

Cultivating Healing

The new Outpatient Surgery Center at City of Hope

Over the last century, City of Hope medical campus has become known as a world-class cancer treatment hospital and private research institution. Their strong commitment to increasing positive health outcomes and promoting healthy lifestyles has led organically to sustainable building and operational policies that support their mission. The new Outpatient Surgery Center, opened in fall 2011, exemplifies their effort to use environmentally friendly spaces to cultivate healing. At every turn, the Center's designers favored sunlight, clean air, healthy materials, and efficient equipment to support patient wellbeing, while simultaneously minimizing the building's environmental impact.

Doubling the outpatient surgical space on campus and reducing the wait time for City of Hope's patients, the center includes four ORs, four procedure rooms and a pathology laboratory. LEAN design meetings focused on the 3Ps, Production, Preparation, & Process, were held to review staff and patient flow and understand operational processes to eliminate inefficiencies. One design outcome of the 3P events was the interchangeable design of the 26 pre-op and recovery bays to maximize staff efficiency in the 19,000 SF space.

Recognizing that social support from family and close friends has important benefits to patients, the waiting room was designed to give families options—facilitating desired interactions and reducing others. Unblocked views of the San Gabriel Mountains and scenic artwork also provide a visual reprieve to patients and their loved-ones in the waiting area.

The use of natural light was a priority in the design of the Surgery Center because it both reduces the need for electricity and nurtures everyone using the space. The daylight that flows into the nursing and patient areas provides a connection to the outdoors for the staff and patients, easing stress levels and reducing patient anxiety. Patients are offered individual controls and multiple levels of lighting in their pre-op and recovery spaces, and manual shading devices where day lighting is available. Not only does this prevent using unnecessary electricity, it gives patients an ability to control their environment to suit their specific needs, much as they can at home.



Like lighting control, temperature control is important in a facility where desired space conditions range from 65 degrees and 60% relative humidity in operating rooms to 75 degrees and 30% relative humidity in gowned patient areas. The HVAC system was carefully designed to deliver appropriate air temperatures and humidity levels to these distinctly different zones. Additionally, 100% Energy-Star-rated equipment and appliances were installed both for efficiency and temperature management, minimizing thermal comfort issues related to inefficient equipment in critical areas.

Because air quality is so vital to health, the City of Hope project team paid special attention to the material choices for the project.

A distinctive wood ceiling, made entirely from Forest Stewardship Council (FSC) certified wood is carried throughout the space, and contributes to the peaceful and organic atmosphere.

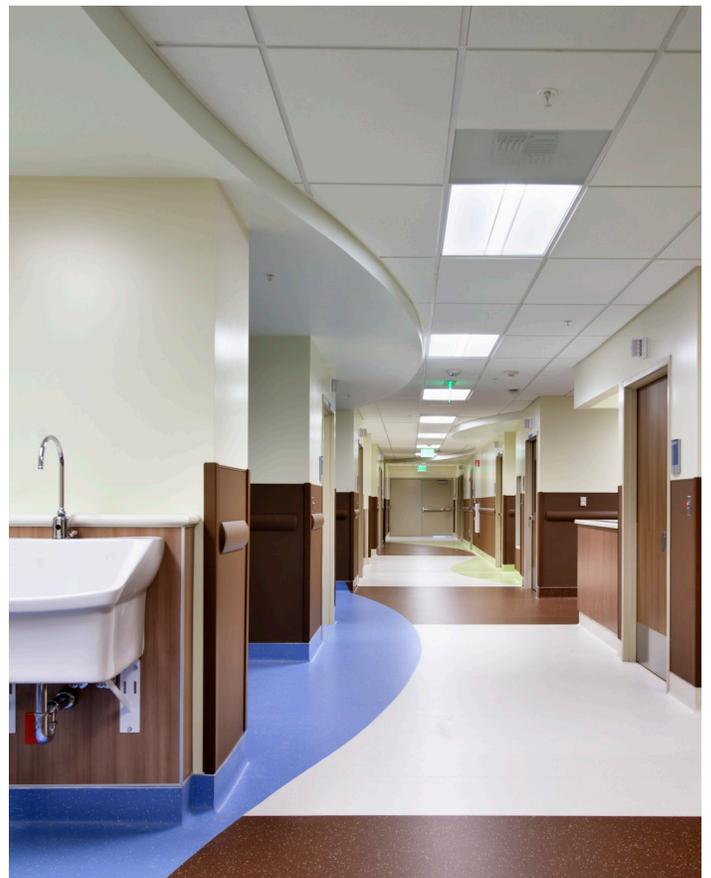




Low-emitting materials were the clear choice in this case, as VOCs can directly affect patients, and some of them are known human carcinogens. For instance, urea formaldehyde is a recognized carcinogen, so all composite woods selected for the project were made without the addition of this chemical. The contractors also followed strict IAQ protocols to reduce harmful airborne contaminants, such as scheduling to reduce entrapment of VOCs by absorbent materials, and masking of air vents to avoid contamination from construction debris. High-efficiency filtration, space pressurization, and exhaust systems were carefully commissioned.

