

Ohio's Health House® Provides Asthma-Free Indoor Living



Environment Trends show Americans are spending up to 90% of their time inside, where air is two to five times dirtier than outdoor air. The American Lung Association feels that poor air quality may be responsible for the increase in asthma and allergies.

Ohio's Health House is a refreshing solution for asthma and allergy sufferers. Every inch of this 6,100 square foot home—from framing to flooring, caulking to countertops—is designed to provide the healthiest indoor air possible.

The Dublin Health House is the result of a partnership between the American Lung Association and area builder, C.V.Perry. The A.L.A. has built 18 similar homes in 11 states.

Surrounded by golf courses designed by Jack Nicklaus (Muirfield) and Arnold Palmer (Tartan Fields), the House is listed at \$1.1 million. Nonetheless, all of the "green" building materials and construction techniques showcased in the home are targeted to the average homeowner. Contractors used paint, varnish and caulking with low levels of chemicals, blown Cellulose instead of fiberglass, and solid wood instead of pressed wood which contains formaldehyde and other toxins. The house was framed to prevent air infiltration and the foundation was coated and sealed to reduce water absorption. A continuous plastic wrap inside the ceiling and exterior walls reduces condensation in cavities where mold is common. Electric appliances, mechanical devices and a geothermal system were also installed to avoid harmful emissions from the combustion of fossilized fuels.

American Electric Power, a Health House sponsor, selected Geo Source One to install the home's geothermal system. A.L.A. specified geothermal due to its superior indoor air quality, efficiency and temperature/moisture control. AEP also covered the cost of the system.

Geo Source One, an exclusive WaterFurnace dealer in the Columbus area, installed a two-speed 5-ton Premier with Intellizone to allow the heating/cooling load to shift from zone-to-zone, season-to-season to meet specific temperature

requirements. A 3-ton Spectra was also installed to handle the heating and cooling of a 270 square foot conservatory that opens to the kitchen. Both units use the electronic Dynamic Air Cleaners which provide an unparalleled 97% capture efficiency at .3 micron sizes over a 10 hour cycle period.

"We basically had to maintain the standards of a hospital clean room," explained Jeff Persons of Geo Source One. "Nothing that could support mold or bacteria or harmful chemicals in the air stream could be used."

The duct work was built to commercial high pressure duct standards with 100% mastic and tape closure on both supply and return air ducts. Ducting in unconditioned areas maintain the same 100% standard for all duct installation.

In addition, 100% of the household exhaust and make-up air is handled by two heat recover air exchangers, the "lungs" of the house, to replace stale air with fresh, filtered air. A complete change of air occurs every four hours.

Along with its superior indoor air quality, geothermal has proven to be the most efficient. Costs to heat, cool and provide domestic hot water for the house are estimated to be less than \$1,000 a year-a 58% savings over high efficiency natural gas and conventional A/C, and 61% savings over an air source heat pump.

For more information on the Health House, visit www.ohiolung.org.

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