

Client/Developer: Mescalero Apache Housing Authority Syndicator: Raymond James Financial, Inc
 Architect: Atkin Olshin Schade Architects Partnering Agencies: New Mexico Mortgage Finance Authority, U.S. Department of Housing and Urban Development, Bureau of Indian Affairs, Indian Health Services
 Contractor: Pavilion Construction
 Development Consultant: Concept Consulting, Inc.

NOV 2006 Development team
 JAN 2007 Submit LIHTC application
 MAY 2007 LIHTC award | Design process
 MARCH 2008 Syndicator closing | Construction begins
 MAY 2009 Substantial completion
 JUNE 2009 Ribbon cutting

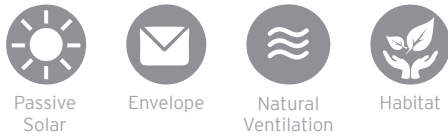


Photo: Atkin Olshin Schade Architects

LOW IMPACT DESIGN

The I Sah' Din' Dii Housing Project, Phase I, is a rural development of 30 low-income housing tax credit (LIHTC) units and a community center that are located within a beautiful, high-altitude ponderosa pine forest in southern New Mexico. Energy savings, occupant health, and reduced impact on the surrounding forest were primary goals of the project. The project team also compared different wall systems to determine the most cost-effective approach to a tight building envelope for use in future projects. I Sah' Din' Dii is a model for green, context-appropriate tribal housing.

CORE PROJECT EMPHASES:



LESSONS LEARNED

- A rural atmosphere can be maintained through thoughtful site planning.
- Good design can help reduce construction and energy costs.
- Engaging all project partners at the outset of a project enhances collaborative performance.
- Structural insulated panels (SIPs) for wall construction are a cost-effective, green alternate to wood stud wall construction.

BEST PRACTICES

- The site plan was developed using low-impact development principles. For example, compact housing allowed for significant protection of adjacent habitat.
- Construction followed the New Mexico Mortgage Finance Authority Green Guidelines.
- All of the homes are oriented for passive solar, with large windows and appropriately sized overhangs on the south.

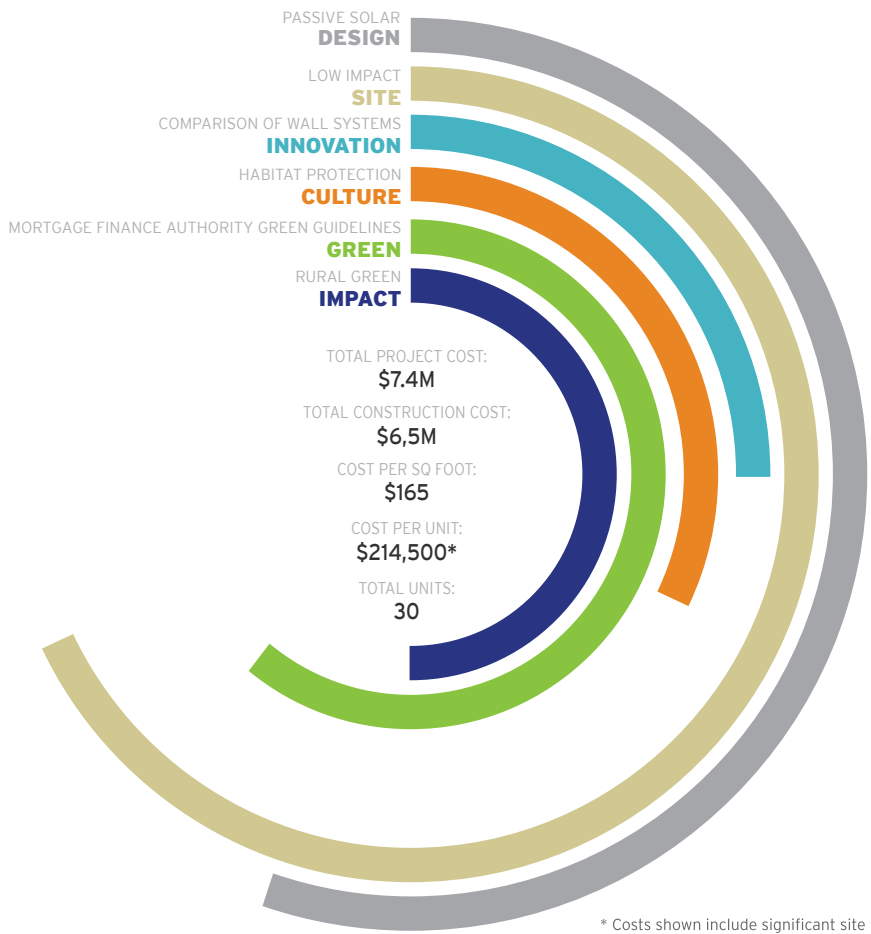


Photo: Atkin Olshin Schade Architects



Single Family



Southwest

I SAH' DIN' DII, PHASE I

SITE

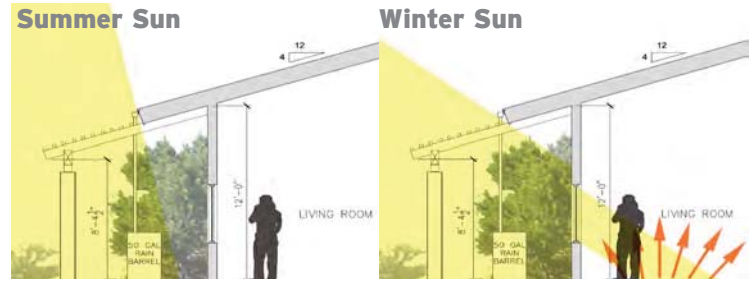
The site was designed using a combination of strategies to incorporate walkability, low-impact development, and passive solar design. Low-impact development principles are based on minimizing impact on the natural environment, such as siting roads and building pads according to existing terrain and topography, limiting the area of disturbance around construction, clustering development, and designing roads and walkways that limit the velocity of runoff and off site erosion.

“ I've seen a lot of affordable housing developments over the years, but this one was almost overwhelming in its beauty, the location and the amount of work that went into the project. ”

- Julie Gunter, Federal Reserve Bank of Dallas

DESIGN

The homes incorporate passive solar design and orientation to reduce energy costs. The annual sun angles for Mescalero, New Mexico, were analyzed and appropriately sized overhangs were built. This design approach allows the lower, winter sun to radiate into the home and the higher, summer sun to be blocked out. The combination of overhangs, concrete floor slab, and large southern windows along with other design strategies such as a well-insulated building envelope and wood stoves helps reduce winter heating bills.



GREEN

To protect resident health, no carpets were installed, and low-volatile organic compound paints, sealants and adhesives, as well as non-urea-formaldehyde cabinets were specified. Structural Insulated Panels (SIPs) were appropriately specified to ensure that non-toxic, urea-formaldehyde-free adhesives were used in the sheathing. ENERGY STAR appliances, passive solar design, and a tight building envelope were addressed for energy efficiency, with R-26 wall insulation and R-40 roof insulation. Passive ventilation helps maintain thermal comfort in the summer by bringing air in through low windows and releasing warm air in high clerestory windows. Water conservation includes low-flow fixtures and rainbarrels to capture roof water. Half of the homes were built with SIPs and the other half with conventional wood frame construction. Post-occupancy utility data shows that the SIP walls are not only cost competitive, but they also provide a tighter building envelope. Site disturbance was limited to 25 feet from homes.