Consistent with their mission, the project team also researched products with sustainable attributes beyond just VOCs. Many flooring, impact protection, and shading products used in the healthcare industry are manufactured with heavy metals. These chemical elements, including lead, mercury and cadmium, are toxic to humans. Required to be flame retardant, cubicle curtains are often treated with brominated and/or halogenated chemicals which bioaccumulate in the environment. The Center was able to utilize products specifically formulated without these components.

The team also selected several products with Cradle to Cradle (C2C) certification. These products have been assessed not only in regard to their safety for humans and the environment, but also for the sustainability of their manufacturing processes and for



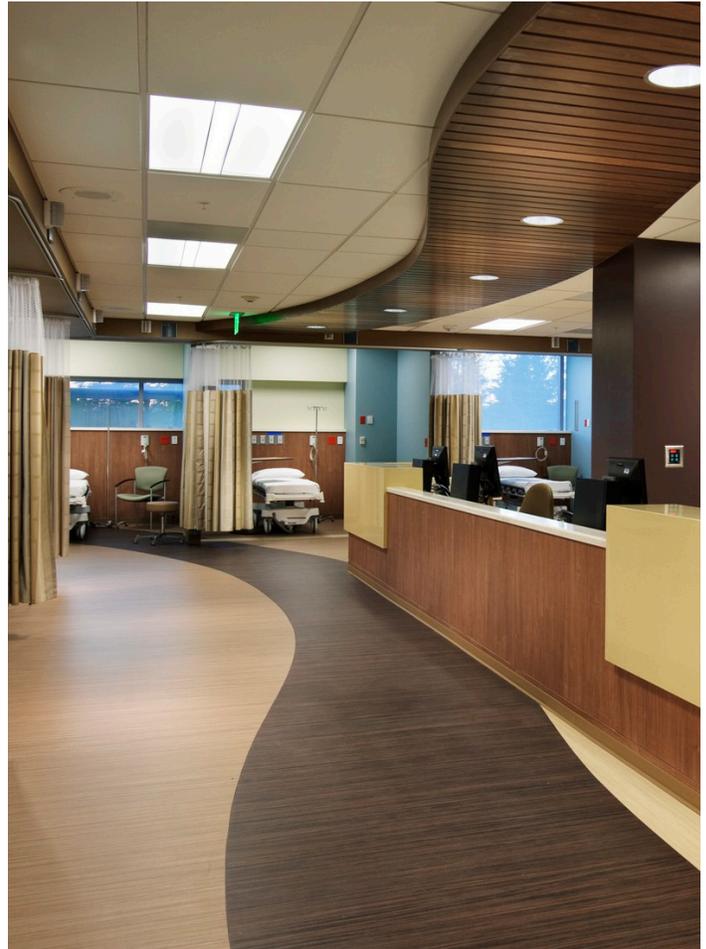
recyclability. A C2C product must be designed right from the start to be built, used, broken down, and recycled with minimal adverse impact on the environment.

A distinctive wood ceiling, made entirely from Forest Stewardship Council (FSC) certified wood is carried throughout the space, and contributes to the peaceful and organic atmosphere. This selection further demonstrates City of Hope's commitment to green building materials and supports the forest industry's movement toward sustainable harvesting practices. A combined total of 74% of the wood in the facility is FSC-certified.

City of Hope also has campus-wide policies and programs that address health & sustainability. A green-cleaning program keeps the space free of unnecessary toxins that can adversely affect staff, patients and visitors and a comprehensive transportation management plan promotes alternative transportation among their employees. To support this program, bike racks were placed near the main entry, designated spaces for carpools were allocated in the building's associated parking lot, and a free shuttle offers rides between the campus and train station.

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These and hundreds more forward-looking choices earned the City of Hope Outpatient Surgery Center LEED Gold certification from the U.S. Green Building Council. With this distinction, the Surgery Center joins two existing LEED Silver projects on the campus. As City of Hope continues to provide the gold standard in patient care, they also lead the community by representing the best of sustainable healthcare design.



PROJECT TEAM

BOULDER ASSOCIATES ARCHITECTS – Architects
BOULDER ASSOCIATES ARCHITECTS – Interior Designers
JBA CONSULTING ENGINEERS – Mechanical/Plumbing Engineers
JBA CONSULTING ENGINEERS – Electrical Engineers

MIYAMOTO INTERNATIONAL – Structural Engineer
GLUMAC – Commissioning Agent
LAYTON CONSTRUCTION – Contractor
BOULDER ASSOCIATES ARCHITECTS – LEED Coordination