

enLIGHTenment

LIGHTING INSPIRATION, INFORMATION, AND INNOVATION

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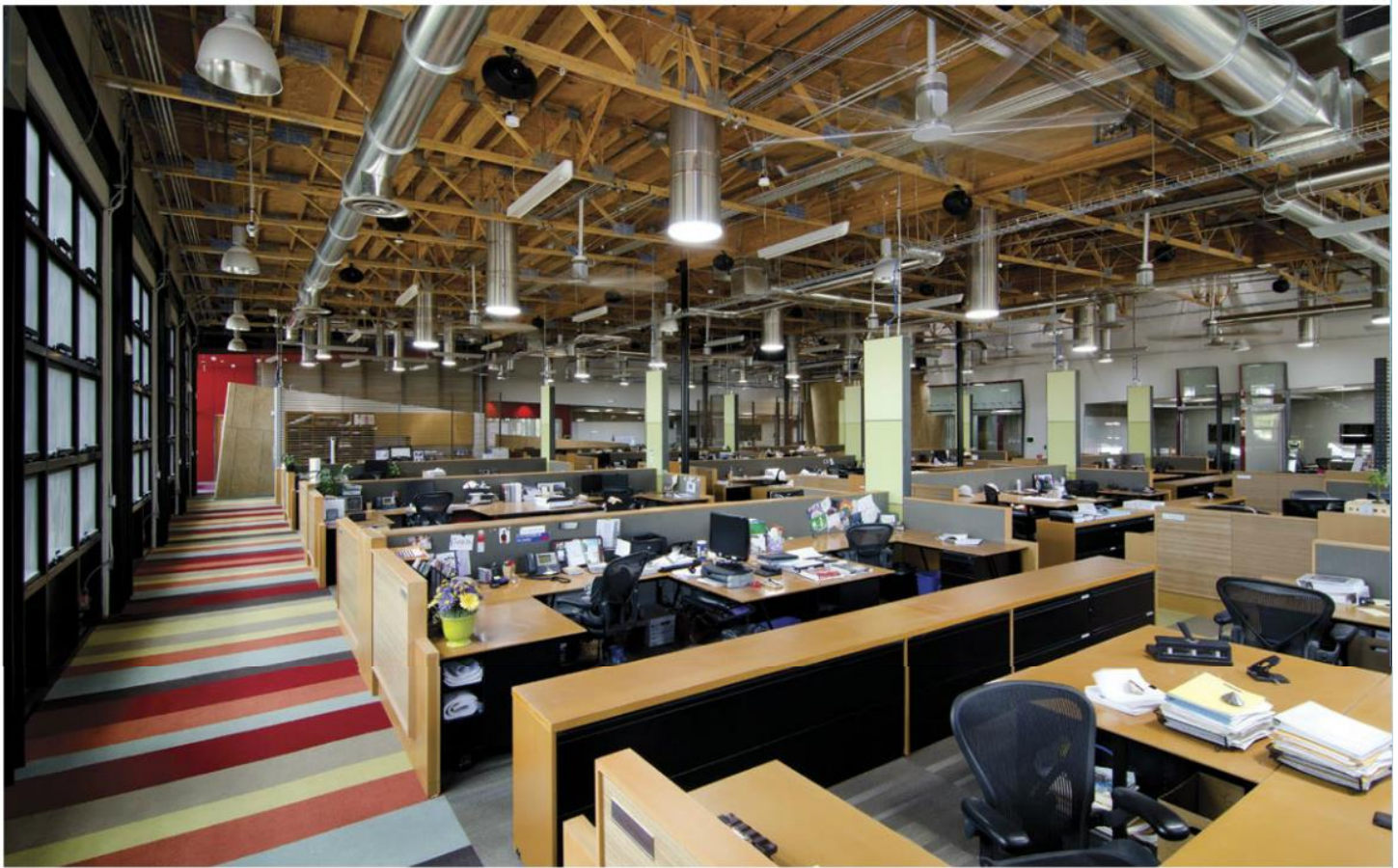
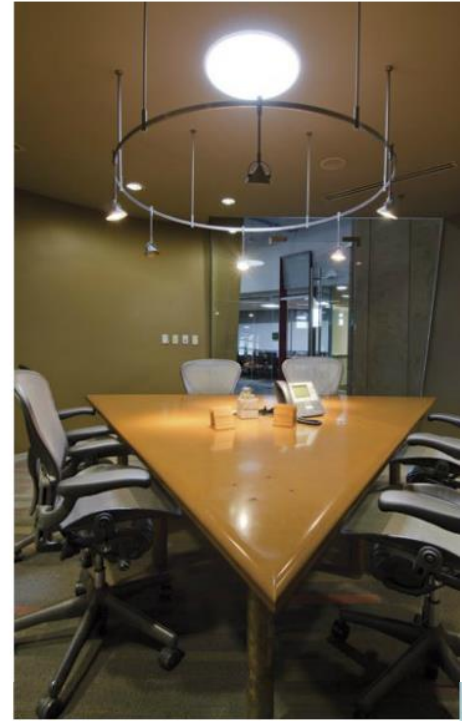
All You
Need to Know
About Outdoor
Living Trends

DON'T GET LEFT IN THE DARK!

