



## CONSTRUCTION & PLANNING

by Ted Corvey

### Drawing Inspiration from Other Projects

Virtually every private college has a variation on the same scene: At the end of each summer, hundreds of thousands of freshmen leave where they grew up and move to where they will begin their future lives.

Mostly, they came from places that had medical clinics, department stores, restaurants and houses. When you think about it, nothing's really changed. Your campus is now their town. And now, they have infirmaries instead of medical clinics, on-campus bookstores instead of department stores, dining halls instead of restaurants and dormitories instead of houses.

#### Facility Planners Explore Beyond Campus Settings

Carrying the analogy a bit farther, when faced with decisions about how to plan out the outside design of a college campus—the landscaping and buildings and sidewalks and streets—facilities planners in private colleges can look beyond their own campuses to get ideas. That can be especially true when others who have made decisions that you are facing are staring down some of the same challenges.

Take stormwater runoff, for example. Both cities and college campuses require a fair amount of hard surfaces, including parking lots, sidewalks, driveways, roads and rooftops. Both are generally in a limited amount of space.

Were the land left undeveloped, rainfall would be absorbed naturally, but once built up, it has nowhere else to go. The excess water can cause a surge downstream that can cause erosion, flooding and property damage. As a result, cities and counties are increasingly requiring property owners

to install storm water management mechanisms to keep more rainwater on site and return downstream flows closer to a volume that would occur naturally.

Many towns—and colleges, too, for that matter—are turning to genuine clay permeable pavers, atop a system of graded aggregates, as a solution. The pavers, which look virtually the same as clay pavers already in use in many places, have slightly wider gaps between them. The rainwater hits the ground, goes around the pavers and is held by the aggregates underneath, before gradually being released into the ground. There, the water is naturally filtered. There are multiple designs that can be adapted to a private college campus.

### The Front Quad

Many private colleges have a front quad, bordered with classroom buildings, that looks like a well-appointed park. There are walkways and benches and carefully landscaped grounds.

In Palmetto, Florida, city planners set out to convert a former high school football field into a park. The idea was to add to an existing, adjacent park called Lamb Park, to create a central green-space corridor in the central

business district. Sutton Park, named for a town resident who was killed in the Vietnam War and dedicated to the memory of all military veterans, is in an area surrounded by historic homes, a library and a church.

During the design phase, three main themes emerged: Incorporating green construction into the design; minimizing stormwater which flowed untreated into the Manatee River; and being part of an overall effort to increase use of the downtown by building a family friendly environment.

Green design was incorporated by using clay permeable pavers, LED lighting, drought-tolerant landscaping and a low volume irrigation system using treated effluent. Stormwater runoff was addressed by specifying 23,000 square feet of permeable pavers, which combined a durable material capable of handling pedestrian and vehicular traffic with low-cost maintenance. The installation also handled stormwater well, during several heavy rainfalls and one tropical storm.

The variety of colors allowed design flexibility both in how the project looked and in how it allowed for the creation of gathering areas. Designers used concentric circles and other

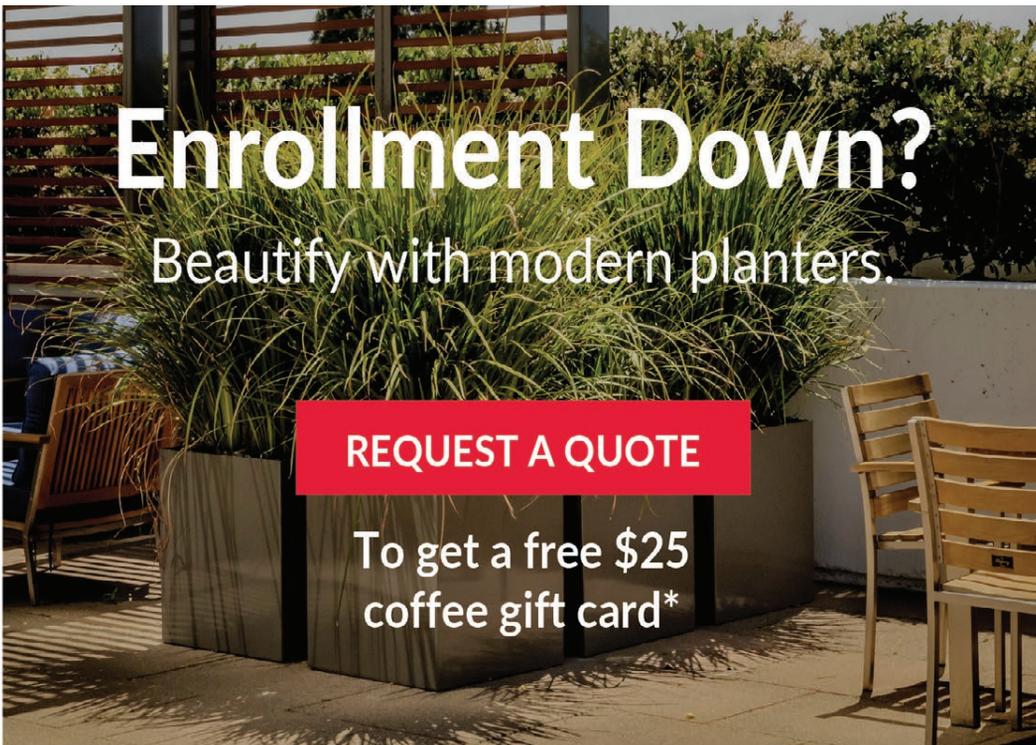
patterns to subliminally guide visitors around the park and to keep pedestrians and bicyclists separate. Contrasting pavers, not paint, were used to mark parking spaces.

