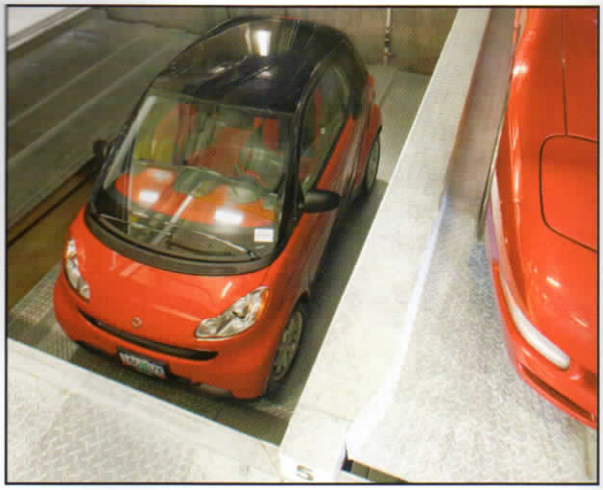

Maximize Parking

LEED-Certified Building in Portland, Oregon, Uses Unique Lift System to Maximize Parking Spaces

by Jessica Shaw, account manager, Christie Nye & Co.

The Hawthorne District, located across the river from downtown Portland, Oregon, is a newly revitalized neighborhood bustling with an eclectic mix of people and small, independently owned shops and restaurants. Gerding Edlen Development chose the heart of this community, the intersection of Southeast 20th and Hawthorne, for a unique project: a two story, mixed-use apartment building that would be built with numerous sustainable features.

Portland-based GBD Architects, a firm known for its commitment to creating environmentally responsible and sustainable buildings, was chosen to design the unique building, which came to be known as The 20 on Hawthorne. The 20 on Hawthorne plans called for recycled, low-toxicity, locally-sourced materials, along with high-efficiency appliances, energy-efficient glass windows, in each of its 51 units. The building also includes an "eco-roof," that aids in the building's insulation and rainwater runoff. The 20 on Hawthorne estimates an average annual energy savings that is 23% higher than the national standard and 40% more water savings than a comparably sized building designed without such features. The building was designed to LEED Silver certification standards but, in the end, it achieved LEED Gold status.

Surrounded by residential neighborhoods, street parking in the Hawthorne District was already at a premium, and 40 to 50 additional cars would not be favorable to the community. Since the plans had such a strong emphasis on sustainable design, Gerding Edlen wanted a parking solution that would allow them to provide a significant number of additional spaces, but that was as green as possible. GBD Architects began exploring alternative options for parking with a few lofty goals in mind: accommodate enough vehicles to meet code, provide adequate parking for residents, and do this while maintaining a small project footprint to gain maximum LEED certification.

After doing some research, they contacted Harding Steel, a company that designs, manufactures, and installs semi-automated parking systems. The company specializes in providing parking solutions for buildings in high-density, urban areas in which the only other option for more parking is to dig deep into the ground, or build a multi-story garage. Instead of having to do either of those options to provide parking, Harding Steel's systems maximize the existing area by stacking multiple cars in a parking spot that would traditionally only fit one.

"Quite often, parking drives a building's design, and the trade-off usually boils down to using a mechanical parking system or building a project with woefully inadequate parking," said Ryan Myers, Harding Steel's national project manager. "A mechanical parking system can easily become the difference between a project becoming a reality, or never being built."

Harding Steel's proprietary system, the CarMatrix®, works much like a cereal box puzzle: there is one empty space, and the squares can be moved around. In the case of the CarMatrix, cars are on "trays" that move up and down and side to side. Residents park in the empty space, get out, and the system moves their car to a storage area which is either at, above, or below grade.

After looking at the plans and talking with the GBD Architects, Harding Steel decided to utilize the longest space in the garage, ten parking spots long, to install the CarMatrix system. With the three-level CarMatrix, 29 cars would fit in the same space that would traditionally only allow ten. (One space must remain open at all times to allow for a vehicle drop-off and delivery space, hence 29 instead of 30).

There were some unique design elements of The 20, such as extremely tall garage ceilings and large columns to work around, that inspired Harding Steel to sharpen its pencils and design a customized system. But because the CarMatrix system is so easily adapted, Harding Steel was able to modify the plans to fit the building's particular needs.

