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HEALTHY CHOICES FOR MIND AND BODY

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HEALTHY LEED BUILDINGS

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Bottom Line at the Top: Workplace design, construction and operation exert a huge effect on our health and environment. Our home remodeling efforts have made this quite obvious to me. In this article I focus on aspects of building design that influence health. Please support businesses who have met the LEED standard.

We did an upstairs remodel with a carpenter who let the dust fly. Now we are doing a kitchen remodel by a contractor who epitomizes health safety in building. Sealed work areas have guaranteed that we see and breathe no dust. The workmen use respirators. What a lovely way to endure a remodel.

Such standards haphazardly enter home construction. A more organized effort has been applied to business construction.

Businesses account for over 30% of total energy used in the US, including more than 60% of electricity use. They further impact the environment by consuming water - 5 billion gallons of potable water used just to flush toilets yearly - and generating 2.5 pounds of solid waste during construction per square foot floor space.

LEED (Leadership in Energy and Environmental Design) is a rating system developed by the US Green Building Council to assess a building's environmental impact. Buildings are considered 'green' if they meet criteria pertaining to five categories, Site Sustainability, Water Efficiency, Energy and Atmosphere, Materials and Resources and Indoor Environmental Quality.

By complying with LEED goals, builders and owners benefit from reduced building and operating costs, increased worker productivity, and reduced liability. You and I benefit from attenuated global warming, less pollution and better health.

The system gives points for meeting goals pertaining to five different criteria. A building can earn a maximum of 69 points. A minimum of 26 is necessary for LEED certification. More points earn higher grades, Silver (33-38), Gold (39-51) and Platinum (52-69).

A goal is to locate the building close to a residential neighborhood and at least ten basic services. Basic services include banks, places of worship, grocery stores, day care, cleaners, beauty shops, hardware stores, laundromats, libraries, medical and dental centers, senior care facilities, parks, post offices, pharmacies, restaurants, schools, supermarkets, theaters, community centers and fitness centers.

This allows people to walk to services, rather than drive. It discourages segregating businesses from residential areas and putting them in a remote industrial complex accessible only by car. If work is close to home and errands, employees spend less time driving, fuming with road rage and polluting. They might actually walk more, relax and spend time with their families. They might be healthier and more productive at work. And creating a more stable and interactive community, with fewer long car commutes, benefits everyone.

A building earns another Site Sustainability point for bicycle storage facilities and changing rooms. This promotes commuting by bicycling and walking, enables interaction among neighbors and allows for enjoyment of the area. The credit requires a certain amount of covered bicycle storage facilities and secure bicycle racks and storage close by.

The Indoor Environmental Quality (EQ) category has six credits that pertain to human health. In order to earn any of the six points, a building must eliminate smoking and exposure to passive smoke. While three options exist that might meet the prerequisite, the most logical is to prohibit smoking in the building and within 25 feet of all entries, outdoor air intakes, and operable windows.

Smoking is a big no-no in the LEED system. Other air quality measures requires that there be some means of monitoring carbon dioxide levels and outdoor air flow. Since high CO2 levels make people feel sick, this system should reduce absenteeism and improve productivity by providing a healthier work environment.

Another air quality goal is to entrain more outside air. Copious circulation with outside air improves employee health, welfare, well-being, and productivity.

LEED points also address air quality during construction. Contractors must protect absorptive materials from moisture damage (prevents mold), clean the site frequently and use wetting agents to minimize dust. They must use quality air filters during building. Prior to occupation, filters must be replaced and the whole place should be flushed with outside air to meet allowable contaminant concentrations.

Volatile Organic Compounds (VOC) and nitrogen oxides react with sunlight to form ozone which damages lung tissue and sensitizes the lungs to other irritants. Materials must not exceed the maximum VOC limits of low emitting adhesives and sealants, paints and coatings, carpet systems, composite wood and agrifiber products in order to obtain the points offered.

Another credit that supports occupant well-being is to control indoor chemicals and pollutants. Long entryways to capture dirt and particulates will keep them from entering the building. Spaces where hazardous gases or chemicals are present, like garages, housekeeping, laundry, and copying and printing rooms, must be vented. The HVAC system should meet high standards for filtration media.