



THE GREEN CLINIC

As the second poorest country in Latin America, Nicaragua also has an incredibly high rate of adolescent fertility and maternal mortality. Clínica Verde seeks to provide some relief—starting from the ground up. The healthcare facility, designed by Bill Bylund with the input of Nicaraguan architect Alfredo Osorio, will be built sustainably, featuring natural daylighting, passive cooling, water conservation, and solar-electric energy generation; using with local materials it will also help to employ local Boaco-region residents. Focusing on issues of maternity, the 8,000-square-foot clinic will offer training for entry-level workers and classes on family planning, nutrition, and birthing. Food will also play a significant role—a community kitchen is planned for demonstration purposes, as is an organic garden adjacent the building, and a vendors area will provide a small market for food and other locally made goods. Estimated completion of the clinic is set for the end of 2010.

CLÍNICA VERDE

construction manager

Trailmark Construction Management

architect

Valley Architects

location

Nicaragua

story

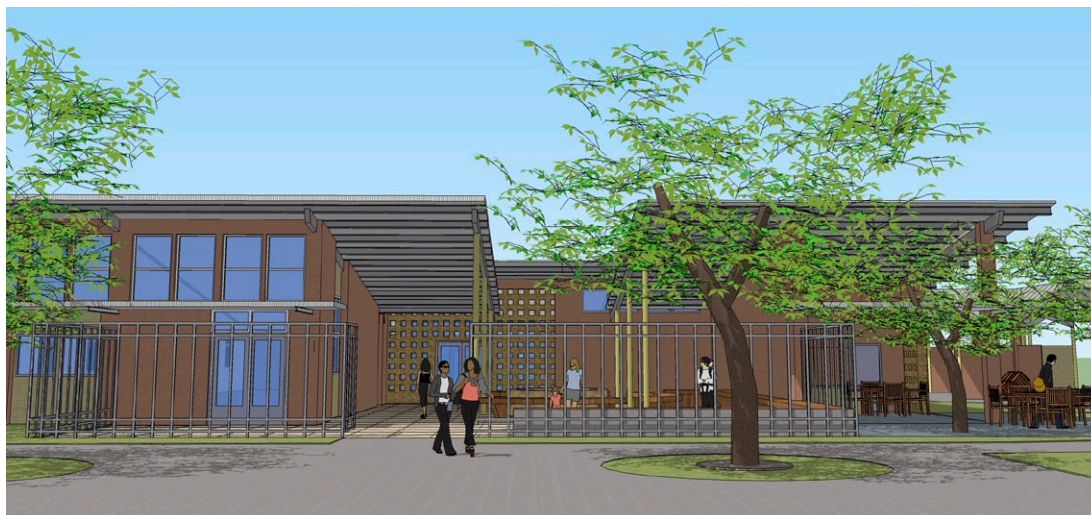
Julie Schaeffer

WHEN ANDREW BYLUND FOUNDED TRAILMARK Construction Management in 2005, solar energy was cost-prohibitive. Today, it's becoming more affordable, and an increasing number of his clients ask for it.

Bylund's interest in sustainability extends back five years, when he was working as a project manager for a Las Vegas general contractor. "One of our client's wanted to use solar power, geothermal, and wood species that were certified by the Forest Stewardship Council," Bylund explains. "I did a lot of research, pricing, and implementation for that client—and was intrigued."

Not long after, when Bylund founded his own firm, he maintained that interest in sustainability—albeit from a different perspective. Trailmark is not a general contractor, but a construction-management firm—in essence, an owner's representative. "There were a number of clients in town that needed an agent with extensive general-contracting experience, so that's what I became," Bylund says.

Today, owners of commercial buildings or custom residences often hire Bylund before construction begins to manage a project from the beginning of permit drawings to move-in—a process that typically takes one to three years. Most of his clients are residential, because many individual homeowners—especially in the high-end market where Bylund works—are too busy to oversee the design and construction of their homes. "These people need an agent who can monitor and manage the entire process in an unbiased fashion and implement any requests they have," Bylund says.



OPPOSITE, LEFT: Clínica Verde is envisioned as a prototype for socially responsible design and community empowerment. Seen as a starting point for social and physical health, the world's built environment can also experience healing through a holistic approach.

Given Bylund's interest in sustainability, many of these requests seem to be green. "I don't market exclusively as a green-construction management firm, but I've gravitated toward projects with sustainable elements, and as a result, I've increasingly become known within the residential market as someone who understands what sustainable features are available and what they cost," Bylund says. "When a client tells me he or she wants sustainable materials used in every possible location or wants to know what solar-energy options are available, I'll work with the design team and general contractor to come up with ideas, then make recommendations back to my client."

One of Trailmark's notable projects with which Bylund is helping in the construction-management process is Clínica Verde, an 8,000-square-foot non-profit hospital in Nicaragua, designed by Valley Architects. "We are hoping that by building a hospital that not only uses local building materials and local employees, but is also partially sustained by solar power, we can improve the livelihoods and health of the locals," Bylund says.

According to Bylund, the major challenge he has faced is the cost of these energy-harnessing systems. "When I first founded the business, my biggest challenge was the cost of solar power for the average user," he says. "Today my challenge is that people just aren't building as much as they used to due to economic uncertainty, and those who are building are doing so

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—Andrew Bylund, President,
Trailmark Construction

on a much stricter budget. Either way you look at it, many people don't want to spend money on solar or geothermal."

The good news, Bylund says, is that the cost of solar power has decreased considerably in the past few years. "Now we just need to reach a point where the average user can stomach the up-front expense, which can be anywhere from \$20,000 up for a normal-size house," he explains. "Because ultimately, a payback will be achieved; it's just a matter of how many years one is willing to wait to break even and start to see their investment work for them. We need to see this payback break-even point reach the five-to seven-year mark before any sort of noticeable increase in residential users is realized."

Another notable project for Trailmark is a 6,000-square-foot California residence, currently under construction and due to be completed by the end of the year, which features extensive use of solar and geothermal-energy systems.

The most unique element is the home's photovoltaic system, which Bylund says is thought to be the first in the United States to integrate a metal-seam roof and solar panel in the same plane and combine them in a single system. The design, which originates in Germany, will provide 80 percent of the home's energy needs. Moreover, because the homeowners are only planning to live in the house for part of the year, they should be able to push power back to the grid through a net-metering agreement with the local power company. "The photovoltaic solar panel is truly unique in that it is not only functional, but beautiful. It's not just this massive unsightly panel sitting on a roof; it can be a seamless architectural element."

The home also has 14 geothermal wells that extend approximately 400 feet into ground to extract heat from the earth. That heat will be used not just to help heat the home, but also to melt nearby snow. "We are going to place one of the geothermal loops in a nearby pond, extract water from it, and run it through the heat pumps to provide a much more effective system for snow melt," Bylund says. "That will reduce the need for mechanical snow removal and the energy associated with it." **gb&d**