

ARTISTIC HOMES

El Rancho Grande – Albuquerque, New Mexico

Shocking Success

“I live in the biggest d--- dump,” states Jerry Wade, the founder and owner of Artistic Homes, when explaining how the house he built for himself 10 years ago compares to the affordable housing he builds today using the Building America process.

Artistic is currently New Mexico’s number one home builder, building 650 houses in 2003, all of them to the Building America process.

“I have been building since 1965, and in the early 1990s home building really changed,” explained Wade. “It went from being a pretty simple procedure to being a very complex procedure.” State building code requirements became more stringent and the home construction climate saw an increase in liability issues. “I call it the Wal Mart syndrome,” he explains. If customers don’t get exactly what they want, they want to return it for their money back. It is hard to do this with homes.”



Artistic Homes of Albuquerque New Mexico built 650 homes in 2003, all of them using Building America principles.

To remain competitive, Wade and his three sons began researching how to develop better practices and better homes. Through their search, Wade and his sons found the Building America Program. Working through Building Science Consortium, he explains, “We told DOE, we want you to take our homes and show us the best things we can do. Don’t hold anything back. Go ahead and give us the total shock. Give us the heart transplant. And, they did. That was four years ago—2000.”

And Jerry Wade has not looked back. “We build all of our homes now to Building America standards. This is a commitment we made when we started this.”

Innovations

Wade’s El Rancho Grande Development in Albuquerque is a good example of what makes his homes so different now from the home he built for himself 10 years ago.

To start, Artistic Homes uses 2-by-6 framing instead of the standard 2-by-4 framing, which allows R-23 insulation in the walls and R-38 in the ceiling of these single-family two- to three-bedroom (1000 to 1500-square-foot) homes priced at \$79,000 to \$129,000.

“At Building Science Consortium’s suggestion,” Wade states, “we used refrigerated air instead of swamp coolers. It works like the system in your car.” Wade explains that an air conditioning condensing system sits on the rooftop, and the system sends refrigerant down through lines to a centralized air handler unit located in a closet

INTRODUCTION

Taking action in your community



HOMEOWNERS

Shopping for value, comfort, and quality



MANAGERS

Putting building science to work for your bottom line



MARKETERS

Energy efficiency delivers the value that customers demand



SITE PLANNERS & DEVELOPERS

Properly situated houses pay big dividends



DESIGNERS

Well-crafted designs capture benefits for builders, buyers, and business



SITE SUPERVISORS

Tools to help with project management

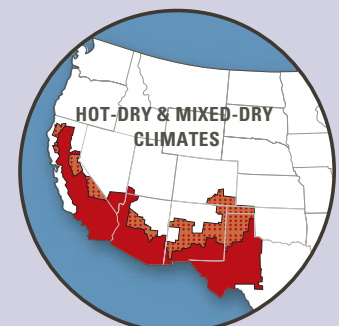


TRADES

Professional tips for fast and easy installation

CASE STUDIES

Bringing it all together



CASE STUDY: ARTISTIC HOMES

within the house. Inside the air handler unit is a refrigerant coil, a hot water coil, and a fan unit. In the summer time, the Freon comes from a condensing unit on top of the roof, down through the lines to the refrigerant coil, and the fan blows air across that coil. They use one centralized duct system for both heating and cooling, and this system distributes the cooling throughout the house. On the heating side, it pulls water from the hot water heater, which is located in the garage, into the same air handler unit and circulate the hot water through the hot water coil and the fan unit.

For Albuquerque, a key innovation is the refrigerated air. “Ninety percent of homes in Albuquerque use swamp coolers,” said Wade. According to the *Albuquerque Tribune*, refrigerated air saves water. The *Tribune* states that evaporative coolers use 15 gallons an hour, or 15,000 gallons a year in a 1,400 square-foot home. Wade estimates that if he builds 700 homes a year, the refrigerated air systems save 10 million gallons of water annually.

Wade is equally excited about the utility bills. “We know from PNM—the utility company—that our utility bills are no higher than those for a swamp cooler and a regular heating system,” said Wade. In fact, according to the *Tribune*, his Building America homes are 40 percent more efficient than the requirements set by the Model Energy Code for identifying energy-efficient homes. The homes at El Rancho achieved an average HERS rating of 88.

Artistic Homes has worked with Building America to get production methods that work in his home designs. For example, the builders were having difficulty getting the chase air tight. It was not working to have the framer box it in with Thermoply and the HVAC contractor later seal it with mastic. Therefore, they switched to drywalling. “One trade, one detail, one solution,” states Wade.

