

reEnergize 3821

Resource Efficiency

1. Materials were reused wherever possible, such as much of the framing and wood floors, and some appliances, plumbing fittings, and light fixtures.
2. Deconstruction was carefully done to allow materials to be recycled. Unused materials were recycled and/or donated including windows, doors, the clay tile roof, millwork, radiators, piping, and plumbing fixtures.
3. Locally sourced or manufactured materials include a wide range of products such as interior wood millwork, flooring, and solid surface counters, to exterior pavers, windows, and composite siding.
4. Many products were used with recycled contents. One example is the Richlite FSC certified paper composite rainscreen cladding panel, derived from recycled paper. This panel was used on the exterior base of the house and in detail areas such as the front porch.
5. Convenient bins for recycling are at the kitchen, desk areas, and on each floor. Kitchen composting is part of the neighborhood compost program. Containers are reused at co-op food shopping. Paper printing is minimized, and school work is turned in electronically.
6. A primary reason for purchasing the house was the location. Many daily trips are within walking or biking distance, such as the library, co-op, school bus pick-up, and recreation at the nearby lakes. The primary resource efficient decision was not tearing down the house!

Water Conservation

1. Low flow plumbing fixtures include Toto toilets, and low flow faucet and shower fittings by Newport Brass, Elkay, Mirabelle, and Dornbracht.
2. New landscaping was incorporated into the project, including native grasses and perennials. Trees were preserved and protected during construction. New native shrubs were also planted.
3. Drought resistant grasses and other Minnesota climate appropriate plantings occupy a large percentage of the site.
4. A drip irrigation system was used at planting beds. Turf areas are not irrigated.
5. Although not on-demand, the Marathon water heater is a super insulated, electric, and high efficient unit. Connected with the boiler system, the water heater functions more efficiently and has a longer rated lifecycle than an on-demand unit.
6. The project created a large rain garden to collect and filter water from the roof, the sloping driveway, and the site. The rain garden manages low to high runoffs, and slowly percolates water down to the aquifer.

Indoor Environmental Quality

1. No added formaldehyde and/or zero formaldehyde materials were used, including insulation.
2. A temporary construction furnace was used to protect the final furnace from dust and particulates. Duct registers were covered during remodeling. All duct work is sealed with mastic to prevent air leaks.
3. The entire house was intentionally unoccupied during the remodel, and was aired out for over two weeks before move-in.
4. Zero and/or low-VOC paint and finishes were used.
5. No carpets were used in the house for healthy air quality.
6. Careful placement of windows on multiple sides of each room allow cross ventilation and minimize use of air conditioning. The added daylight reduces use of light fixtures. A Venmar heat recovery ventilation system provides continual ventilation to maintain indoor air quality.

reEnergize 3821

Old to New

While the location of the original 1928 house is ideal for the family, the architecture, infrastructure, and layout did not reflect their lifestyle, aesthetics, and sustainable features they desired.

- The small, dark, isolated kitchen and under-used porch were transformed into open, light-filled, colorful spaces interconnecting the kitchen, living, and dining.
- Upstairs, an owner's suite and laundry were added, and bath and bedroom spaces were improved.
- Exterior living spaces were created, including a deck adjacent to the dining space and a welcoming, covered front entry and terrace.
- The project completely transformed the original house to create a fresh, colorful, open, and modern environment.

Sensitive to the Environment

Although a contractor offered a discount of \$89,000 to tear down the house, the owners' decision to renovate was based on their eco-friendly philosophy and desire to preserve the neighborhood fabric.

