Erskine President Dr. John Carson, "We felt that this was a time for continued bold action. This is not something we have taken lightly, and many people have worked hard to make sure the proper preparation was in place."

Bonner Hall, a three-story, air-conditioned dormitory housing 168 women, was opened in 1970. It replaced the original Bonner Hall, main building of the Women's College, which was built in 1860 and destroyed by fire in 1964. The colonial style Grier Hall, built in 1956, houses 106 men.

The Erskine Board added that the other dorms on campus will be renovated as part of a five-year strategic plan after this project is complete, over the next two summers.

Erskine College, Due West...of What?

Erskine College is located in Due West, a town of 1,200 residents located in historic Abbeville County, South Carolina, an area rich in colonial, Revolutionary War, and Civil War history. The town and the college, with a number of antebellum buildings, are listed on the National Register of Historic Places.

Erskine is the only national Christian liberal arts college in the South, based on its national academic ranking from the Carnegie Foundation and membership in the Council for Christian Colleges and Universities. Erskine is classified by the Carnegie Foundation as a "BAI" institution, the top classification of liberal arts institutions nationally. Erskine's academic quality has been recognized by six recent listings in national publications.

Erskine's select undergraduate student body of 550 includes a 13:1 student-to-faculty ratio, encouraging individual attention and an atmosphere of learning and maturity.

The college was founded by the Associate Reformed Presbyterian (ARP) Church in 1839. Prior to this time the church had established in Due West, South Carolina, an academy for men in 1835. This academy became Erskine College, the first four-year church-related college in South Carolina. Due West Female College, founded in 1859 by Associate Reformed Presbyterian ministers and laymen, came under the control of the ARP Church in 1904 and merged with Erskine College in 1927.

To Renovate or Not

What affect does renovating dorms have on attracting students to any campus? Many colleges and universities that built dormitories in the 1950s and 1960s have realized that they need to renovate these outdated facilities just to maintain current enrollment and, they hope, to attract increases to the current student body. It is not a matter of should we renovate, but when.



Bill Stauff in front of Grier Hall

Funding Options

To renovate Erskine's seven dorms will cost approximately \$10 million. The school's endowment is \$40 million, but a good portion of it is restricted for scholarships and other uses. The endowment has had a five-year return averaging 12 percent.

One option to financing these residence hall projects is to borrow with relatively inexpensive financing at 4 to 5 percent through tax-exempt bonds. This financing is available to colleges and universities under state and federal law.

TABLE 1

All-In Effective Interest Cost ("EIC") of VRDN

\$10,000,000 VRDN

2000 Year to Date

Estimated Annual Costs:

Base Rate	4.080%
Letter of Credit Fee	0.500%
Remarketing Fee	0.125%
Trustee	\$2,500.00
Rating Review	\$1,000.00
Estimated Upfront Costs*	\$140,000.00
**All-In Effective Interest Costs (EIC)	4.910%
Average Annual Debt Service	\$839,000

**Up to (2%) of bond proceeds can be used for issuance costs and amortized
**All in-cost reflects all annual costs and upfront costs amortized over the life of the financing.*

The lower all-in borrowing costs of tax-exempt financing has allowed many institutions to build needed facilities earlier and with less impact on the budget and without taking principle from the endowment (see Table 1). Due to the difficulty of obtaining their own public credit ratings—and with the low-cost, flexible prepayment and ease of implementation of a letter of credit (LOC)-backed variable rate demand note (VRDN) issue—most colleges in South Carolina have used VRDNs.

The LOC from the bank guarantees principal and interest. This has given colleges the flexibility of a long-term debt re-

payment schedule (20 years) which can be prepaid without penalty as fundraising pledges are converted to revenue. VRDNs are sold in \$100,000 denominations. Interest is paid monthly and can be capitalized during construction.

Scheduled principal repayment is annual and is negotiated with the bank. The college obtains bond counsel, who drafts the primary bond documents and gives tax opinion. The whole process takes about eight to ten weeks. Many colleges have found it advantageous to structure pledges such that, when received, the funds can be invested at yields higher than the VRDN interest cost, using gains to build their endowment. Five of the larger public finance companies by dollar volume that offer bond financing are Goldman Sachs

and Co.; Banc of America Securities LLC; J.P. Morgan Securities; Banc One Capital Markets, Inc.; and Lehman Brothers.

One method the college could choose to pay back the bank is to use existing return on investments from unrestricted principals from the endowment. Erskine has identified such funds that would be sufficient for the repayment (see Table 2).

A capital campaign will also be launched in a few years where expected gifts would come in to the endowment for which the principle and or the returns could be used to supplement or repay the bonds.

TABLE 2
\$10 Million Dorm Payback Plan

	Fund A		Fund B	
	Unrestricted Endowment		Unrestricted Endowment	
Percentage	0.07		0.0506	
Unrestricted principal	\$7,579,422		\$8,835,104	
Scholarships (not eligible for bond payback)			\$137,616	
Chair (not eligible for bond payback)			\$44,472	
Eligible for bond payback			\$264,864	
Unrestricted - dividends year 1 (for bond payback)	\$530,560			

Fiscal Year						
	June 2001	Year 1	Year 2	Year 3	Year 4	Year 5
Bond proceeds	10,000,000					
	0					
Principal balance		6,666,667	3,333,333			
Project Expenses		3,333,333	3,333,333	3,333,333		
Sources of Funds to Payback Bond:						
Fund A Unrestricted (7%)	530,560	541,171	551,994	563,034	574,295	585,781
Less committed	(327,922)	(298,923)	(148,923)	0	0	
Net Fund A Available	202,638	242,248	403,071	563,034	574,295	585,781
Fund B	264,864	270,161	275,565	281,076	286,697	292,431
Less committed	0	0	0	0	0	0
Net fund B Available	0	270,161	275,565	281,076	286,697	292,431
	0	0	0	0	0	0
Total Funds to Payback Bond	202,638	512,409	678,636	844,110	860,992	878,212
Bond payments due	0	431,583	431,583	836,583	829,246	831,481
Difference	202,638	80,826	247,053	7,527	31,746	46,731



Strategic Planning

The college recently undertook a comprehensive strategic planning conference with alumni, the community, administrators, faculty, students,

and the town of Due West. The process resulted in a draft of strategic goals for the next five years.

One goal is to increase enrollment from 500 to 600 by 2005. Another goal is to renovate and landscape the Erskine College campus to maximize the function of facilities and the beauty of the setting. Other goals include marketing, fund raising, and curriculum revisions.