Another innovation developed by Artistic Homes is a shelf for plants in homes with cathedral ceilings. This shelf provides the space needed for central supply ducts.

Comfort, Durability, and Health

Wade is quick to point out that following Building America’s integrated approach provides a major health benefit to homeowners. “Through codes the builders today are forced to build pretty tight homes, but the homes are still not energy efficient. You have not addressed the problems. These swamp coolers pull in outside air with pollutants, pollens, and molds. What you have is a tighter home, and the home can’t breathe, and all the house cleaners, and fumes, and pollutants remain in the house,” states Wade.

Artistic Homes: The Guarantee

Every Artistic Home has a 2-year energy guarantee. The guarantee states that the annual energy required to heat and cool the building will not exceed the annual guaranteed energy consumption. The energy amount is based on the amount of MBTUs consumed, as converted from Therms and kilowatt hours. Should the actual consumption for space heating and cooling exceed the guaranteed energy consumption, in either one-year period, Artistic Homes, Inc. will reimburse the original homeowner for 100% of the actual cost of the consumption difference.



BUILDER PROFILE

Artistic Homes

Where:

Albuquerque, New Mexico

Founded:

1987 (although the president has been building since 1965)

Employees:

12 dedicated employees and over 300 employees in several building-related companies, like plumbing.

Development:

El Rancho Grande

Size:

Approximately 550 homes

Square footage:

1,000 to 1,500 sq.ft.
(3 bedroom, 2 bath)

Price range:

From \$79,000 to \$129,000

Key Features:

- Continuous air barrier—slab to walls to ceiling
- 2-by-6-framing, allowing for R-23 blown-in insulation in the walls and R-38 in the ceiling
- Advanced framing with detailed job site plans
- Sealed ducts with mechanical ventilation
- Transfer grilles for air distribution
- Low-e spectrally selective windows
- Combo unit for hot water and forced hot air
- Reduced sizing of air conditioning equipment

CASE STUDY: ARTISTIC HOMES

Wade addresses indoor air quality issues by using a mechanical fresh air intake that supplies the refrigeration unit/central air conditioning unit with fresh outside air that has been filtered through high-efficiency filters. “Fresh air exchangers circulate air a couple of times an hour for 24 hours a day,” explains Wade.

For Wade, the integrated approach to energy efficiency works. “We are providing a real comfortable home with low utilities and a healthy environment. We feel quite good about that. We have endorsements from the American Lung Association. In fact, we have people moving in with bad allergies and bad asthma, and they say it is the best place they have ever lived.”

Artistic Homes Building Characteristics

	BUILDING AMERICA	STANDARD CONSTRUCTION
BUILDING ENVELOPE		(Meets 1992 MEC)
CEILING	R-38 attic	R-25 attic
WALLS	R-19 24 oc + R-1.2 asphalt impregnated sheathing to exterior, OSB on corners	R-13 16 oc
	R-19 24 oc + FC drywall to garage	R-13 16 oc to garage
FOUNDATION	Slab, R-5 perimeter insulation	Slab un-insulated
WINDOWS	Double Vinyl, Low-E vinyl frame; U=0.36, SHGC=0.45	Double glazed metal frame U=0.87, SHGC=0.73
SKYLIGHTS	Skylight (metal) U=0.80, SHGC=0.73	Skylight (metal) U=0.80, SHGC=0.73
INFILTRATION	2.5 sq in leakage area per 100 sf envelope	12 ACH 50
MECHANICAL SYSTEMS		
HEAT	Combo system 75% CAAFUE in conditioned space	80% AFUE furnace in garage
COOLING	12 SEER A/C	10 SEER A/C
DHW	Combo system 0.57 CAEF 40 gal in garage	Standard gas 0.56 EF 40 gal in garage
DUCTS	Sheet metal in conditioned drop ceiling	R-4.2 in attic
LEAKAGE	None (to outside)	20% of high speed flow
VENTILATION	AirCycler™ Supply-only system 10 minutes on; 50 minutes off	none

The Bottom Line

“I’m not a big government-sponsored person, but I think Building America is fantastic. I really believe in this,” states Wade. “To a builder interested in building to Building America standards, I would say that the process is very painful at first. It is a mind set change for everyone involved, but after 4 years, I know it is worth the relearning.”



Carefully designed duct runs, placed in interior spaces, save energy and help maintain comfort.



Artistic Homes uses advanced features recommended by Building America including 2-by-6-framing, allowing for R-23 blown-in insulation in the walls and R-38 in the ceiling, application of wrap and sealing to create a continuous air barrier from slab to ceiling, sealed ducts with mechanical ventilation, and transfer grilles between room for even air distribution and less drafts.