

## Fieldtrip Report: Learning to Live Green



Nearly twenty volunteers boarded the Senior Center bus on a sunny October Saturday for a tour of two inspiring green homes. The first stop was at Beth Mortenson's McKinney no-mow backyard, a shady, sloping, creek-side lot, lush with foliage. Beth has installed rain barrels, a fish pond, rain gardens and a green roof on her potting shed to hold rain on her property as long as possible.

This reduces erosion, run-off and pollution to the creeks, while quenching the plants which shade her home and reduce her energy costs. Once the rain has done its job on her property, it filters through the soil and eventually flows into the water table. Beth showed the equipment she uses to chip twigs and shred dry leaves and plant material for the compost piles. The compost in turn feeds the plants in her gardens and helps hold the rainwater until it is needed by the plants. Several worm bins receive her food scraps producing nutrient-rich castings for the gardens. A small greenhouse allows for propagation of plants through the winter. An open-air gazebo of cedar poles will eventually be vine covered and even more inviting for sitting near the creek. Beth has received a Wildlife Habitat designation for her yard because it provides food, water and shelter for wildlife. It provided us with many tranquil spots to sit. We were reluctant to leave.



Paul and Elena Westbrook saved us a spot at the end of the day after touring hundreds of visitors through their home for the National Solar Home Tour. Their 2,712 square foot, all-electric Fairview home was built in 1996. Paul's goal in designing it was to make it comfortable, efficient and low maintenance. Their average monthly electric bill is \$69. The passive solar design positions the home to take advantage of the east and west shading provided by the tree lines. The south-facing roof line shields the house from summer sun but allows the lower-angle winter sun to enter to heat the rooms. The walls of Structural Insulated Panels contain six inches of foam between weight-bearing Oriented Strand Board. There are no traditional studs conducting the outdoor temperature into the house. The long life Galbanum Standing Seam metal roof is reflective and recyclable at the end of its life. Being hail proof provides an annual 24% insurance discount. An asphalt roof holds five times the heat of a metal roof and is replaced every 10 to 15 years. Clerestory windows provide natural indoor lighting and their low-E property reflects heat. By controlling ventilation in this air tight home, the family has less dust and allergens indoors. The duct work near the ceiling saves energy by housing it in conditioned air space. The dual speed 2.5 ton air conditioning unit is half the

size used in a typical home that size. The geothermal heat pump uses the constant temperature of the earth as a heat exchanger through one shaft drilled to 220 feet. Every building material and each of the many features was a learning experience and an inspiration. The tour generated a lot of discussion on the ride back to Plano that afternoon.