The Board of Trustees believes that all of these goals are highly interrelated and dependent upon each other. The thinking is that even with planned outlays of expenditures for marketing and a successful fund raising effort, the college may still have great difficulty in reaching the enrollment goal without also seriously considering dorm renovations. Accomplishing all of these strategies is necessary to reach the overall goals with a degree of success.

Contractor/College Relationship

The county of Abbeville recently hired a full-time building inspector. Erskine brought Randy Caldwell on board early to avoid any compliance or ADA issues. The preliminary plan in Grier, the male dorm, for instance, was to build a game room in the unused basement. When Randy explained the rules and red tape and excessive cost associated with handicap access, the college took an alternative approach, which met the same objectives and was within the budget.

The benefits of a small college and town setting is that everyone knows each other and the contractors are local. The college has had the unique advantage of being able to draw from a small pool of qualified contractors over the years. These contractors have also worked with each other on other college projects. Many of these

have been chosen as the subcontractors for these two projects.

Recently all of these contractors met in our conference room for a briefing. The schedule and time line was explained, issues discussed, and questions answered. Besides the low bid, timing is extremely crucial to the success of the projects. There are 15 weeks from the time the students leave for the summer and return for the fall semester. The dorm furniture contractor was required to be on site with trailers of furniture and staff on July 31. They were prepared to assemble the modular furniture for all of the rooms and be out by August 15, in time to clean up and be ready for the students' return on the 17th.

In addition, the college has realized substantial savings negotiating with the contractors by the college purchasing the materials directly, eliminating a markup.



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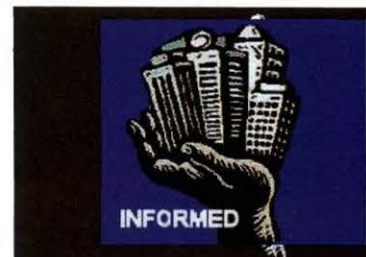
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The old McGee Gym was replaced 20 years ago with a modern athletic activities center. The old gym, a very spacious brick structure, has been Erskine's closet for some time. The building had been filled to capacity with old, unwanted library books, surplus furniture, desks, chairs, unclaimed bicycles, and many other items of scrap value.

Since the college would be directly buying the doors, sinks, windows, and other materials, a space was needed as a staging area. McGee Gym was ideal, so a gigantic yard sale was held for the Erskine community and the public. What wasn't sold was donated to charities or discarded.

The Need for Professional Architect and Consulting Services

The college has worked closely with an Atlanta-based architectural and consulting firm whose owner has had long-term ties with the school. He has graciously donated his services by giving Erskine a reduced hourly consulting fee. The architect on the project has been helpful to Erskine, suggesting the overall colors for tile, carpet, paint, and furniture. His personal touch has made a difference in the quality and appearance of projects on the campus. He also provides other recourses when needed to cover structural, mechanical, ADA, landscape, design, and other services. He and others have taken the two-hour drive from Atlanta to Due West periodically to walk through the dorms and meet with the Renovations Committee to observe the progress and discuss and resolve any issues.

Facilities Management Involvement

The facilities department at Erskine is relatively small. It is directed by Henry "Junior" McClain, who has a qualified staff of 25 people who keep the 85-acre grounds beautiful and clean and maintain 27 buildings. Junior is a hands-on person, and he and a few of his staff have taken care of many of the smaller construction and renovation projects throughout the years.

Although the facilities department is exceptionally capable, Erskine College felt it more effective to keep them involved in the ongoing maintenance of the campus during the dorm ren-

TABLE 3

Erskine College-Original Estimate		Budget
Female Dorm Renovations		
1.	Landscaping	\$7,000
2.	Paint exterior trim	\$11,000
3.	Resurface front porch & new furniture	\$8,400
4.	Replace all windows	\$70,500
5.	Key card access & alarms all exterior doors	\$35,000
6.	Central air	\$150,000
7.	Lobby redecorate	\$5,000
8.	Reception desk	\$2,000
9.	Renovate kitchen	\$12,000
10.	Furnish 2 rooms (2 & 3 fl) to TV lounge	\$4,000
11.	Add furniture to TV lounge	\$6,000
12.	Add furniture & lamps to study rooms	\$20,000
13.	Improve lighting and add electrical outlets	\$160,000
14.	Replace all carpet & tile	\$80,000
15.	Paint hallways/rooms (cover cinder block walls)	\$70,000
16.	Modernize hall phone areas	\$4,000
17.	Common area on each floor (2nd & 3rd)	\$38,400
18.	Modernize elevator (refurbish car & controls)	\$50,000
19.	Renovate laundry facilities	\$45,000
20.	Replace room furniture	\$250,000
21.	Modernize individual room bathrooms	\$80,000
22.	RD apartment renovation	\$12,000
23.	New 2x2 ceiling and batt insulation (sound proofing)	\$90,000
24.	Demolition of individual room Finn Walls	\$70,000
25.	Sewer drainage from building	\$35,000
26.	Rubber base throughout building	\$35,000
27.	Mattresses	\$17,200
28.	Install 3 new windows	\$6,000
29.	Exercise room & equipment	\$22,500
30.	Demolition labor	\$7,000
	Total of estimated projects	<u>\$1,403,000</u>
	Contingency & misc supplies (10%)	\$140,300
	Sub Total	<u>\$1,543,300</u>
	PM & A/E fees	\$62,000
		<u>\$1,605,300</u>
	Erskine College support labor	<u>\$25,000</u>
TOTAL		\$1,630,300

ovations rather than involve them directly with these capital projects. One way to accomplish this was to contract an independent superintendent who was responsible for the day-to-day work of the subcontractors. The superintendent coordinated their work according to the schedule and only contacted Junior if a problem arose that he was unable to handle.

Deferred Maintenance

It would be a wasted opportunity if, in the planning of the renovation of the dorms, Erskine didn't plan for the elimina-

tion of the backlog of deferred maintenance. Included in the renovation projects for Erskine's seven dorms is a plan to eliminate all documented deferred maintenance in the buildings (see Table 3).

The replacement of main drains, upgrading of electrical systems and elevators, replacement of windows with vinyl double thermal for energy efficiency and low maintenance, and the replacement of many other building components and systems will take place during this time. The preventive maintenance system takes over upon the completion of the dorms

to ensure the preservation and extended life of the facility.

Conclusion

There are several good reasons to assess the need to renovate dormitories. Buildings are assets. Assets are the key economic resources of any business or organization that expend their lives to produce goods and services and generate income. Failure to upkeep and modernize them particularly in an academic institution will jeopardize the goals and mission of the organization.

