

# The Team that created the features



BvW Construction  
Bernhard-Arie van Willigen  
P.O. Box 1061  
Taos, NM

t: 575 776 4699  
f: 575 776 0748  
e: [bvw@newmex.com](mailto:bvw@newmex.com)

Tarleton Engineering  
Michael Tarleton  
P.O. Box 2234  
Taos, NM 87571

t: 575 770 0996  
e: [tarenginc@newmex.com](mailto:tarenginc@newmex.com)



Joaquin Karcher  
P.O. Box 216  
Taos, NM 87571

t: 575 758 9741  
e: [joaquin@zeroedesign.com](mailto:joaquin@zeroedesign.com)



Energy Consulting  
Wolfgang Moeller  
P.O. Box 238  
Shokan, NY 12481

t: 845 657 8182  
e: [email@wolfgangmoeller.com](mailto:email@wolfgangmoeller.com)

## Environmental and Air Quality Systems:

- a. Solar Thermal System
- b. ERV
- c. Mud-filled Walls
- d. Radon Mitigation
- e. Pumice Wicking Bed
- f. 2.82 KW Solar Photovoltaic System

- a. Most houses have a conventional boiler with radiant heating system deriving their energy from natural Gas or Propane.

**This House has a 5 Panel Drainback solar system with 650 Gal superinsulated solar water storage tank designed to provide the vast majority of DHW and Whole House and Garage Floor Radiant Heat derived from the Sun's Energy. The performance of this system is set up to be monitored over the internet.**



- b. Most houses are constructed with minimal attention paid to an airtight envelope so air quality is determined by the amount of air infiltration into the leaky house.

**This House has a ERV whole house ventilation system which precisely exchanges inside air with fresh outside air while exchanging the heat and humidity between the warm outgoing air and cold incoming air. Thus the house has a continuous supply of clean, filtered air providing a more allergy free, healthy indoor climate.**



- c. Most frame houses lack thermal mass which helps hold heat. Adobe homes have great thermal mass but are generally very poorly insulated.

**This House has, along with the exposed concrete slabs, over 50' of interior 2x6 frame walls filled with local mud to give thermal mass and has mud plaster to help house absorb and release humidity resulting in a more stable and thus more comfortable environment. The process of hydration also releases negative ions which are reported to have positive health effects on people.**



- d. Radon is a concern in the Taos area. Most homes do not have a radon mitigation system.

**This House has a radon mitigation system consisting of a vented sub-slab gravel bed and carefully sealed plastic barrier under the concrete slab.**



- e. Rainwater runoff is often not utilized to the benefit of landscaping.

**This House's South facing canals collecting over 60% of rainwater runoff have rainwater catch basins diverting rainwater into a pumice wicking bed with 10 cu yd of pumice buried under a potential garden bed. Water not collected in this bed is channeled so it can be directed to future plantings. Additional Rainwater on the North side of the house is channeled through landscaping for future planting beds.**



- f. Most houses derive their electrical energy from the fossil fuel powered grid.

**This house has a 2.82 KW photovoltaic system which is tied to the electrical grid so that electricity generated but not used during the day is credited back through the Kit Carson Electric grid. The system is sized as to provide the majority of the house's electrical requirement. The performance of this system and each panel is set up to be monitored over the internet.**

