

LEED-ing Las Vegas: A Look at Green Building Practices and Design in the Las Vegas Valley

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In a city like Las Vegas, Nevada, green and sustainable energy often seemed to be the last thing on builders' minds. In light of the growing popularity and viability of LEED and other "green" and "sustainable" methods, Las Vegas is jumping on the bandwagon, looking to LEED-certify a number of tourist and residential buildings.

With the introduction of such buzzwords as "green building" and "sustainability" into everyday conversation, one can have difficulty differentiating between what is truly environmentally conscious and what is merely a label. In response to this issue, the LEED system of building certification and rating was developed.

LEED is overseen by the United States Green Building Council (USGBC), a non-profit organization composed of leaders from every sector of the building industry. According to the USGBC, "[t]he Leadership in Energy and Environmental Design (LEED) Green Building Rating System™ stimulates sustainable green building and development practices through the establishment and realization of universally understood and accepted tools and performance criteria." LEED certification was created as a way of establishing a benchmark for all aspects of green building through the analysis and recognition of an impartial third party to the construction process.

LEED promotes a whole-building approach to sustainability by assigning points to key areas of the design and construction process that are of direct impact to human and environmental health. These areas include site development, water conservation, energy efficiency, materials selection and indoor environmental quality (USGBCa). The points earned in these areas translate to a rating that goes from basic certification up to Silver, Gold and Platinum.

Currently, only eight properties within the Las Vegas metropolitan area are LEED certified and higher, and only two that are rated Platinum (USGBCb). One development that is emerging as a leader in the LEED-

rated development trend is Union Park, a 61-acre mixed-use, master-planned urban center located in the heart of downtown Las Vegas.

Union Park's development plan is slated to include five distinct districts organized in a series of small urban blocks linked by pedestrian-oriented streets. Located in the revitalizing historic center of the city, Union Park is destined to become the city's new core. In that regard, it brings several much-needed amenities to the city, such as the first, dedicated Performing Arts Center in Las Vegas, within the context of a walkable urban neighborhood. Union Park is designed to be a place where the local population of Las Vegas will gather, and to become the cultural heart of the city.

Union Park has been awarded LEED Gold certification status, the second highest rating possible, and is the only project in the state of Nevada to be accepted into the LEED for Neighborhood Development national pilot program. The LEED for Neighborhood Development Rating System amalgamates the tenets of smart growth and urbanism with green building to recognize sustainable and lasting overall neighborhood design. "LEED certification identifies Union Park as a pioneering example of sustainable design and demonstrates its leadership in transforming the development industry," said S. Richard Fedrizzi, president, CEO, and founding chairman of the USGBC. "Union Park has earned this recognition for excellence in the built environment and a place among the finest developments incorporating the principles of smart growth, urbanism and green design." The mixed-use project is creating an in-town culture, entertainment,

working and living environment on abandoned railroad lands. Union Park stands out for construction and town planning in Las Vegas in that it embraces environmentally sustainable development practices, especially because it transforms an unused brownfield site into an energetic and thriving community.

“This is an historic milestone in the development of Las Vegas and its transition toward long-term sustainability,” said

Steve Rypka, communications chair for the USGBC—Nevada Chapter. Besides Union Park, the Palazzo Hotel and Casino, a large resort and gaming development on The Strip which implemented environmentally-conscious technologies into its design, is rated LEED Silver. This is a tremendous push into green development not only for Las Vegas, but for LEED ratings itself, as this is the largest certified development on record with the USGBC. Development activity on The Strip and Downtown is recognized all over the world, and it is fair to say that a step toward sustainability in Las Vegas will set a new precedent for green building all over the southwest and for desert climates all over the world (Union Park 2008).

Water conservation is absolutely crucial in the Las Vegas Valley, which pipes in a large volume of its municipal water supply from distant sources. Despite the obvious conditions of perpetual drought and extreme heat and aridity, water is often used with impunity by the major hotel-casinos on the strip, as well as by residents who desire lush green lawns and full swimming pools. The Palazzo illustrates the tangible benefits of LEED-guided green building; it conserves enough water to provide each Nevada citizen with 266 eight-ounce glasses of water for a year, while saving enough energy to light a 100 watt light bulb for 12,100 years (Green Building News 2008).

