

## Alan Whitson Talks to BetterBricks About Sustainable Hospitals

BetterBricks had the chance to speak with Alan Whitson, who began his career in corporate real estate/facility management in 1972, after leaving the U.S. Navy's nuclear submarine program. Since then he's worked on over 25 million square feet of facilities around the world in the roles of Asset Manager, Corporate Facilities Manager, Construction Manager, Development Manager, Real Estate Broker and Consultant.

Now, he consults, writes and speaks on the subject of high performance buildings and the workplace. Much of his recent work has focused on cost analysis and justification procedures for incorporating sustainability strategies into commercial and healthcare projects. The author of many magazine articles and books, he is the lead presenter in the Corporate Realty, Design & Management Institute's popular seminar series, "Turning Green into Gold." He holds the professional designation of Real Property Administrator (RPA) from the Building Owners and Managers Institute and was one of the initial members of the organization that is now known as the International Facility Managers Association (IFMA).

**BetterBricks:** With all the other priorities they face, why should health care executives (hospital CEOs) even pay attention to their energy use? And more broadly, to sustainability?

**Alan:** Almost a third of all hospitals lose money every year, and the easiest way to save money is to avoid or eliminate wasted energy use. To put that into perspective, for a typical hospital with a five percent net margin, reducing energy costs \$50,000 a year is equivalent to \$1,000,000 in gross revenue.

As for the issue of sustainability, health care is the fourth largest source of mercury pollution in the United States. Just this year the EPA fined Memorial Sloan-Kettering \$214,240 for improper disposal practices. When properly applied, the concept of sustainability not only saves money but it protects the health of patients and health care workers.

**Alan:** Are the potential energy savings in hospitals as great as what we see in other commercial buildings? What kind of savings can we expect in a typical hospital? What kind of return can they earn?

**Alan:** As of today the potential for energy savings is greater in hospitals than almost any other building type. Hospitals account for four percent of the nation's building square footage yet consume eight percent of the nation's energy. Only a fast food restaurant uses more energy per square foot than a hospital.

Did you know that 75 percent of the lights in a hospital are on 100 percent of the time? In many hospitals the only way to turn off a light fixture is at the breaker panel and to do so you turn off half the lights on a floor! As for return on investment, it falls into a range depending upon each facility and type of project. I've seen returns that far exceed 100 percent, all the way down to the 15 to 20 percent range. Even at the low end of the range, that's a return 300 to 400 percent more than 10-year treasury bills! How many hospital CFO's are getting that type of

return on their investments?

**BetterBricks:** If a hospital is building a new facility (or expanding an existing one) what can/should be done?

**Alan:** The most useful piece of advice I can give is to spend more money during the design and engineering process. This is the best place to invest. Force consultants to question all of the rules of thumbs they use; look at the project from the whole building perspective rather than component by component. For example, bigger more efficient windows allow more daylight, yet can reduce heating and cooling loads resulting in a smaller mechanical system. While the windows costs more, they provide greater first cost savings in other areas and reduce operating costs. Furthermore, research has shown that giving patients a view can reduce length of stay, drug use and other complications. For more information on this topic go to [www.pebbleproject.org](http://www.pebbleproject.org) .

**BetterBricks:** What can be done in the area of operating and maintaining an existing facility?

**Alan:** One of the first things I would do is use the Energy Star tools to benchmark my facility by comparing the facility with the energy use of comparable ones across the country. If the building is below the average then commissioning may be the best next step. Also talk with the local utility about programs they may offer. Many of these programs are free or better yet they provide incentives. From there start to build a plan of attack.

For a specific recommendation, I would suggest replacing all those 32 watt fluorescent lamps with 25 watt low mercury fluorescent lamps with a CRI of 85 or better. The ROI is huge, and the light quality is often improved. Another recommendation is to install Ultraviolet Germicidal Irradiation in air handling units. Using UV-C lamps can reduce or eliminate mold-related allergies, prevent the development of Legionella and other bacteria while reducing energy consumption (i.e. reducing fan energy due to less dense filters). I've seen projects where the return on investment from energy savings alone exceeded 130 percent. Not to mention the medical benefits.

**BetterBricks:** Where do you suggest a facility manager turn for more information on energy efficiency? What should a facility manager do to get started on enhancing their energy efficiency?

**Alan:** Education is crucial; the only problem for many facility managers is time. That's why the Corporate Realty, Design & Management Institute offers educational programs in a very compact one day and half day format. In the past the Institute has worked with the Northwest Energy Efficiency Alliance and BetterBricks to hold educational programs in the Northwest. We have also worked with professional organizations such as local chapters of the International Facility Managers Association (IFMA) to present educational programs in their area. To see a schedule of our educational programs visit the Institute's website [www.squarefootage.net](http://www.squarefootage.net).

**BetterBricks:** How can a facility manager get top-level commitment like a broad policy statement from the CEO or a commitment from the CFO to fund cost-effective energy efficiency enhancements?

**Alan:** The easiest and most logical place to start is the annual budget process. Begin by crafting a mission and policy statement for the CEO to approve during the budget approval process. This document defines the goals, objectives and

constraints everyone is operating under during the budget period. It should include the minimum acceptable return on investment for projects (this is called the hurdle rate) to reduce operating costs. Given the financial structure of most hospitals this should be about 10 to 12 percent.

Some plans include how the savings will be allocated. For instance, say Project "A" reduces the hospital's energy bill by \$10,000 a month. The savings could be split 70 percent to the hospital and 30 percent retained by the facility department to fund additional cost reduction projects not currently in the annual budget. The savings from these "projects of opportunity" could then be used to fund other projects. Besides creating a funding tool, it eliminates the "spend it or lose it" budget games. Another benefit in this process is that it gives the facility manager an opportunity to have a meaningful and objective discussion with the CEO and the CFO about these issues.

**BetterBricks:** What kinds of non-energy saving benefits/reasons would you suggest top management focus on for creating sustainable hospitals?

**Alan:** Let's begin by defining a sustainable hospital as an environmentally responsible, profitable and healthy place to work and heal. Now add the basic medical tenet of "first, do no harm." While these words are simple, they make a very compelling case. Hospitals are not soft drink bottling plants; hospitals are a core element of our society and as such must be examples of environmental responsibility.

For cold hard facts, over 100,000 people die each year in hospitals from nosocomial infection. Twenty percent of these can be traced to infections caused by exposure to construction in the hospital. Health care workers are exposed to more toxic materials than almost any other worker in the country, very often needlessly. So I would begin in the areas of housekeeping, operations and maintenance.

The issue of water use in hospitals also is starting to get management's attention. A 300-bed hospital consumes 33,500,000 gallons of water each year. Current estimates are that a quarter of that is wasted. I believe the number is closer to 30 percent. This is literally money going down the drain.

For hospitals in the Northwest, BetterBricks has resources to help. There are hospital specialists available to work with hospitals in Oregon, Washington, Idaho and Montana. If you would interested in learning more, contact Sharon Graugnard at [sharon@volantstrategies.com](mailto:sharon@volantstrategies.com) or 503.704.7018.