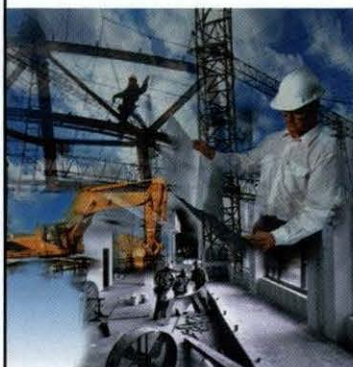
The Value of the Renovation Committee

It is extremely important to have a renovation committee made up of all interested parties to get the right input for the desired outcome. Erskine's Renovation Committee was headed by the local ARP pastor Calvin Draffin, an Erskine alum; the Vice President of Student Services Monty Wooley, an alum; the Dean of Students Dr. Robyn Agnew, an alum; the Facilities Director Junior McClain; the Vice President of Finance and Operations Bill Stauff; and the architect Ron Sineway from the Facilities Group.

Wooley and Agnew sought complete input from the students, which included the colors of the paint, tiles, rugs, the style of furniture, and functional features and desires of the various spaces. They kept the students informed before and during the project. Stauff was ultimately responsible for the completion of the project on time and within budget. He reported the progress to the Board of Trustees and President. This composition and chemistry of the committee has proven to be effective in the success of the finished product and desired outcome.

—W.S.

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The benefits of renovating dorms extends the life of the building and creates an attractive living space for current and potential students. This could make the difference in whether a student comes to Erskine College or goes to a competing college. By renovating Grier and Bonner halls, Erskine has been able to reduce its major maintenance and utility budgets for those dorms, having renovated and eliminated the backlog.

Many believe that renovating dorms and pursuing other efforts such as marketing, good faculty, and better programs does keep current students and attracts new ones. Enrollment numbers at Erskine show a 50 percent increase this semester over last year at this time, with an overall retention rate of 96 percent. We hope the improvements also will attract additional gifts from donors, as was evidenced recently during similar dorm renovations at Yale University.

It has been cost effective to use tax-exempt bond financing at 4 to 5 percent rather than using endowment funds averaging 12 percent return on investment. Besides benefiting from the lower cost of financing, we saw increased giving as donors see Erskine's assets properly maintained. They see a bright future and want to be part of it. They have confidence in the strategic planning process and collective wisdom of the Erskine administration, board, alumni, and community who are setting these goals. 🏰

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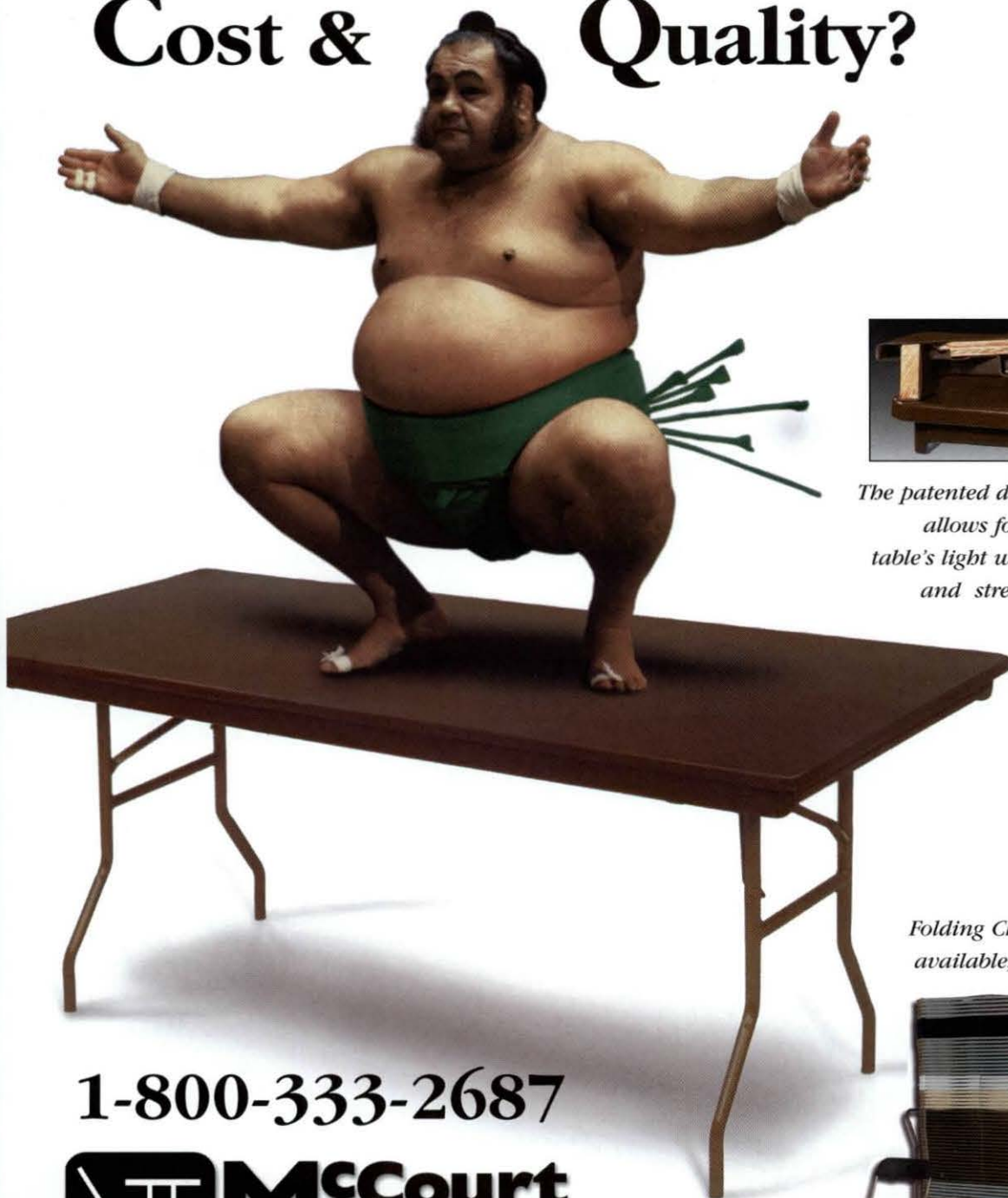
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Case Study 8: Continuous Improvement Through APPA's FMEP and SAM: Toward Achieving the Award for Excellence in Facilities Management, *David A. Cain, Douglas K. Christensen, Mark Flynn, and C. Ronald Hicks*

Appendix A: APPA Strategic Assessment Model Employee Climate Survey

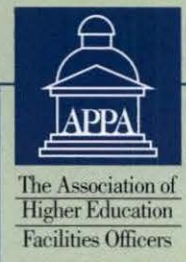
Appendix B: APPA Strategic Assessment Model Work Climate Survey

Appendix C: Glossary

Appendix D: References and Bibliography

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"I Don't Receive Complaints Today"

by Elaine Gossett

At Emory University in Atlanta, Georgia, the Custodial Department (now Building Services) had been in a contract management arrangement for 15 years. Bob Hascall, our senior associate vice president for facilities management, and Bob McMains, director of plant operations, felt there was a need to improve services and decided to establish their own in-house management team.