At the time of installation, The CarMatrix system in The 20 on Hawthorne was the largest residential semi-automated parking system of its kind in the U.S. As urban infill and green developments increase, alternative-parking design will be very important for development.

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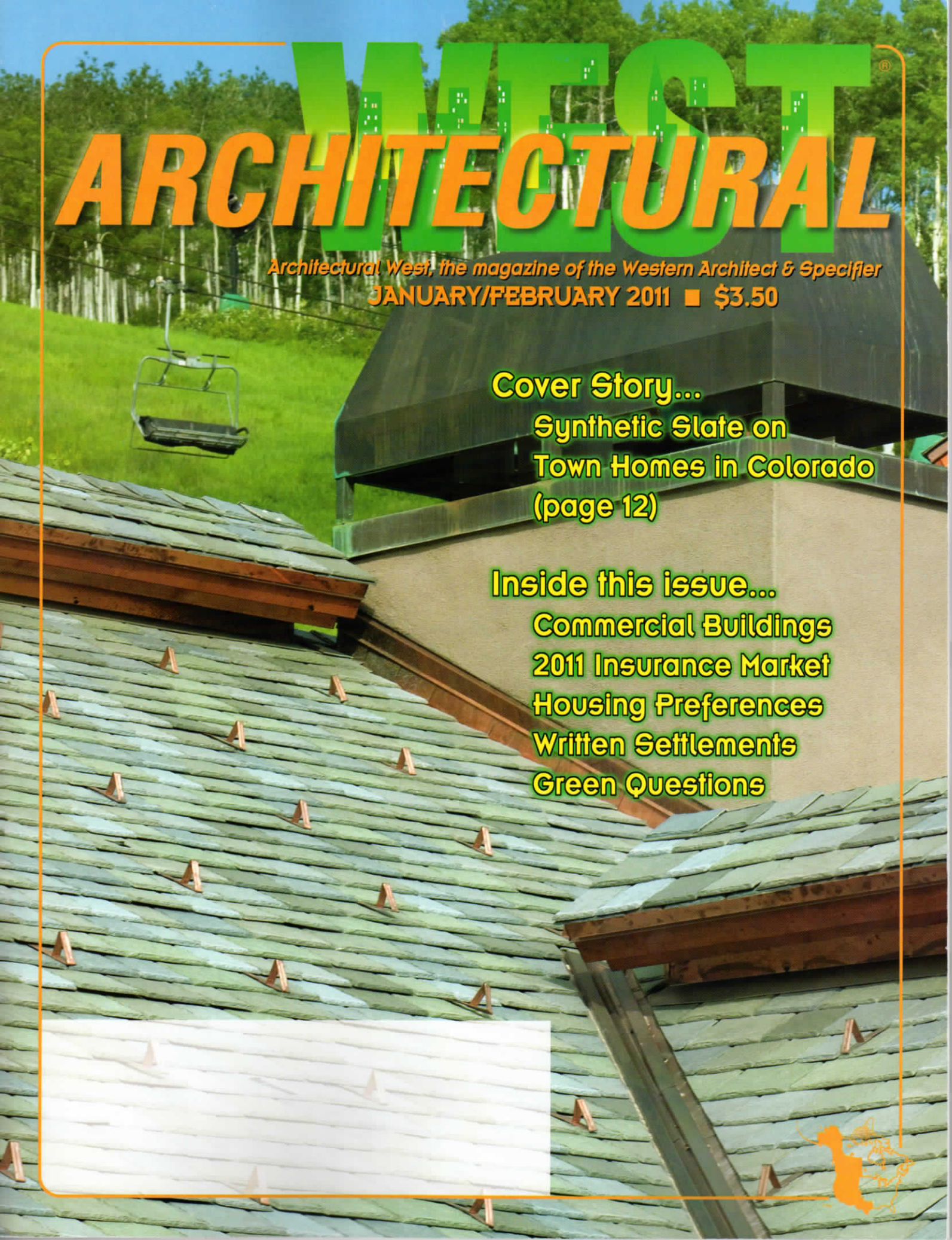

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