

# Hospitals are Going Green

Focus on sustainable construction methods, healthy materials

By Jennifer Roberts

Across California, new healthcare facilities are rising at a fast pace to comply with the state's seismic safety law. In Oakland, the city's four major hospitals – Kaiser Permanente, Alta Bates Summit, Children's Hospital Oakland and Alameda County Medical Center – are investing a combined \$2 billion on construction and seismic upgrades. Kaiser Permanente and Alameda County Medical Center are leading the way toward creating buildings that are not only stronger and safer, but also greener, healthier and more energy efficient.

## Kaiser Permanente

At Kaiser Permanente's Oakland Medical Center campus, a new medical office building and parking structure have already been completed and construction is underway on an adjacent 349-bed hospital tower. For this project and all its facilities developments, Kaiser uses the Green Guidelines for Healthcare, a set of standards that provides a framework for the design, construction and operations of healthy and sustainable healthcare buildings. The Kaiser Permanente Oakland Medical Center



Oakland's four major hospitals (including Kaiser Permanente, above) are investing a combined \$2 billion in construction and seismic upgrades. The renovations include many green features.

alone employs 4,500 people, out of approximately 10,000 Kaiser Permanente employees in Oakland.

Before construction began on the new Medical Center, Kaiser demolished a seven-story office tower on the site, and was able to recycle 96 percent of the materials, including 17,000 tons of concrete, 1,900 tons of metals

such as rebar, and about 20 tons of asphalt.

The new Medical Center will include green features that are becoming more commonplace in new building construction, said Michael J. Lane, Project Director, Kaiser Permanente Oakland Medical Center Replacement Project. These include low-water landscaping, water-saving faucets and dual-flush toilets, healthier

paints, upholstery made with recycled materials, and efficient windows that block the sun's heat and reduce air conditioning costs.

Beyond those basics, the new hospital is designed to use 38 percent less energy than a standard new hospital, said Lane, and the medical office building consumes nearly 12 percent less energy than a comparable building. Kaiser plans to put solar electric panels on the roof of the parking structure that will produce 80,000 kilowatt-hours of electricity annually.

In the new buildings, rubber flooring materials and PVC-free carpet backing take the place of products made from polyvinyl chloride products, a plastic associated with potential health risks. And in another health-affirming move, the hospital tower is oriented to provide as much daylight as possible to the patient rooms. "Each patient room is an individual room, and each room has a window," Lane said. "It's going to be quite a bit different."

## Highland Hospital

Alameda County Medical Center's \$668 million construction project in Oakland includes replacing the existing Highland Hospital tower and constructing a new specialty care center above a parking garage. The specialty care center is expected to achieve the Gold level of certification under the LEED Green Building Rating System, said Ann Ludwig, Medical Facilities Development Program Manager with General Services Administration of Alameda County, the developer and owner of the buildings. The new 169-bed hospital tower is expected to achieve either LEED Silver or Gold certification, Ludwig said.

The rebuilt Highland campus, which is surrounded by residential neighborhoods, will include a one-acre courtyard. "It gives an additional acre of permeable space and creates a better overall environment for the staff and patients," Ludwig said. The courtyard will be designed to meet the Bay-Friendly Landscaping Program's standards, which emphasize saving water, protecting water and air quality, avoiding harmful chemicals, and other sustainable practices.

Apart from rooftop solar panels that will heat water for the medical office building, the project doesn't include a lot of green "bells and whistles," Ludwig said. "Our focus is on reducing the costs of maintaining and operating the buildings," she said. "Energy reduction, water reduction, maximizing indoor air quality and bringing down operating costs are our highest priorities."

One of those cost-saving measures involved salvaging high quality building materials from six buildings demolished at the 14.4-acre campus. Metal railings, door knobs, transom windows, 42 pallets of terra cotta roofing tile, and other components were removed before demolition and are now stored at the County's building maintenance yard, awaiting future use as replacement parts on County hospital buildings built in the same era.

## Children's Hospital Oakland

Expansion plans for Children's Hospital Oakland are still in the works, but the facilities development and construction team intends to draw from the sustainable standards of both the Green Guide for Healthcare and the LEED for Healthcare green building rating system. Sustainability features will include ample access to outdoor spaces, green housekeeping and landscaping practices, reduced use of hazardous chemicals and waste reduction. The use of recycled and recyclable materials, and energy-efficient windows and mechanical systems will also be priorities.

—Jennifer Roberts writes about sustainable buildings and landscapes. She's the author of *Good Green Homes* and other books on green buildings.



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