"I felt we had good people," says Bob Hascall, "but knew that they needed more training and more opportunity to be involved in a partnership approach to this return to in-house leadership. We began the training, emphasizing teamwork, cooperation, and interdependence. We were pleasantly surprised by the enthusiastic response of our people. Custodial employees have a lot of common sense. I don't receive complaints today."

Training sessions, led by the George B. Wright Company, began in November 2000. Sessions were held during the last half of each of the three shifts. Each work shift attended three

four-hour sessions. Food was provided. Elaine Gossett and Barbara Stark of Facilities Management's Human Resources Department provided all logistical needs. Involvement by FM's top leadership gave credibility to the training and to the importance of the entire Building Services Department. Bob Hascall attended many of the sessions, and Bob McMains attended all workshop sessions.

They came in quietly, alone, in pairs, and in small groups. They wondered what this workshop titled "Teamwork" would be like. It was being held during the last half of their shift so they would not have to work overtime. That was nice; however, it had been difficult covering all their tasks and areas in half the time.

George Wright, the workshop facilitator, was introduced. He had years of experience dealing with cleaning chemicals and staff services. He had worked with building services departments in many colleges and universities in all 50 U.S. states. Given his background and his familiarity with their work, maybe he would prove helpful to them.

The first session for each of the three shifts followed this agenda:

1. **Self-Introductions:** Each person gave their name, where they worked on campus, and the number of years of employment at Emory University. Afterward everyone circulated throughout the room and shook hands with fel-

Elaine Gossett is a technical writer in the Facilities Management Department at Emory University, Atlanta, Georgia; she previously had worked as a senior human resources associate in the department. She can be reached at egossett@fmd.emory.edu. This is her first article for Facilities Manager.



From left, Gloria Carter, Sallie Clayton, Lester Evans, Joe Ducato, Buford Banks, Mary McGahee, and Calvin Nelson

low employees. This relaxed everyone and put all in a good mood.

2. **Review of Material:** Overviews supportive of that day's work were reviewed. An outline entitled TEAM EXCELLENCE* was used in every session.

*The TEAM EXCELLENCE outline from: George Manning, Kent Curtis, and Steve McMillen, "Group Dynamics," Building Community: The Human Side of Work (Cincinnati, OH, Thomson Executive Press, 1996), 313-314.

3. **Workshop Sessions:** Persons were assigned to a group of not more than six people. Leaders were appointed. Each group quickly discovered their own scribe. Flip chart paper and markers were given to each group.

A few minutes into the workshop, the facilitator divided the staff into small groups and asked them to discuss...

- what they needed to operate as an effective team
- things they should continue doing
- things they should start doing
- things they should stop doing and
- how they should monitor their progress.

Conversation within the groups was intense. Individuals shared experiences and explained their feelings and opinions about issues. Many experiences were similar. The discovery of common experiences and issues fueled conversation and creativity.

The TEAM EXCELLENCE outline had six subject areas to work on that were as follows:

- (a) To operate as an effective team, we need the following:
- (b) Things we should *continue doing* are:
- (c) Things we should *start doing* are:
- (d) Things we should *stop doing* are:
- (e) We should *monitor our progress* by:

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(f) Actions to be taken, including who should do what by when, are as follows.

As each group completed their suggestions, they posted them on a wall. Everybody saw other groups' work. This

visual comparison stimulated a lot of good, creative discussion. A lot of common sense was expressed. This energized everyone and as subsequent subject areas were addressed feedback from the groups improved. A few of their common sense comments were:

"Our jobs are easier when we help each other."

"Customer satisfaction is the most accurate measurement of our performance."

"If you want to make the workplace better, help somebody."





Interest grew as employees worked through issues. Issues and solutions presented by the groups were often similar. The realization came that they were all faced with similar challenges, and that they knew what improvements were needed and what their ideal work environment should be. A feeling of unity transformed the group.

When the presentations had been made, the flip chart sheets were removed from the wall, then summarized by the staff under the title of the "Most Important Actions We Should Take." They narrowed their scope, listing only those actions mentioned most frequently and which they knew needed to be addressed immediately.

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They took a lot of pride in the lists they produced. The work they generated was professional and thorough. They knew what was needed and for once management was there to listen to what they had to say.

After looking at all the issues, the topics of greatest concern stood out. The five issues they decided to work on were:

- Job Performance
- Recognition
- Customer Relations
- Communications
- Attitude

They left the last day of the workshop as a unified group, laughing and talking as friends and team members do, heads held high with the air of accomplishment. They knew their job was well done.

After their lists were created Building Services employees were encouraged to present their findings to Emory Facilities Management's top leadership, Building Services supervisors, and the Plant Operations' Leadership Team. Their "Actions List," it was found, applied to everyone in the Facilities Management Division. To follow through, the Building



Services staff created skits based on real work situations and tied their actions to their workshop findings. Bob Hascall told the Building Services team, "You are such an important part of our organization. I want to recognize and honor the work that you have done, the work that you do each and every day."

The facilitator summarized the Building Services' staff efforts by stating, "They combined their common sense with

an intuitive understanding of the basic issues. I never dreamed that the quality of work they turned out would be so superior. It was as if a light came on all around the area. Working with them was a marvelous experience. This experience just goes to show that we need to make all of our people partners in our endeavors."

"Often our greatest resource, our employees, is overlooked and underestimated," observed Bob McMains. "This workshop has proven that to be true. Our people are our greatest resource."

This experience at Emory University's Facilities Management organization should serve as a lesson for all of us. An organization's successes are mirrored by our employees' successes. An organization can never be any better than its people.