- Materials were reused wherever possible, such as much of the framing and wood floors, and some appliances and fixtures.
- Unused materials were recycled or donated including: windows, doors, the clay tile roof, millwork, radiators, piping, and plumbing fixtures.
- Photovoltaic panels on the roof offset some electrical loads.
- Rain gardens collect all roof and site water. Drip irrigation is used at major plantings.
- Low VOC and chemical free materials improve indoor air quality.
- Airtight, highly insulated wall and roof construction, and high performance glazing exceed energy code standards.
- Careful placement of windows on multiple sides of each room allow cross ventilation and minimize use of air conditioning. The added daylight reduces use of light fixtures.
- Low flow plumbing fixtures, energy star appliances, and LED lighting use less resources.
- High efficiency HVAC systems, air-to-air exchanger for whole house ventilation, make-up air, and sealed combustion equipment maximize energy efficiency.
- FSC certified wood products, locally sourced materials, and reclaimed wood products were selected.
- The project is LEED Silver certified.

A Good Neighbor

The massing and scale are in keeping with the original house and other homes in the neighborhood.

- Mature trees were protected and saved.
- A garage was added to the back of the house, hidden from the street and sharing an existing drive with the neighbor. The understated location and height of the garage does not overwhelm the site or adjacent properties.
- Many nearby homes use stucco as the predominant exterior material. This renovation continued the stucco tradition by using colors from other houses on the block but in more vibrant hues. The colors give the residence a stronger presence, and bring definition with winter snow.
- The hip roof gives a lower profile to the house with room for mature oak trees to branch over the roof.
- The home's size increased from 3,014 to 3,902 square feet.
- To give a human scale to the façade, careful attention was given to exterior details at the entry canopy, window bays, and trim.

reEnergize 3821

Old to New

While the location of the original 1928 house is ideal for the family, the architecture, infrastructure, and layout did not reflect their lifestyle, aesthetics, and sustainable features they desired.

- The small, dark, isolated kitchen and under-used porch were transformed into open, light-filled, colorful spaces interconnecting the kitchen, living, and dining.
- Upstairs, an owner's suite and laundry were added, and bath and bedroom spaces were improved.
- Exterior living spaces were created, including a deck adjacent to the dining space and a welcoming, covered front entry and terrace.
- The project completely transformed the original house to create a fresh, colorful, open, and modern environment.

Sensitive to the Environment

Although a contractor offered a discount of \$89,000 to tear down the house, the owners' decision to renovate was based on their eco-friendly philosophy and desire to preserve the neighborhood fabric.

- Materials were reused wherever possible, such as much of the framing and wood floors, and some appliances and fixtures.
- Unused materials were recycled or donated including: windows, doors, the clay tile roof, millwork, radiators, piping, and plumbing fixtures.
- Photovoltaic panels on the roof offset some electrical loads.
- Rain gardens collect all roof and site water. Drip irrigation is used at major plantings.
- Low VOC and chemical free materials improve indoor air quality.
- Airtight, highly insulated wall and roof construction, and high performance glazing exceed energy code standards.
- Careful placement of windows on multiple sides of each room allow cross ventilation and minimize use of air conditioning. The added daylight reduces use of light fixtures.
- Low flow plumbing fixtures, energy star appliances, and LED lighting use less resources.
- High efficiency HVAC systems, air-to-air exchanger for whole house ventilation, make-up air, and sealed combustion equipment maximize energy efficiency.
- FSC certified wood products, locally sourced materials, and reclaimed wood products were selected.
- The project is LEED Silver certified.

A Good Neighbor

The massing and scale are in keeping with the original house and other homes in the neighborhood.

- Mature trees were protected and saved.
- A garage was added to the back of the house, hidden from the street and sharing an existing drive with the neighbor. The understated location and height of the garage does not overwhelm the site or adjacent properties.
- Many nearby homes use stucco as the predominant exterior material. This renovation continued the stucco tradition by using colors from other houses on the block but in more vibrant hues. The colors give the residence a stronger presence, and bring definition with winter snow.
- The hip roof gives a lower profile to the house with room for mature oak trees to branch over the roof.
- The home's size increased from 3,014 to 3,902 square feet.
- To give a human scale to the façade, careful attention was given to exterior details at the entry canopy, window bays, and trim.