Achieve Your Building's Optimal Efficiency

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WORKING AS A TEAM EARLIER IN THE DESIGN PROCESS FOSTERS CREATIVE PROBLEM-SOLVING

Buildings are tremendously complex. Even the simplest facilities require a highly trained team of professionals for their design, construction, and eventually, operation. It is amazing that many buildings are ever built, considering the necessary financing, land acquisition, code and jurisdictional requirements, extremely long time frames, moving-target budgets, design- and construction-team coordination and other roadblocks that occur along the way.

With this in mind, how do we create and operate buildings that reduce the impact on local, regional and global ecosystems, and building occupants, while boosting the bottom line? This may seem like a daunting task, but the good news is a specific framework can help streamline the design and construction process.

DEFINING WHOLE-BUILDING DESIGN

Whole-building design incorporates an "integrated design approach" and an "integrated team process."¹ Basically, all elements of a building's design need to be considered, and all team members/design stakeholders need to be involved in new ways earlier in the process.

Collaboration among stakeholders is key. It is important to fulfill traditional design and construction roles, but also include others not normally involved in elements of the design process, such as building operators and managers or even future general occupants. The objective is to foster early communication with everyone having technical or other operational input to convey programming objectives and goals clearly and reducie or eliminate much of the last-minute coordination or budget pressures that occur in more traditional building-delivery processes.

Getting stakeholders to think outside of their traditional roles and communicate design benefits and issues earlier sounds easy, but it can be challenging. Although both aspects of whole-building design are closely related, a larger challenge is integrating the design process itself. So, what does an integrated-design process look like? Because most industry professionals are more familiar with a traditional approach to design and construction, let's start with what integrated design does not cover.

By James D. Qualk

BE PROACTIVE, NOT REACTIVE

Think back to your firm's last project. If you are an engineer, you probably were contacted by an owner, owner's representative and/or architect and asked to provide a fee estimate and scope for a project that had been programmed and designed to a certain point. Certain design decisions already had been made, and several might have affected design elements you had planned to incorporate. Some of these decisions might have caused problems, and some of the tasks that needed to be accomplished as part of sound engineering practice no longer were possible. From the beginning, your design was in a reactive mode, and although you may be LEED or green-conscious, there probably was little opportunity to include those types of design elements.

"all elements of a building's design need to be considered, and all team members/ design stakeholders need to be involved in new ways earlier in the process."

What if your engineering firm was involved in the very first project meeting? Everyone from the necessary disciplines, and players representing the facility's future operators, could have been present. The meeting would have begun with general information about the new project, followed by questions fromf everyone at the table. The conversation would have stimulated ideasfor approaching design problems and other considerations.

This is how a team approach fosters integrated design. Not only is this process more creative, the early collaboration also allows most budget concerns to be avoided or incorporated into the project moving forward.

Benefits of a Whole-Building Design Approach Continued

CONCLUSION

As most of us know, the later in a project we try to incorporate LEED, underfloor air, on-site renewable-energy production, or any other green feature , the more difficult and costly it can be. However, if we use a whole-building design approach and include these features at the beginning of a project, wins will come more easily. The continuing success of LEED, the emergence of green codes, and a general desire to shake up traditional building designs can exert tremendous pressure on those involved in delivering a new building. While a whole-building design approach is not necessary to deliver LEED certification or meet other green-program requirements, it can make things easier for everyone involved. Perhaps it even can bring a little additional excitement to a profession that prides itself on creativity and reaching further with every completed project.

REFERENCE 1) Whole building design guide. (n.d.) Retrieved from http://www.wbdg.org

James D. Qualk, LEED AP BD+C, is vice president of SSRCx, a division of Smith Seckman Reid, an engineering design and facility consulting firm and team leader of the company's Sustainable Solutions Group. He lectures on sustainability and construction in Vanderbilt University's civil-engineering department and on renewable energy in Lipscomb University's Institute for Sustainable Practice.



ASHE'S COMMISSIONING GUIDELINES EASE FACILITY START-UPS

Health facilities require a number of unique considerations in their design, construction and operation. To stay abreast of developments in the industry, organizations must maintain and constantly refresh their facilities.

The American Society for Healthcare Engineering (ASHE) is convinced that commissioning, which ensures the building operates according to design, is critical to the success of every health facility project. So, ASHE began developing the *Health Facility Commissioning Guidelines* in 2009 to help organizations achieve the results they expect from the facilities they build, with a focus on specific health care issues.

The ASHE process — referred to as health facility commissioning (HFCx) — encourages collaboration among project participants, providing a process and a robust set of tools that improve the project team's ability to deliver a physical environment that meets the goals of the health care organization and the needs of its community. The guidelines establish a standard language and process for commissioning health care facilities that are cost-effective, efficient and deliver the desired return on investment (ROI).

<u>Read the full article</u> by Rusty Ross, director of commissioning services for SSRCx, in the Jan. issue of *Health Facilities Management*.



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Project highlights



We're proud to announce the **SSRCx** corporate headquarters achieved LEED Gold certification using the LEED for Commerical Interiors[™] rating system. Our building was designed, constructed and commissioned for efficient use and environmentally conscious operating practices.

Exemplary performance was achieved for exceeding the established thresholds in Water Use Reduction and the selection of Regional Materials. Innovation points were awarded for the ongoing environmental efforts of a Green Housekeeping Program and an active Educational Program, designed to inform employees and visitors about sustainable initiatives.

Stay tuned next issue for photography of the education program we are incorporating into the walls and surroundings!