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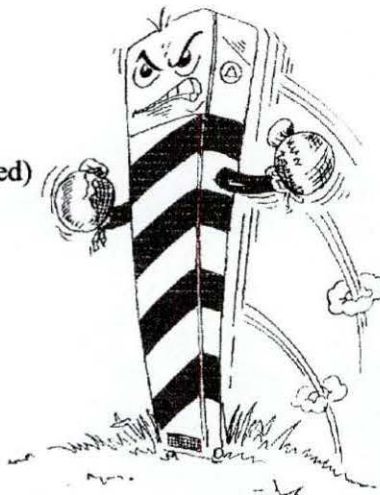
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Outsourcing's Impact on Staffing Levels

by Matt Adams

During the past two years, APPA and supporting organizations have researched and published studies regarding the future of outsourcing in our industry. The study two years ago by APPA and The Cambridge Design Group clearly indicated that the net total of outsourcing contracts was on the rise. This study also indicated that the sophistication associated with the same outsourcing decisions was increasing. Nevertheless, the subject still draws considerable fear, dogma, and even rancor among the staff of the typical facilities management department. I understand this concern.

Facilities management staff love their colleges, schools, or states, and they also love their jobs. I have covered many elements related to outsourcing in this column. After APPA and other speaking presentations, the questions offered reveal the concerns of the staff and management of the facilities management department. One of the major concerns is fear that outsourcing means layoffs and even displacement of whole workforces by contractors. It's time we discuss the realities of this issue head-on. For the sake of our readers, I will take this opportunity to distinguish between the major reasons for, or

types of, outsourcing. For each type, I will assess the effects on staffing.

Technical Specialties

To the plant staff this is often the most benign form of outsourcing. Some may not even think of this contracting mechanism as outsourcing, but it is. The already difficult job of managing facilities for any institution continues to become more complex and difficult. On the one hand, we have the continual stream of regulatory compliance issues, and on the other hand we have the increasing complexity of our building systems and their associated controls. It's getting really sticky out there.

Unfortunately for many public institutions, the job descriptions and associated pay scales for facilities staff have not changed or are completely inadequate to accommodate the new "technical" talent required to deal with reporting intensive compliance issues or maintenance of complex systems, e.g., variable frequency drives. The contracting of technical services to meet these needs is one the rise.

The effects on the staff are as follows:

- ☐ Increase in total (contractor and in-house) staff size
- ☐ No effect on internal existing staff size
- ☐ Increase in annual contracted staff hours

Unless institutional position descriptions and associated pay scales catch-up with the increasing demands for technical skills required, this trend will continue for the foreseeable future.

Peak Shaving

In the past, facilities management departments had few if any options for flexible hiring of contract labor. Some union contracts do not allow casual labor either. Nevertheless, peak

shaving is a new best practice in this industry and it is here to stay. As the name implies, the practice of labor force peak shaving involves staffing a certain trade or department only during the most demanding month(s) of a given year. For example, hiring contract painters during the summer months in preparation for the new school year is a form of peak shaving. The basic idea is to only staff to the level that insures that each full-time equivalent is fully loaded or busy all year long. Intuitively it makes sense. This practice is expanding to all areas of both white collar and blue collar positions in the facilities management department. If the institution is growing and adding staff, then the practice has little or no effect on existing staff. When the campus is not expanding, the effects on plant department staff levels are as follows:

- ☐ Decrease in total (contractor and in-house) staff size
- ☐ Decrease in internal existing staff size
- ☐ Increase in annual contracted staff hours

This industry will see increased utilization of this practice with multiple variations. It's probably a good time to open a contractor trades service business near your local campus.

Management Assistance

Another form of outsourcing is the "management assistance contract." This contracting mechanism provides the institution at least one or more top level facilities management administrators or professional staff. A small team of professionals is hired or contracted from an outside commercial firm. This team may be placed in a management role for the facilities management, or architectural and engineering services roles, or both. The reasons for this practice typically involve difficulty in filling these

Matt Adams is president of The Adams Consulting Group, a management/engineering consulting firm located in Atlanta, Georgia. He is co-chair of APPA's Trades Staffing Guidelines Task Force and can be reached at matt@adams-grp.com.

high-level positions, a transition period from one permanent hire to another, or an interest to contract very seasoned and expert professionals in an effort to rapidly increase departmental performance. It is common that the firm supplying these professionals will also provide some form of corporate infrastructure or technical support along with each position. This is also a consideration for the contracting institution. This practice has been in the industry for almost 20 years now and is increasing acutely in the areas of A&E services. The effects to the departmental staff levels are as follows:

- ☐ No effect on total (contractor & in-house) staff size
- ☐ Decrease in internal existing staff size
- ☐ Increase in annual contracted staff hours

This form of outsourcing has little or no effect on blue-collar employees. It can also be combined with peak shaving with respect to the professional positions.

Strategic Realignment

Small to mid-size institutions sometimes become frustrated with the performance of the facilities management department. Others are aggressive in their accounting and desire to shift as much of the facilities management staff costs from fixed to variable costs. A number of facilities management contractors focus on building a shared network of technical support, specialists, and standardized practices, policies, and procedures.

The small to mid-size institutions may elect to purchase this advanced facilities management infrastructure from specialized outsource contractors. Performance and not cost is the primary issue. The contractor often displaces some of the high-level management of the department, but hires all of the existing staff. In this outsourcing format, the effects on the plant staff size are as follows:

- ☐ No effect on total (contractor and in-house) staff size

- ☐ Decrease of white collar, transition of staff to contractor roles, in internal existing staff size
- ☐ Increase, all staff and management become contractors, in annual contracted staff hours

The use of this form of outsourcing remains stable in this industry, but it does not present itself as a viable option for large facilities management departments.

Cost Reduction

This is clearly the form of outsourcing feared most by institutional employees in this industry, and it is the most outdated. In most situations, the use of outsourcing to cut costs or make the tough decisions is a mistake. With as much as 70 percent of facilities management (non-utility) costs residing in payroll costs, cutting the size of the staff is typically the vehicle used to reduce costs. The negative side effects created by this practice can be profound and lasting. This form of outsourcing is gradually decreasing in our industry. The effects of this form of outsourcing on the plant management staff are as follows:

- ☐ Decrease in total (contractor and in-house) staff size
- ☐ Decrease in internal existing staff size
- ☐ Increase in annual contracted staff hours

History has proven that outsourcing is vulnerable to failure unless it is approached from an employee-neutral point of view.

Outsourcing is here to stay and we all benefit from a better understanding of its true nature. Most forms of this industry practice have little or no negative effects on the typical trade staff employee. Those that do should be utilized sparingly.

As in other industries, our institutions are increasingly buying what they can't effectively make for themselves. This may be highly technical services or sophisticated management skills. Good facilities management professionals don't fear outsourcing, they recognize it as just one more tool at their disposal. 🏢

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Staying Focused

by Jennifer Graham

Below are several discussions that took place between members on the APPAinfo e-mail list. While everything around us seems to be changing and we're unsure about what is going to happen next, facilities professionals are staying focused and getting the job done. It is comforting to look at the activity on the e-mail list to remind us that life must go on, and indeed it does. If you would like to join APPA's e-mail list, register at www.appa.org/resources/internet/appainfo.html.

