

June 22, 2010



## Leading Design into the Future of Healthcare

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It is hard to believe a program that started just over ten years ago could expand as rapidly as the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) certification program has, but a growing sense of responsibility has driven its popularity to surprising heights. Since its inception in 1998, over 35,000 projects are currently participating in the LEED system, comprising over 6.9 billion square feet of construction space in all 50 states and 114 countries.

This growing culture of environmental responsibility has put a premium on a developer's ability to provide clients with top quality sustainable spaces, not just because it is responsible, but also because it is what organizations across all sectors are demanding. In response, construction companies are adapting and developing the expertise to support the demand for sustainable structures. While many of the basic principles of construction remain the same, the LEED program, and other types of sustainable construction, require additional diligence and often call for creative problem solving to meet specifications.

Sustainability is taking hold just as the demand for healthcare construction is also skyrocketing. According to the U.S. Census Bureau, nearly \$30 billion worth of non-federal hospital construction is underway in the United States. Much more than paint and curtains, these renovations include new plumbing, electrical, HVAC, and flexible utility ducts to meet the anticipated needs of powerful computer and medical equipment for the next 20 years. Growing demand, compliance with new codes, and advancing technologies all contribute to the need for ongoing medical facility renovations.

More hospitals are poised for renovation and upgrades, in general. While not every organization is going to adopt the stringent requirements of LEED, they are still likely to incorporate increasingly prevalent principles of sustainability. LEED and sustainable principles also go beyond environmental responsibility; wellness is a key facet of its underpinnings. Thus, it is only logical that healthcare institutions would be attracted to adapting and adopting architecture and construction strategies that support their overarching health missions.

As a result, the benefits of the wellness aspects of green facilities are translating into practical implementations. Examples are plentiful such as greater access to daylight for staff, and patient promoting productivity and wellness. Decreasing the use of noxious materials and increasing indoor air quality through modified ventilation systems bodes well for both patient and staff. However, with change in healthcare facility design and construction comes challenges, such as adopting environmentally friendly components that still minimize the transmission of infectious agents.

Healthcare environments, particularly hospitals, simply cost more to construct than other facilities due to the sophistication and complexity of the technology, the infrastructure needed to support state-of-the-art technologies, and the specialization and more advanced processes required for construction within a working hospital. Sustainability, particularly efforts to reach a LEED designation, also adds to the overall costs. Upfront costs for green construction are often ten to fifteen percent higher than standard practices. However, a return on portions of the investment can be seen in lower energy costs, and, in some cases, tax exemptions. Many healthcare facilities have also responded to the demand for sustainability in their facility because of incentive offerings for obtaining LEED certification that could provide some sizable benefits, including additional tax credits that can be financially advantageous. For instance, Cincinnati, Ohio offers a 100 percent property tax exemption for all newly constructed or renovated spaces that earn a LEED certification. Other potential savings, still being quantified for their bottom-line impact, include improved patient outcomes and more efficient staff.

The expansion of a new intra-operative MRI suite at Dell Children's Medical Center of Central Texas, a LEED Platinum designated hospital based in Austin, Texas, is fully integrating the IMRISneuro into a subterranean operating room. This one-of-a-kind movable MRI machine allows surgeons to safely image patients in the operating room during brain surgery. The construction of the MRI suite was part of a second phase of construction for the hospital.

Key elements of the green construction for the MRI suite included implementing and managing mechanical systems that support improved indoor air quality, locating suitable materials, applying finishes with nontoxic approaches, and recycling and disposing of construction materials in an eco-friendly way. In this more complex, technologically advanced environment, the process of remaining on target with LEED Platinum is only heightened.

Sustainable practices in the built environment are coinciding with a great boom in health care renovation and new facility construction nationwide. As a result, hospitals of all types and sizes are making the choice to build and/or renovate with a green agenda. These environments will also represent the most demanding and specialized type of construction for general contractors. New variables and a lack of time-tested solutions in LEED and sustainable construction, in general, remain barriers to overcome—and in hospitals, all risks are heightened. Hospitals with a long-term vision may also begin to find quantifiable benefits as a result of the wellness components to their patients.

**[About the author and Burt-Watts Industries Inc.:](#)**



*Shane Watts is the Vice President and Co-Founder of Burt-Watts Industries Inc. He joined forces with Tommy Burt in 2002. He has nearly 15 years of experience in ground-up development and large scale construction projects. Shane completed projects with a total number of 7 million sq. ft. Shane and Tommy founded Burt-Watts to fill a critical gap in the regional industry - Austin needed a general contracting firm that provided superior service and results. He sees high-level service and accountability, driven by a team of professionals that is highly motivated and service-oriented, as key to the firm's success. Shane is charged with managing the firm's ground-up and shell building clients. Recent clients include: Cousin Properties, Seton, Catalyst and Endeavor. Shane is a member of the Associated Builders and Contractors of Austin and the Commercial Leasing Brokers Association. Since 2004, he has also served on the Austin chapter of the Coastal Conservation Association board, an organization dedicated to advising and educating the public on the conservation of marine resources. Shane graduated with a degree in biology and environmental engineering from Texas A&M University. He is an avid saltwater fishing enthusiast.*

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