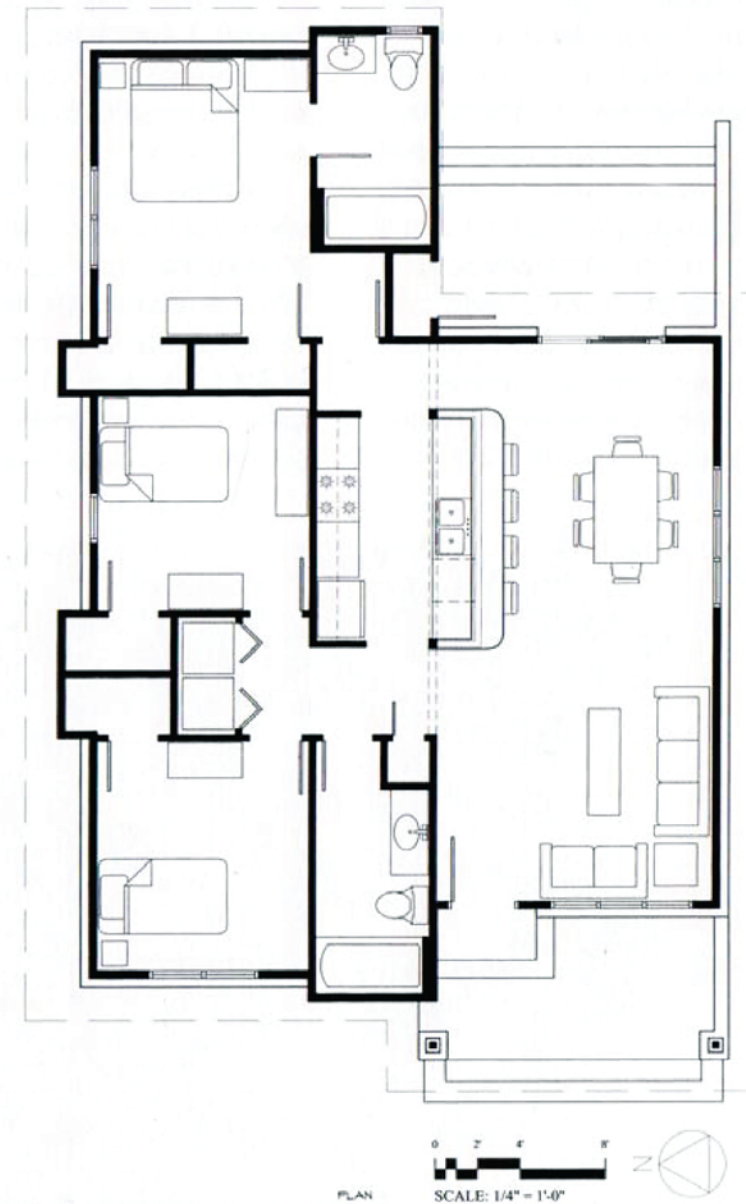


# Davis Residence



## Biography

Architect: Erik Mehlman, AIA  
Project Type: Single Family Home  
Project Context: Habitat For Humanity Home - Downtown Raleigh  
Completion: 2003  
Budget: \$120,000 - \$170,000 (depending on site location)  
Building Size: 1,070 HSF  
Cost per Square Foot: ~\$112 - 159 USD  
3 Bedrooms, 2 Bathrooms  
Living Room, Dining Room, Kitchen, Porch and Outdoor Storage

The Davis Residence (also known as Biltmore Trace - Habitat for Humanity) began as a competition with the Young Architects Forum, YAF and Habitat for Humanity. Even though the design was not selected as the winner a homeowner working with Habitat liked the plan and decided the build it for her family. The home was not designed for a specific lot but rather as a model for affordable housing in the region. Working side by side with the owner, the architect was able to make design choices based on the families needs like installing hardwood flooring instead of carpet due to Davis' allergies. Working side by side with the family to build the home also provided a personal satisfaction of giving good design to a family in need.

## Context

Located in Downtown Raleigh, the Davis' residence is an example of how far a well designed home can go. The architect provided careful consideration of the needs of a family while maintaining a tight budget within a tight program. 3 bedrooms, 2 bathrooms, kitchen, living and dining rooms all were carefully placed into a footprint of just over 1000 sf. The public and private spaces are separated by the kitchen/bathroom utility core with a sloped ceiling that adds volume to a smaller communal space. Another version of this plan has been built utilizing a different, more traditional skin proving that an innovative plan can still fit within a traditional community.

## Sustainability

Natural daylighting - The home is oriented for natural sunlight from the south. North facing clerestory windows bring in additional light from the north.

A "Stack Effect" ventilation design draws in cool breeze from the south facing windows and out the north facing operable clerestory windows. The system worked so well that workers took lunch breaks inside even before the air-conditioning was turned on.

The natural daylighting and natural ventilation are cost-free additions that have saved the owner significant amount of money while providing a more comfortable living environment.

## Designed and Affordable

The key design concepts were to provide an affordable home that was an open plan and provided economic savings through solar orientation and passive thermal comfort.

The location of the kitchen was carefully considered. In many affordable housing models the kitchens are often tucked into a corner. Mehlman placed the kitchen in the center of the home creating a central communal space. The kitchen being the most used space in a home was placed in the center of the home and in the center of the "stack effect" for optimal comfort.

Habitat for Humanity started is a "nonprofit, ecumenical Christian ministry founded on the conviction that every man, woman and child should have a decent, safe and affordable place to live." Habitat for Humanity is one of the largest home builders in the country. There is a greater responsibility and opportunity to provide sustainable homes while investing in good design.

"When the house on Lot 17 was done, Habitat was like, 'Yeah, this is a little bit nicer than what we're typically doing.' But I don't think there was a whole lot more to it besides good light quality, smart solar orientations, and a little bit more design thought."  
-Erik Mehlman, AIA -Metropolis Magazine, October 2008.