Question: *Does anyone have any experience with keeping glazed ceramic floor tile from becoming slippery. This type of tile was installed in a snack bar area of one of our cafeteria kitchens. It becomes very slick if any water or grease gets on it. We have had several kitchen workers slip and fall. We are using non-slip mats on the floors, but is there anything that can be done to the tile short of replacing it?*

- We had the same problem in our kitchen and dish room and ended up replacing the tile when we renovated the space. There are products that will etch the tile and help with slippery conditions, but I have never used them. I am not sure how effective they are and how they effect the durability of the tile.
- From my experience, you should either stay with the mats or re-tile. There may be an epoxy or other non-slip treatment that you could apply to the tile, but I doubt that it

would have much longevity (we applied a clear epoxy traction treatment to a granite entry and stairway with great success, but I'm doubtful that it would last in a kitchen environment). American Clean makes a non-slip quarry paver that is very durable. You might want to check with Health Department requirements as well.

Question: *Does anyone have good ideas or experience with solutions to improving the appearance of a low quality block masonry interior construction?*

- The simplest solution is to "float" the wall with either plaster or joint topping. Absolutely smooth or flat is hard to achieve, so it is probably best to then "fog" the wall to give it an "orange-peel" appearance after painting.

Question: *We are looking at purchasing a new maintenance program. With this particular program the maintenance crew is able to use a Palm Pilot to receive work orders, input time, scan parts, etc. I want to know if this is a good idea, what your thoughts would be on this, and if any are using a program like this?*

- Telecommunications has allowed for significant use of barcode and scanner technology for recording maintenance work, especially via cellular networks. In this environment, everything is modular. If something doesn't work, it can be swapped. Every component has a unique barcode number that identifies its place. Thus, a technician scans the old card out of and a new card into a cell station. This inventory transaction can be recorded to a work order and the technician's

scanner. This is all updated on the technician's truck inventory and loaded at the end of the day to the main database. The key to the success of this program is the type of work being done. Think FedEx and UPS. They also use scanner technology. It has revolutionized their industry. To their advantage, the major cities where pick up points and destinations are don't move. And all they do is shipping. They don't clean customer windows, or hang pictures, or do PMs on refrigeration units. In other words, they don't have near the variables to deal with that facilities units do. And the telecomm folks drove out the variables by barcoding everything, which was easy because the manufacturers did it all for them. For facilities management, it's a little different. The work varies considerably, as do the requirements and the priorities. If you are looking for efficiencies, look at your planning and scheduling routines. On parts, barcode scanning only works if the parts have a barcode. Most of them don't. Who will barcode the parts? What format is compatible with the Palm Pilots (there are many barcode formats)? There are also accounting issues that become more apparent. Another consideration is the administrative overhead for maintaining the Palm Pilots. The scripts/forms/pages may have to be developed/modified/adapted. Then there are training and support services. Estimate the total cost of implementing the palm pilot system. If you can't use the Palm Pilots to reduce your general maintenance costs by at least double the cost of implementation, it may not be cost effective. I would steer clear of using Palm Pilots in this application. Sounds like a make

Jennifer Graham is APPA's publications manager. She can be reached at jgraham@appa.org.

work project for techies (no offense to techies). Maintenance work orders can have a significant amount of text (e.g., PM procedures) and other information that may or may not be easy to read on the palm pilot. Plus, it's hard to take notes on a palm pilot in some of the locations the crews work in (tunnels). We are looking at Palm Pilots for some supervisory routines (e.g., custodial checklists), but that's probably about it.

- We are currently using FAMIS Maintenance Management's (www.famissoftware.com) handheld interface, FAMIS Wireless. We are able to have a field worker review their work schedule, and record their time and material charges for all work orders assigned to them. One thing to look at when evaluating these systems is how the devices handle cut in work. For example, if an employee goes out with the Palm Pilot, how does the time needed

for a call out (i.e., toilet stoppage/overflow) beyond the scheduled maintenance recorded? Most handheld systems that we investigated could not handle this situation very well. FAMIS Wireless maintains a wireless connection to the Maintenance Management application so everything is in real time. If there is a call out, it's immediately available to employees. The application also uses WAP (wireless application protocol) so it will run on a device that has a WAP browser. The majority of our implementation is actually on Nextel Phones with the Wireless Web feature. So our technicians have their cell phone, pager, radio, and handheld all in a single device. To a lesser degree, we have also implemented Palm Pilots and Windows CE devices, so it is really employee preference. The software package of course has extensive preventive maintenance features.

Question: *I am looking for a key security solution for our housing operation. I have heard of a mechanical device that can attach to the exterior of buildings and hold about four master keys. One building master can be released by a key that is issued to a specific employee. That employee's key is then held captive until the building master is returned. This seems like an ideal solution for our ongoing key loss problem. Does anyone know anything about this or other key security solutions?*

- I've noticed that the local realtors here are using a battery operated lock box with an electronic opener for house keys that records when the box was accessed and by whom. Maybe this would be a solution you could look into.
- We use sequential locks to secure all campus master keys. We get ours from Best Access Systems a.k.a. Best Lock. This system greatly reduces the number of master keys floating around. If the

access key is lost all that you have to recover are the lock blocks not the keys for the whole building.

- It's called a sequence lock. Ours are from Best Lock and we have up to four "bricks," as we call them, in a locked metal box (they are heavy duty and cost about \$700 a piece I believe), also with a Best lock on it. I believe Schlage makes a similar unit.