**WINNING
OVER ONLINE
SHOPPERS**

**WHY PINTEREST
MATTERS TO YOUR
BUSINESS**

**TOP
INTERIOR DESIGN
TRENDS**



In addition to conference rooms, a gym, and work desks, there are also enclosed rooms for informal meetings and gatherings. A contemporary lighting fixture offers a functional, decorative touch to a conference room while the Solatube daylight tube provides the ambient lighting. DPR Construction opted for an open work space environment.

Let There Be (DAY)LIGHT!

One of the country's first Net-Zero Energy buildings relies partly on daylighting techniques to achieve its impressive energy savings.

With the intention of creating a living laboratory for the Phoenix community while building its new regional office in Arizona, national commercial general contractor and construction management firm DPR Construction practices what it preaches. The company, which specializes in highly complex and sustainable projects, conceptualized what has been called "the workplace of the future."

The 16,533-sq.-ft. building (circa 1972) was formerly an abandoned retail boutique at the corner of 44th Street and Van Buren in Phoenix. In less than 10 months, DPR's design-build team researched, designed, permitted, and built a highly efficient and modern workplace with numerous innovative sustainability features including the ample use of natural light to cut down on energy costs.

An example of urban revitalization and sustainability, DPR completely renovated the structure and created an open-office environment housing 58 workstations and floater spaces, nine conference/training/innovation/mediated technology rooms, support spaces, a fully equipped gym with lockers, and a "zen room" for employees to experience a quiet retreat. It also incorporated

passive/active cooling solutions including 87 operable windows, four shower towers, a zinc-clad solar chimney, and a 79 kW DC-rated photovoltaic solar panel covered parking lot to control the indoor environment naturally and produce energy on-site. A Lucid Building Dashboard® system allows DPR to monitor and share building water and gas usage, lighting and power consumption, and photovoltaic energy production in real time.

Supplementing the energy-efficient lighting are 82 tubular daylighting devices from Vista, Calif.-based Solatube Daylighting Systems. "The use of Solatube Daylighting Systems was an integral part of our sustainability and lighting energy savings plans for the renovated space," says Dave Elrod, regional manager for DPR Construction Phoenix. "Solatube products are a cost-efficient solution to provide lighting since they nearly eliminate the need for artificial daytime lighting."

One of the project's noteworthy features is the 87'-long zinc-clad solar chimney that releases hot air from the building while drawing cooler air in. The zinc came from extra material from a previous project, making good use of existing resources. Four shower towers act as evaporative coolers to regulate the building temperatures and provide



ABOVE: An expansive gym and locker room are efficiently heated and cooled using state-of-the-art “green” technology.

RIGHT: A close up look at the Solatube fixtures that provide ambient illumination throughout the building.

up to four tons of cooling at peak operating conditions. The towers have inexpensive plastic tubing and dual shower heads to create air flow pulling water up and dispersing it back through the shower heads and misting heads to provide an evaporative cooling effect.

Besides the 79-kilowatt solar array that offsets 100-percent of the power demand while providing covered parking, the xeriscape landscaping offers shade plus additional passive cooling. The 87 operable windows are designed to open and close automatically based on the indoor/outdoor temperatures; and two “vampire” shut-off switches to keep electrical devices (i.e. radios, cell phone chargers, microwaves) from using power plug energy when no one is in the office.

In 2013, the office was certified as a Net-Zero Energy Building (NZEB) from the International Living Future Institute (ILFI) through its Living Building Challenge[®] program. It is the first in Arizona and only the second in the U.S. to achieve NZEB certification. At one point, it was the largest building in the world to receive that certification. It has also received LEED[®]-NC Platinum certification from the U.S. Green Building Council (USGBC).

Furthermore, the DPR office also employs such earth-friendly practices as utilizing rapidly renewable wood products, recycled and reused materials, plus alternative ways to light and condition the space with natural ventilation. By utilizing



products from Big Ass Fans, the company was able to drastically reduce the building’s power demand. The expansive walls of windows and 82 strategically positioned Solatubes[®] nearly eliminates the need for artificial daytime lighting 365 days a year.

“We’re proud of our new office and how it physically, environmentally, and visibly represents our core values and culture,” Elrod states. While many building owners may think it’s impossible to turn a (more than) 30-year-old building at the end of its intended lifecycle into something forward-thinking and sustainable, that is precisely what we’ve achieved.

“We are excited to open our new office to the public and share the numerous green building features and systems,” says Elrod. “People will be able to see for themselves that it is possible to live and work sustainably in this desert environment. We hope our visitors will be informed, educated, and most of all inspired to think about changes they can make in their own projects, at work and at home.”

“SmithGroup is excited to be a part of part this visionary project undertaken by DPR,” notes Mike Medici, AIA, managing director of SmithGroup JJR, which handled the architecture and engineering. “Their innovative approach will be a leading example of sustainable urban development for the Greater Phoenix area.” ♦

- CLIENT:** DPR Construction
LOCATION: Phoenix, Arizona
ARCHITECTURE/ENGINEERING FIRM: SmithGroup JJR
DAYLIGHTING SYSTEM: Solatube, supplied by distributor Norcon Industries
FANS: Big Ass Fans

PROJECT AT-A-GLANCE