LEED benefits construction in places like Las Vegas because it usually takes on a whole-building construction approach, meaning that to earn enough points for certification a building must satisfy green building parameters in a wide variety of ways. Among the Palazzo’s conservation programs that contributed to its LEED rating are such measures as artificial turf and drip irrigation in its landscaping, solar heating systems for the swimming

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pool and hotel water supply, motion sensors in guest suites that regulate the air conditioning based on occupancy, water-efficient showerheads, high efficiency toilets and low-flow lavatory faucet aerators that decrease water use by over thirty percent. In addition to these implemented

technologies, LEED-recognized practices were used during construction, including a waste recycling program run from demolition through completion

that diverted over 70 percent of waste from landfills, and the use of recycled materials in structural elements (JeraOne 2008).

Another “city within a city” development that is incorporating LEED certification into its design is the MGM CityCenter, located on Las Vegas Boulevard at a central location on the famed Las Vegas Strip. CityCenter presently aspires to achieve LEED certification from the U.S. Green Building Council, taking an innovative approach to site development, water savings, energy efficiency, materials selection and indoor environmental air quality. Following the LEED whole-building approach to sustainability, CityCenter’s design integrates water conservation measures throughout the development by including specially-designed low-flow bathroom fixtures and a highly efficient irrigation system for all landscaping. In order to ensure the health and comfort of visitors and guests, CityCenter’s design and construction minimizes pollutants in the air conditioning system, and has integrated building materials that have been chosen to minimize

odor-causing and unhealthy emissions. The design also seeks to conserve energy by utilizing natural light and innovative strategies to conserve power, with a percentage of that power generated on-site. These energy

reduction and conservation measures reduce the demand on Las Vegas’ power grid and benefit not only the “city within a city” development, but the entire community as well.

Though one can easily discuss Las Vegas development when it comes to The Strip, it is important to note that this is a thriving city with almost two million inhabitants in its metropolitan area. Recently, LEED certification of buildings has become trendy and fashionable in Las Vegas, thanks in part to the publicity



Las Vegas, Nevada Photo: Greg Lavigne

given to the hotel-casinos aspiring to its standards. In short, LEED certification allows bragging rights and may be touted as an amenity, just like upgraded interiors and shaded parking. The only two buildings in Nevada to receive a LEED Platinum rating thus far are both found at the Las Vegas Springs Preserve at the Las Vegas Valley Water District. Both the Desert Living Center and Gardens, as well as the Visitor Center, serve as outstanding examples of green development in the Mojave. A primary motivation behind the development of these two buildings is to serve as a visual and tangible example of how green living can create beautiful and functional living and working spaces in the Las Vegas Valley. Residents and visitors alike can tour the grounds of the Water District—which regulates and oversees the water supply and consumption throughout the city—and get ideas for how to incorporate native plants and alternative energy practices into their homes.

Other LEED-rated buildings in Las Vegas include the Molasky Corporate Center, rated Gold; the Miley Achievement Center, certified; the Regional Animal Campus of the Animal Foundation, rated Silver; and the New Telecommunications Building of the College of Southern Nevada, certified (USGBCb). The certification of these buildings reveals a continuing trend toward LEED-influenced building practices, be it for true aspirations toward sustainable living in the Mojave Desert, or simply to brand a building with the latest trendy label.

LEED certification is causing a strong wind of change to blow across the floor of the Las Vegas Valley. In a town where anything can happen, visitor and resident alike can see the benefits of green building in one of the most unlikely locations in the nation. Hopefully Las Vegas will serve as an example for the rest of the country, proving that not everything that happens in Vegas has to stay there.

References

Green Lodging News. 2008. U.S. Green Building Council awards the Palazzo LEED Silver certification. April 10. <http://www.greenlodgingnews.com/content.aspx?id=2031> (accessed October 2008).

JeraOne. 2008. ENERGY RESOURCE-10. Palazzo Las Vegas honored as world's largest LEED Building. April 10. <http://www.jeraone.com> (via: http://findarticles.com/p/articles/mi_m5CNK/is_/ai_n25148424) (accessed October 2008).

MGM CityCenter. 2008. Vision: Sustainable design. http://www.citycenter.com/vision/vision_sustainable.aspx (accessed October 2008).

Union Park. 2008. Press Release. Union Park certified as LEED Gold under stage 2 LEED-ND pilot. September 3. <http://www.unionparkvegas.com/sep032008.aspx> (accessed October 2008).

USGBCa. United States Green Building Council. 2008. What is LEED? <http://www.usgbc.org/> (accessed October 2008).

USGBCb. United States Green Building Council. LEED projects & case studies directory. <http://www.usgbc.org/LEED/Project/CertifiedProjectList.aspx> (accessed October 2008).