Question: *Of those of you who have employee recognition programs (rewards), can you tell me how you come about selecting the employees who win? What are the eligibility requirements? What rewards do you give?*

- We have several employee awards. At our yearly Facilities Management appreciation banquet we honor employees for outstanding service to our organization with the FM employee of the year award, a plaque, and a check. The other employees vote on this award. We also have a FM perfect attendance award, a reward for not using unscheduled sick leave, a certificate, and a \$100 check. Employees who are rewarded for money saving ideas generally receive tickets to a sporting event. Our safety committee has given out certificates for reporting safety violations, like tripping hazards or unsafe working conditions. We have community outreach awards for service to the community, usually a plaque is given to the winner and certificates to the other nominees. HR has a reward for recommending candidates for hard to fill employment positions, a check is awarded if the new employee stays a certain length of time. Lastly, we are sometimes surprised with a Group Recognition award given by the university president for our group outstanding contribution and service to the university: snow removal team, safety committee, staff senate, etc. 🏆

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The Bookshelf

Book Review Editor: Theodore J. Weidner, Ph.D., P.E., AIA

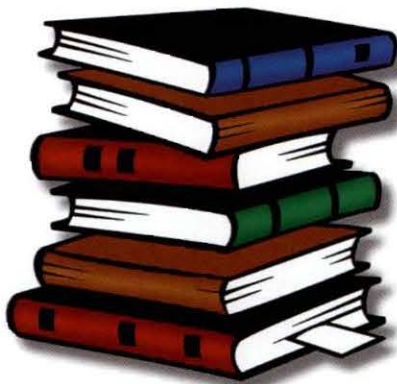
We're now approaching the time of year when those of us in the Northern Hemisphere need access to a good book to help fight off the effects of shorter and cooler days. A book that can transport one to a different place and time, inspire one's imagination, and challenge one's beliefs. I'll enjoy a semi-holiday by presenting only one book this issue for your consideration.

* * *

The Bridge at Québec, by William D. Middleton. Bloomington, Indiana: Indiana University Press, 2001. 175 pp, hardcover.

I've always found enjoyment in reading books about different projects in engineering or architectural history. There are always more than just the technical issues that hold my intrigue about these events. After reading *The Bridge at Québec* I wonder why we haven't yet had a popular TV drama with a title like "LA Engineer" or "Building Amy." Apparently there aren't many writers (or more likely viewers) who can get past the perception of pocket protector geeks doing boring things all day long. How little they know. Fortunately,

Ted Weidner is the associate vice chancellor for facilities and campus services at the University of Massachusetts/Amherst. He is also the co-chair of APPA's Trades Staffing Guidelines Task Force and can be reached at tweidner@admin.umass.edu.



ly, APPA Past President Bill Middleton knows and has turned his retirement from facilities management into a more active second (third) career based on a life-long passion.

One cannot help but compare this book with antecedent works written by the likes of David McCullough, a non-engineer, historian and speaker. Comparisons may not be fair but Middleton's book compares well because it is not a technical book. However, it addresses many technical issues and incorporates many technical details as well as the inevitable politics.

The photo on the book jacket demonstrates that this is the story about a massive bridge. Actually, the longest span of its type in the world even after nearly one hundred years, a cantilever bridge. The story chronicles the political and economic developments that brought about the engineering of the bridge. It chronicles the choice of the bridge type, i.e., cantilever versus suspension; different locations up and down river; and funding of the bridge. The book also includes information about how the bridge has changed over the years, as well as the economic conditions that helped create it. So the bridge is not a

static, mechanical thing, it has life and responds to its environment. Middleton makes this clear and interesting.

The intrigue surrounding the bridge is a well-documented series of failures. The initial structure was doomed from the start when assumptions, which facilitated linear design processes, grossly underestimated the dead load of the structure. Lack of knowledgeable site supervision contributed to structural, professional, and personal failures and deaths. A successor structure resolved the major structural problems, but the bridge still had technical problems that lead to additional failures, delays, and deaths.

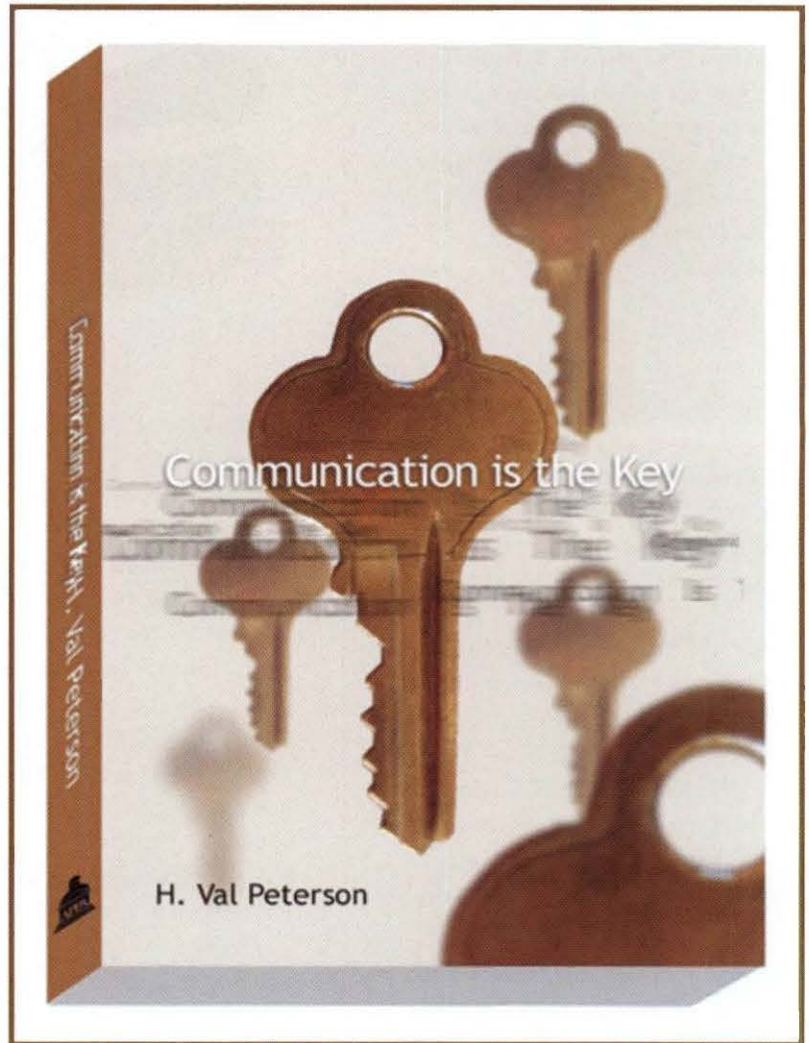
Middleton's book brings the reader into the issues of the moment. It includes many photographs from the author's personal collection. When the reader is presented facts that lead one to an intermediate conclusion, the author verifies the conclusion with thoughtfully presented insight and commentary. The book is enjoyable, difficult to put down, and should maintain the interest of both the technician as well as layman. I'll be interested to see what the author writes next.

As a side note, I was particularly interested in the book because of collegiate relations to the initial bridge designer, the author, and myself: we are all structural engineers. While disappointed in the failures of the original designer, I still learned the positive aspects of an engineer for whom a building is named at our alma mater, RPI. 🏢

Communication is the Key

H. Val Peterson

Communication is the Key is a collection of H. Val Peterson's articles written for *Facilities Manager*, and for several other university publications, where the author was employed as a facilities professional for the past 30 years. From the title section, *Communication is the Key* to the last section, *Humor: The Key to Survival*, this book covers all aspects of communication within a facilities department. Other sections include: *The Key to Customer Service*, *Key Tips for Facilities Professionals*, and *The Key to Leadership and Change*. Peterson's articles are interesting, funny, and most importantly, useful.

