PROJECT DESCRIPTION:
An infill residential project in Leawood, Kan. earned platinum LEED™ certification for its reconstruction. The design, deconstruction and construction process reflect a consideration for the use of recycled materials and tree protection. DRAW Architecture + Urban Design, formerly Davison Architecture + Urban Design, and the homeowners set out to leave a smaller footprint and create an innovative blueprint for future smart growth throughout the Kansas City metro.

Due to a compromised foundation, the former house was deconstructed and 82 percent of all materials recycled or repurposed. A consulting arborist developed a detailed tree protection plan to protect the root system of mature trees from excavation or compaction. Awareness and appreciation for the existing trees influenced all aspects of the design and construction.

Materials with low-VOC finishes and recycled content were sourced within a 500-mile radius to promote sustainability and local economy. A ground-source heat pump provides heating, air conditioning and hot water while using about 30 percent less energy than a standard heat pump and saving around 50 percent of energy costs over standard furnace systems. Energy-efficient windows with an R6 and higher rating were used. To further reduce strain on the existing power grid, a 4KW solar panel system was integrated into the concrete tile roof, while a rainwater catchment system provides irrigation for low-maintenance native plantings.

PROJECT GOALS:
- Create a truly efficient, platinum LEED™-certified home that was clean, modern and filled with natural light
- Achieve high performance in the key areas of human and environmental health, including sustainable site development, water savings, energy efficiency, materials selection and indoor air quality
- Reconnect with the natural world through the solarium space, which reduces the need for artificial lighting
- Open up a view that hadn’t been exposed in the 28 previous years the homeowners had lived there

COMMUNITY BENEFITS AND LESSONS LEARNED:
Molding their designs as they worked within the city of Leawood’s development codes, DRAW proved that smart design can provide truly unique solutions without threatening suburban curb appeal. The team had to work closely with the contractor, Homoly Construction, to ensure that the house would be energy efficient and durable. A lot of time and energy is needed to earn platinum certification, time that could be saved as certification processes become more widely accepted in the Midwest.

FUNDING SOURCES AND PARTNERSHIPS:
Williams York was a privately funded project. Bob Haines provided documentation for the existing trees on site and preservation recommendations to follow throughout deconstruction and demolition. Noblit Didier and Habitat ReStore provided deconstruction expertise.

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