



sustaining new england

Drawing on decades of smart design, residential firm Catalano Architects' pioneers new waste-reduction and building-envelope methods

by Jennifer Hogeland

DISPELLING THE MISCONCEPTION THAT SUSTAINABLE buildings have a particular look, Catalano Architects prides itself on incorporating sustainable features while being sensitive to the structure's surroundings—an appealing offer for old neighborhoods along the East Coast.

After spending seven years with prestigious architecture firms such as Robert A.M. Stern Architects in New York and Gund Partnership in Boston, Thomas Catalano founded his own firm in the latter city in 1987.

Though Catalano Architects is known throughout New England and New York state for high-end custom homes, it also designs smaller industrial projects. Approximately 75 percent of the firm's workload is single-family projects, although each job varies in scale and

complexity. "Our firm has evolved over the last 23 years," Tom Catalano says. "We've figured out how to make buildings that work well for our clients, last a long time, and don't cost too much to build."

Green structures have become more fashionable in recent years, and yet Catalano has been incorporating sustainable elements into his designs for more than two decades. "We've always tried to take care in designing our buildings so they work with the local environment, respect the context in which they are set, and...work with nature, not against it," he says.

Seen as a hallmark of sustainable building, Catalano Architects designs structures meant to stand the test of time. As building products and systems continue to improve, allowing the firm to be able to design structures to be more energy efficient, the firm has been using advanced framing techniques to build super insulated homes with elaborate building envelopes over the past eight years. These tight structures significantly lower operating costs while considering the importance of indoor environmental quality.

Catalano Architects has also adopted simple solutions to reduce waste, making a noticeable impact on job sites and within their buildings. Wood parts are

ABOVE: This New England home is set into the hillside, minimizing the disruption of the site and reducing the exposure of the garage wing.

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—Tom Catalano, Founder & President

designed in common multiples of two—four or eight feet—which greatly reduces plywood waste, and the firm often uses engineered lumber precut to length. “Because we are using engineered wood, we will actually use less of it because it is stronger than traditional wood,” Catalano explains, adding a notable achievement in his sustainability efforts: “We recently designed a nearly 4,000-square-foot house where all the waste fit into one dumpster.”

The assumption that demand for green design will continue to grow inspired Catalano to pursue a LEED AP designation. “I felt our clients would value the expertise,” Catalano says. “We also wanted a head start on the things introduced by the US Green Building Council and to understand changes as they are incorporated into Massachusetts’ building code.” This LEED knowledge has been extensively incorporated into recent new building design and structure renovations.

One such renovation, an area boarding school, would have qualified for LEED, had formal certification been pursued. In Boston, where open land is a rarity, renovations are an architect’s challenge, but this project was unique in its delicacy: built in 1883, the Hundred House had never undergone a major renovation. Catalano Architects’ redesign included a geothermal heating-and-cooling system and installation of new windows and insulation.

The firm’s growing green-knowledge base will also help inform the new multi-theatre complex it is designing in Nantucket, Massachusetts. The sustainable attributes will be seamlessly incorporated into the performance and functional space, which is targeting LEED Gold certification.

The design of Catalano’s personal residence in Hyannis, Massachusetts, is also on track for LEED Gold. The home has an efficient envelope with nearly double the code’s minimum insulation values on the walls and roof and utilizes a combination of active and passive solar: a 4.2-kilowatt photovoltaic array on the roof allows the house to claim ground in near-neutral territory. The home’s series of three solar-water collectors are part of its design, providing domestic hot water in



TOP, RIGHT: A covered walkway connects the home’s two buildings while allowing for increased ventilation. BOTTOM: The master closets are kept in a negative air pressure. The metal grillwork on the doors increases the flow of air and allows the exhausting of any off-gassing from cleaning fluids and detergent on the clothes stored within the closets.

the summer and heat in the winter. “Because it is a seasonal house, the domestic water level, which is pretty low, will provide about 65 percent of the hydronic heat requirements of the building,” Catalano says, noting the unique value of this project. “We are trying different things, using it sort of as a test lab.”

Environmental consciousness carries over to every day business at Catalano Architects—recycling is part of office life, and an alternative gas diesel car is taken to job sites. Its clients, too, are becoming ever more aware. Catalano sees this trend growing, and he intends to be equipped with the knowledge and prepared to lead the charge with designs that leave a smaller ecological footprint. **gb&d**