### Streets for Service Vehicles

Streets are part of the design complement of any college campus, to allow visitors, commuting students and faculty and service vehicles to enter and exit.

In New Albany, Ohio, city planners were looking at Third Street, near the center of town, which had turned from an asphalt street into a huge problem: Decades of severe weather had taken their toll and the street surface was far beyond a routine re-mill and resurfacing. Worse, at the bottom of a hill off Third Street, the Rose Run stream regularly flooded.

The big challenge was to come up with a new street that would look good, last longer and put a stop to the flooding. And all of that had to be done at a cost in line with budgetary restraints. The solution was permeable clay brick pavers. In a “best practices” pavement installation, all four goals were effectively reached: aesthetics, durability, the resolution of stormwater issues and cost.



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“Working with the stormwater master plan associated with this project, we generated some concepts to explore the best methods to deal with stormwater drainage,” said Franco S. Manno, ASLA, LEED AP and a senior landscape architect with Columbus, Ohio-based engineering firm EMH&T. “Our design options included bioretention, rain gardens, permeable pavement and other green infrastructure options. Permeable pavement was the one that made the most sense with this project.”

The cost to install permeable pavers came in at \$424,389 for the 12,200 square foot project. Estimates to install asphalt and conventional storm drain, including five years of maintenance, was \$427,718. That cost rose to \$434,085 if the street were maintained for 10 years.

The cost to maintain the permeable pavers is negligible, as it involves regularly sweeping or vacuuming debris from between the pavers, and perhaps sweeping more aggregates in between them. That’s in marked contrast to regularly fixing potholes and resurfacing the street every five years.

An additional savings comes because no underground storm drains are needed. The installation effectively captures and holds stormwater until it seeps naturally into the earth below. And underground repair—to telephone lines, water and sewer lines and the like—is simplified. Instead of jackhammers and asphalt patching, the pavers are removed and stacked to one side. Once the work is completed, the pavers are replaced.

### A Bicycle Parking Lot

Paving a parking lot for faculty, staff and commuting students out of permeable pavers would go a long way toward resolving stormwater issues on a private college campus. A smaller installation, repeated several times, would likely have a similar effect.

For example, one public university in Columbia built parking pads for bicycles and scooters. The idea was to accomplish two goals. They wanted a good fit aesthetically for the central campus at USC, which already uses red brick pavers to define the space. And the second was to demonstrate the usefulness of controlling stormwater runoff in a small, defined space.

The addition of the pads will have other benefits, as well. Students and faculty will have an example in front of them of green construction, in that the clay pavers are made of shale and water, two of the most abundant building materials on the planet. Because they last virtually forever, they are the definition of sustainability. And because rainwater hits the pavers, goes around them and into the aggregates below before being absorbed into the earth, it is naturally filtered of pollutants.

And as it turns out, encouraging bicycling both reduces emissions into the atmosphere and is good for your overall health, as well. To sum up, using sustainable construction materials, reducing air pollution, and caring for student health sounds like a plan to be inspired by, wherever that inspiration may have originated.



**ABOUT THE AUTHOR:** Ted Corvey is vice president of sales and marketing at Pine Hall Brick Company, America’s largest manufacturer of clay brick pavers, including StormPave® and RainPave® clay permeable pavers. The two qualify for LEED points in a number of categories. For more information, visit [www.PineHallBrick.com](http://www.PineHallBrick.com).

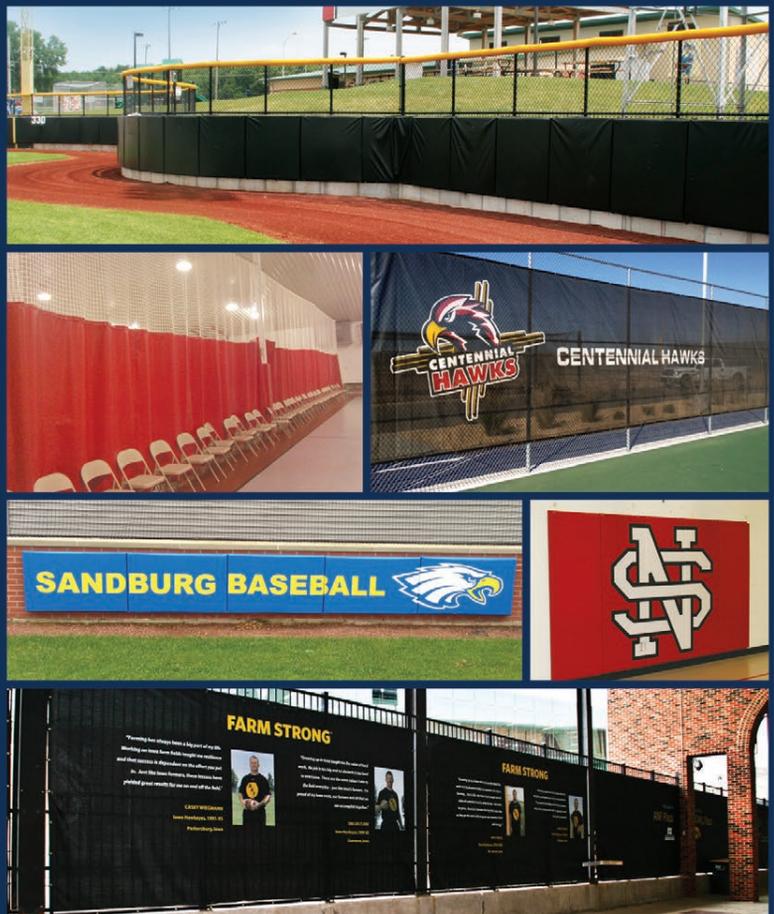


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