<u>St. Joseph's Hospital-North</u> in Lutz, Fla., recently achieved LEED Certified, making it the first acute-care hospital in Florida and among the first in the nation to achieve LEED certification.

By blending evidence-based design strategies and sustainable principles and practices, St. Joseph's Hospital-North, located in Lutz, Florida, has joined a growing number of healthcare facilities as a leader in the emerging field of evidence-based biophilic design, which seeks to improve quality-of-life and outcomes through proven methods and natural elements.

Rockingham Memorial Hospital (RMH) in Harrisonburg, Va., is the first inpatient healthcare facility in the state of Virginia, and the second of its size in the nation to achieve LEED Gold certification.

From the earliest stages of the project, RMH administrators and facility planning staff were committed to building an environmentally friendly hospital on the 254-acre site that maintained the integrity of the pastoral site chosen for the new campus. Hospital layout and design took advantage of the rolling terrain by creating a split-level of public spaces so patients, families and staff can enjoy views of the Shenandoah Valley.

This project was featured at the **Rocky Mountain Green 2011 Conference** on April 20 and was featured at Greenbuild 2010 in Chicago. <u>Read more</u> in the March / April issue of *Medical Construction* & Design.



SSRCx has recently been awarded a GSA schedule contract under the **U.S. General Services Administration** (GSA) Schedules program for energy consulting services that will lead to the reduction of greenhouse gas emissions. This contract is used by the Federal Government and Department of Defense to meet the requirements of Executive Order 13423–Strengthening Federal Environmental, Energy, and Transportation Management; Executive Order 13514–Federal Leadership in Environmental, Energy, and Economic Performance; and Energy Independence and Security Act (EISA) of 2007.

SSRCx has been serving the Federal government and Department of Defense for many years through other contracts. This contract allows SSRCx to further our relationship and provides the opportunity to serve additional Federal Agencies and the Department of Defense at locations worldwide. For more information please contact Ted Foster at +1-256-425-2887, <u>tfoster@ssr-inc.com</u>.



- The Nuclear Magnetic Resonance Facility at Texas A&M University recently achieved LEED Gold.
- Northboro Elementary Montessori Magnet School recently achieved LEED Gold certification under the LEED for Schools rating system. Northboro Elementary is a multiple building major renovation project located in West Palm Beach, Fla..
- The Caterpillar Financial Center in Nashville, Tenn., home to Caterpillar Financial Services Corporation (Cat Financial) and an SSRCx LEED-EB project, was selected as one of three 2011 Middle Tennessee Energy Award Winners. The award will be presented at the Middle Tennessee Chapter of the Association of Energy Engineers meeting on April 27.

LAWSUIT AGAINST USGBC MISSES THE POINT PART TWO



In his March blog post for Environmental Design + Construction, James Qualk continues an earlier discussion on the topic of the law suit filed against the U.S. Green Building Council (USGBC) and other defendants, focusing on allegedly fraudulent claims of the LEED[®] green building certification program.

Posted: March 2, 2011

In my November post I tried to shift the focus of the discussion relating to the frivolous class action lawsuit against the U.S. Green Building Council to a meaningful discussion about the use of the LEED green building certification program, energy models and the inherent degradation of building performance over time. Now a few months later, the lawsuit is back in the spotlight as a scaled back version that drops the class action, amending the charges and removing individual defendants from the complaint.

But still, very little is being written about the heart of the claims being made against LEED, its purpose and

the role of the USGBC. I'd like to point out that the attention to this unfortunate action misses the point of what we should be talking about regarding LEED, energy use and green buildings. For one, the focus of the plaintiffs is entirely on building energy consumption and misses out on all of the other aims and goals relating to the other four core credit categories. Additionally, there does not seem to be an understanding of the role of design decisions, the tools we use in design and the role of these tools in that process.

Read the full post at ED+C, which includes four talking regarding the validity of LEED with regards to the lawsuit's claims.

SPOTLIGHT ON OUT PEOPLE



ANDREW HACKETT is taking on the new role of Manager of Marketing and Preconstruction Services. With

SSRCx since 2007, Andrew previously served in positions as Commissioning Authority and Energy Modeler / LEED Project Assistant.



2009 Greenbuild tour.

AMY BALDERRAMA will work with Andrew Hackett as Marketing Coordinator. Amy has been with SSRCx since 2008 and has done some great work for the team, including the guidance of U.S. Airways Headquarters to become the first LEED for Existing Buildings: Operations & Maintenace[™] Gold-certified

building in Arizona and a featured building on the

Welcome new SSRCx members:



CHRISTOPHER M. MORALES. LEED AP O+M, EIT joins the SSRCx

Nashville offices as a Continuous

Commissioning® project manager. Previously with PECI, Morales is experienced in creating energy models on many different types of structures and conducting energy audits. He is also experienced in the processes of commissioning and retrocommissioning and the design side of HVAC systems. This background of design/modeling/commissioning gives him a unique perspective on building systems.

Upcoming CONFERENCES

Joint Engineer Training Conference & Expo May 24-27, 2011

Gaylord Texan Resort & Convention Center Grapevine, Texas



Click the link below to learn more about regulatory compliance & facilities management by reading SSR'S COMPLIANCE NEWS newsletter.

In keeping with our corporate philosophy to minimize negative impact on the environment, the Cx Monitor's primary form of distribution is email. If you would like to be added to this email list please click here to sign up online at www.ssrcx.com.

Florida Educational Facilities Planners' Association (FEFPA) Summer 2011 Conference July 5-8 2011

Boca Raton Resort & Club Boca Raton, Florida

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