



1: Located at 96th Street and Prairie Star Parkway, Lenexa Fire Station 5 is the city's first LEED-certified municipal building. 2 & 3: Special considerations were made after receiving input from firefighters. 4: Planted in trays on the roof, a material called sedum absorbs moisture and reduces rainfall runoff. 5: After building Station 5, the Lenexa Fire Department can now reach emergency scenes within six minutes.

## LENEXA FIRE STATION 5 IS IN THE GREEN

words SARAH AYLWARD photography courtesy of WSKF ARCHITECTS

In April, fire chiefs from across the country, Canada and Great Britain traveled to our area for the 2010 Station Style Conference, which helps emergency responders plan, build and renovate their facilities. Featured during the conference was Lenexa Fire Station 5, a 1-year-old firehouse built with sustainability and environmental stewardship in mind.

This green initiative started at the top, says Lenexa Department Fire Chief Dan Rhodus: "The city is interested in being responsible for the environment and with that, being good stewards of the public dollar." Environmental and financial stewardship requires

a difficult balancing act, but as Rhodus explains, building for long-term use and maximizing the durability of a structure is important, even if it requires more money up front.

Station 5 was designed by North Kansas City-based Williams, Spurgeon, Kuhl & Freshnock (WSKF) Architects. Rick Kuhl, a principal with the firm, worked as the primary architect on the project. "[Station 5] is a new station on a site that was an excess piece of property," he says. "It is very irregular in shape." The parcel of land, which is in the shape of a piece of pie, was left over after the city of Lenexa developed



Prairie Star Parkway as a new east-to-west exchange. Much smaller than other fire station sites, the plot of land created a challenge for the architects.

This particular site, however, was important. Before this facility was built, the department was unable to get to some emergency scenes within six minutes, which is their standard protocol. This particular plot of land happened to be in the center of that hole and was already owned by the city.

Boasting many levels of green architectural elements and technology, Station 5 is unlike any fire station within the Lenexa department. The process, from design to completion, took roughly 13 months. One of the facility's fundamental green attributes is the special insulation throughout. "We also used insulated windows, as well as thermally broken frames," says Kuhl. These frames are isolated from one another with a material that doesn't conduct cold from the exterior to the interior. In

addition, the facility has a ground-sourced heat pump system with 13 wells on-site, used to circulate groundwater in order to heat and cool the facility.

The roof itself is another element in the green design with a seeded material called sedum planted in trays resting upon the roof. The material absorbs moisture and reduces rainfall runoff. In fact, the facility was designed to harvest rainfall for later use. Rainwater is collected via the gutters and downspouts and funneled into an underground cistern. "We have approximately 8,000 to 9,000 gallons of water underground," says Kuhl.

The water within the cistern is used by the firefighters to irrigate the landscaping, or pulled up using drafting equipment, traditionally used to access water from ponds or lakes when firefighters arrive on a scene without a fire hydrant. Kuhl says that building upon this practice, "the apparatus can actually draft out of the cistern, which allows for the fire fighters to confirm their equipment works."

Vince Magers, marketing director at WSKF Architects, says this project was important to the city. "Lenexa has actually been tracking the energy use from this station from the day it opened in mid-2010," he says. "They have calculated a 30 percent reduction in the actual energy used." Moreover, Magers notes this facility is the first municipal building within the city of Lenexa to receive LEED certification from the U.S. Green Building Council.

Though the green attributes are impressive aspects of the new facility, Rhodus says there is more for the fire personnel to appreciate. In fact, given the opportunity, he jokes that his firefighters would fight for a chance to work from Station 5. "They enjoy the station; it's very comfortable."

Another important comfort factor is ample private space. Each firefighter now has a private room, roughly 10 feet by 11 feet, with a bunk, desk, locker and window. "In every one of our other stations, the bunk area is one large room with eight beds," says Rhodus.

The personal bunkrooms also allow for a healthier living environment for the firefighters, who work 24-hour shifts. This emphasis on personal space was one aspect the firefighters requested of the new facility. "What we achieve by having individual quarters is private space that supports mental and physical health," explains Rhodus, who says that in a large bunkroom, cold and illness spread quickly.

Overall, Rhodus and the firefighters in Station 5 are happy with their facility. "We're excited about it," says Rhodus. "We're very blessed to have the support of the community and the governing body." **CJ**