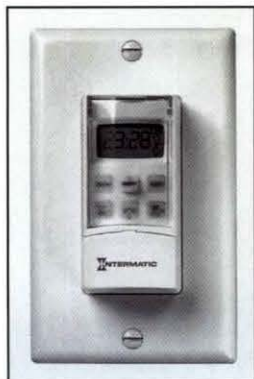


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New Products

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Coming Events

APPA Events

For more information on APPA seminars and programs, visit our website's interactive calendar of events at www.appa.org.

Nov 28-Dec 1—RESCHEDULED Institute for Facilities Management. Scottsdale, AZ.

Jan 13-17, 2002—Institute for Facilities Management. Tampa, FL.

Feb 3-5—Emergent Building Technologies Conference. Las Vegas, NV.

Mar 17-19—Institute for Facilities Finance (held jointly with NACUBO). Dallas, TX.

Jun 10-14—Leadership Academy. Scottsdale, AZ

Jul 21-23—Educational Facilities Leadership Forum. Phoenix, AZ.

Sep 8-12—Institute for Facilities Management. Norfolk, VA.

APPA Regional Meetings

Sep 14-17, 2002—RMA Regional Meeting. Banff, AB, Canada. Contact Steve Baldick, 403-220-8151 or baldick@ucalgary.ca.

Sep 28-Oct 1—PCAPPA Regional Meeting. Reno, Nevada. Contact Buzz (Berger) Nelson, 775-784-6514 or buzz_nelson@vpaf.unr.edu.

Sep 28-Oct 3—ERAPPA Regional Meeting. St. John's, NF, Canada. Contact Cynthia Whelan, 709-737-3491 or cwhelan@mun.ca or www.housing.mun.ca/conf/erappa.

Sep 29-Oct 2—CAPPA Regional Meeting. Spearfish, SD. Contact Art Jones, 605-642-6245 or artjones@bhsu.edu.

Sep (date yet to be determined)—AAPPA Regional Meeting. Contact Brian Fenn, 61-07-3864-3778 or b.fenn@qut.edu.au.

Oct 12-16—SRAPPA Regional

Meeting. Atlanta, GA. Contact Rita Tyler, 404-727-7487 or rt Tyler@fmd.emory.edu, or Elaine Gossett, 404-727-1543 or egossett@fmd.emory.edu.

2002 (date yet to be determined)—MAPPA Regional Meeting. Ames, IA. Contact Chris Ahoy, 515-294-8079 or ckahoy@iastate.edu.

Other Events

Dec 3-7—AFE Certified Plant Engineer (CPE) Review Program. Madison, WI. Contact Harold Olsen, 800-462-0876 or custserv@epd.engr.wisc.edu or www.epdweb.engr.wisc.edu/courses.

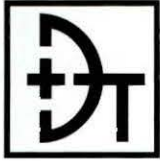
Jan 29-Feb 1, 2002—Reducing Your Energy Costs. New Orleans, LA. Contact Center for Business Intelligence, 781-939-2411 or www.cbnet.com.

Mar 6-8—National Facilities Management and Technology Conference/Exposition. Baltimore, MD. Contact Tim Rowe, 414-228-7701 (ext. 452) or tim.rowe@nfmt.com or www.nfmt.com.

Mar 7-8—Physical Plant Crafts Association Conference. New Mexico State University, Las Cruces, NM. Contact Paul Herrera, 505-646-1598 or pherrera@nmsu.edu or www.pcca.net. 

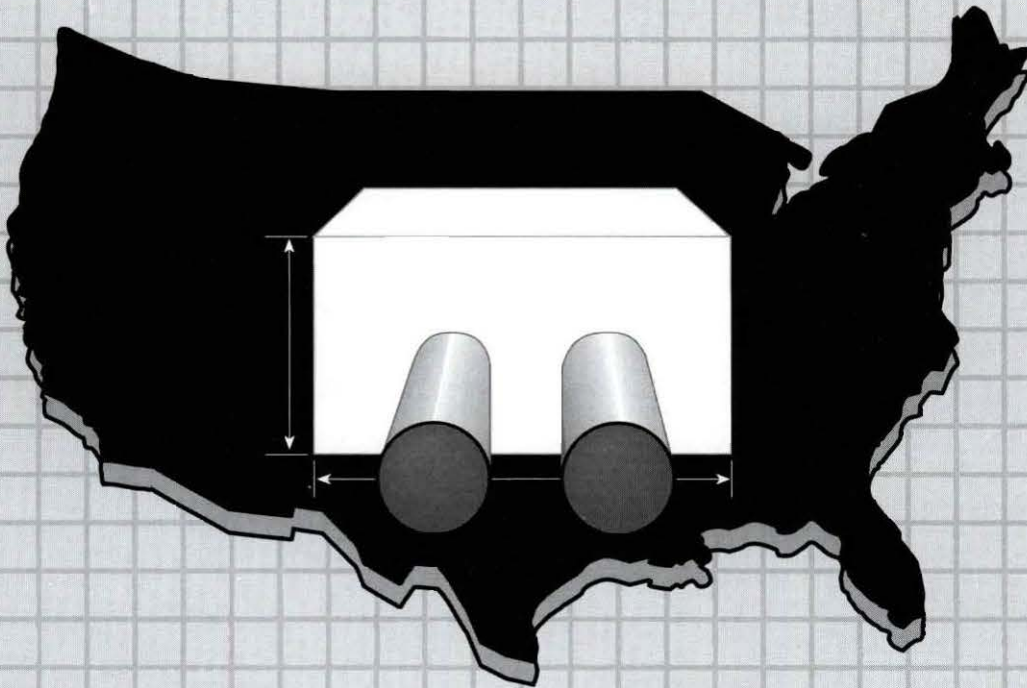
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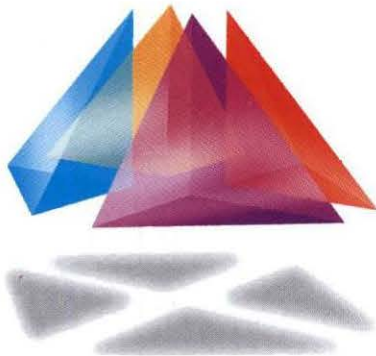
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