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*– William Kaufman '91*

## WILLIAM KAUFMAN '91

*Responding to Cultural Currents*

Becoming a great architect is not simply a matter of conjuring eye-catching designs. Real success in the field requires more fundamental capacities as well, such as the ability to respond resourcefully to major cultural currents rippling through society. William Kaufman's groundbreaking solar installation company, WattLots, is one such story of creative re-invention, born of the recession of 2008.

"During the economic meltdown when New Jersey architecture firms were closing their doors seemingly by the hour and the industry faced a 65-percent unemployment rate, the only market that was growing was the solar industry," Kaufman recounts. "I had always been interested and involved in renewable and green technology and noticed that the available product line was both industrialized and ugly – Frankenstein-like. It also occurred to me there had to be an alternative, untapped market for a different sort of solar design."

He first turned his attention to parking lots, "a vast wasteland with an industrial aspect," accounting for a half-million acres of pavement in New Jersey alone, an area the size of Rhode Island.

"We wanted to solve aesthetic issues while also increasing functionality. Much of what I saw was designed for sunny southern California, not the Northeast," he says, noting that many of the photovoltaic panels on houses and commercial buildings in the state either didn't face the sun adequately or were installed at angles that made for poor performance during inclement weather. He

*William Kaufman*

determined to both shape and tilt them differently.

"Having to use the conventional 4 by 6 ft. flat panels that are made is like telling an architect he can only work with rectangular sheets of plywood," Kaufman remarks. And in the Northeast, he adds, up to 45 days of productivity can be lost in the winter if the panels are snow-covered.

Last year, he debuted a groundbreaking new system at Runnells Specialized Hospital in Berkeley Heights called the Power Arbor, which includes a parking-lot canopy composed of thin, elongated, and tilting solar panels that have the look and feel of tree branches. It automatically rotates to follow the sun. The installation saves the hospital $1.7 million in energy expenses and reduces carbon emissions by 3,300 tons over the life of the system.

"The concept was biomimicry – to *emulate* nature, not *imitate* it. There is a big difference between trying to look like something and trying to act like something. For example, the Arbors do not block 100 percent of the light transmission, allowing some dappled shade effects and visual access to the sky. And when the wind blows, the installation shakes a little, and this is psychologically attractive because

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it looks and feels natural – like the branches of a tree," he says, adding, "The entire array follows the sun, like plants do, striving to absorb every possible ounce of sunlight."

While the initial cost of this new technology is relatively high, Kaufman says the price will come down as sales increase. His company is currently bidding on several projects with power utilities, which continually search for environmentally sustainable ways to meet demand and reduce long-term costs to rate payers. To add value and utility to the installations, he has included features such as Wi-Fi hotspots, built-in advertising, security cameras, high efficiency LED lights and electric vehicle recharging stations.

All of the products are made in the United States. New Jersey aluminum manufacturers fabricate the superstructure, and the panels are made in Texas.

Kaufman's move into sustainable design began in earnest not at a Superfund site or even a parking lot, but at a staff meeting at WESKetch, his own architecture firm.

"It was about 15 years ago and I asked my staff members to say what it was we principally did. When one of the architects said, 'we build big houses for rich people,' others at the table started nodding their heads in agreement. It was like a dagger through my heart," he recounts. "I determined then and there that I wasn't going to spend 30 years building this as a legacy. There had to be a higher purpose to what we did and so I started to think about what we could do to make a difference."

In 2000, he became the first LEED-accredited architect in the state. "The U.S. Green Building Council came along with the LEED program and I was involved with the people writing it, and so when it became available in New Jersey, I took the exam and passed – just one hour before one of my employees," he recounts. "That made me first."

In addition to sustainable initiatives in its design and specification practice, the firm itself implemented a wide-ranging sustainability program, reducing consumption and energy, reusing copy paper for note taking, and starting an interoffice recycling program.

"Our goal was zero waste. This also turned out to save us some money on trash removal and got the staff motivated in a competitive sort of way," Kaufman says. "We essentially became a paperless office at a time when it was not that easy to do."

Kaufman has received numerous awards over the years, including Architect of the Year in 2001 from the American Institute of Architects. Last year, the NJIT Alumni Association gave him an achievement award for his pioneering career in green building.

Kaufman says he first learned to question his profession's status quo at his alma mater.

"My architecture career began there with my very first class with Professor Jeff Hannigan. He told us to throw out everything we knew about building and design, to unlearn everything we'd absorbed from marketing and from entrenched notions about economics. None of this was about design," he recalls. "He was right. With so much of problem-solving, it's often a race to the quickest solution. Our job as architects is to do it better."

Describing himself as "very technology oriented," Kaufman says he stays connected to NJIT. He was one of the founding members of the New Jersey School of Architecture's Dean's Executive Council.

Years later, WattLots found a berth at the university's Enterprise Development Center after Kaufman met Judith Sheft, the associate vice president for technology development, at a conference.

"She took an interest in my new company. She and Don Sebastian (senior vice president for technology and business development) got us involved with the EDC. From there we engaged professors and students through the Capstone project which Judith also set up," he says. "Don continues to reference our technology in his many talks and appearances and has brought us in on some other Newark urban-development projects such as Military Park. We hope the university will be a showcase for the product in the near future, hosting installations that represent the campus as a sort of new 'micro-city.' The relationship with NJIT is invaluable."