

BIOPHILIC LEED ECO HIGH-RISE RESIDENTIAL BUILDING IN CHICAGO

Abstract

The world population is increasing at a fast rate and the projection is that there will be more than 12 billion people by the year 2050. It is also expected that at least 70% of the population will reside in urban areas (mostly cities), in some sort of multi-story residential towers. At the same time, the climate is rapidly changing to the worst result of man-made global warming. Conceivably, energy conservation and environmentally friendly accommodations are necessary to facilitate sustainable and resilient built environments. The role of architects/planners is paramount at this critical time in the history of mankind; for one thing they are responsible for the planning and design of the buildings.

More and more buildings are being designed following LEED certification standards. As such, these buildings are defined as sustainable, primarily because they are energy efficient and, in many cases, tend to minimize the use of fossil fuel and promote the use of renewable and clean energy. However, some concerns have been raised for quite some time now, that the so-called design of green buildings lacks the human connection with nature to address health problems. Recently, significant research work connecting Biophilia to ecology has led to a wonderful design approach termed Biophilic design, which focuses on the enhancement of the physical and psychological connection with nature for occupant health as well as energy efficiency. Such a design approach has been successfully applied to low-rise buildings. The intent of this research proposal is to integrate Biophilic design with LEED design requirements to develop a truly sustainable design for high-rise buildings. The success of the method will depend on developing criteria to overlap the quantitative nature of the LEED requirements with the qualitative nature of the Biophilic design parameters.

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