



# Morningstar Residence

## Sustainable Luxury

by Kevin and Laura Morningstar

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Laura, Kevin, and Mallie Morningstar

**B**uilding a home with the environment in mind was the only option we allowed ourselves. As a builder and a real estate broker, we reached a point in our respective careers where we felt we could no longer ignore the environmental impacts of our professions. We set out to build a home that would be healthy for both our family and the environment, as well as inspire us aesthetically.

After years of renting, then owning a condo, we enthusiastically purchased a 1955 mint green, north Boulder ranch. The property had a cool, retro feel and enormous silver maple trees, but unfortunately also featured potential health hazards: mold, mildew, lead-based paint, and asbestos. We spent the next few years updating our home with ENERGY STAR appliances, low-VOC paints, cork floors and refinished original wood floors, but we knew these were temporary and surface improvements. We fell in love with our neighborhood and chose to expand on our existing lot as our family began to grow, and thus our need for additional space.

In January, 2006, we committed to rebuilding our home with the environment in mind. We hired our friend and designer, Brad Burch (a designer/project manager with Arch 11 Architecture at the time), to help us achieve our goal. We hoped to construct an architecturally unique home that was healthy to inhabit and as economical as possible. Within a few months, Brad and the team at Arch 11 had created a scale model of our future home. We were so pleased with the model that

we traveled across the country with it to show our families. After years of poring over countless design magazines and green-building books, we were very excited that our dream home was finally becoming a reality!

Our home utilizes a variety of sustainable materials and was designed to take advantage of site conditions such as natural lighting and ventilation. We used structural insulated panels (SIPs) to build our home, because the high R-values and ease of construction were the best option in order to attain the quality we wanted. Our home possesses twice the structural integrity of a traditional stick-frame house, as well as superior insulation and incredible interior sound quality. While the upfront costs were slightly higher than a typical stick-frame house, the labor savings made it extremely worthwhile. With a crane onsite, the installation of our roof only took three hours. To help with energy costs, we worked with Scott Franklin at Lighthouse Solar. Lighthouse installed a 4kW PV system that provides us with surplus electricity that actually earned us a payback (\$37) from Xcel Energy last year. We also had Lighthouse install two thermal panels for our domestic hot water needs.

As we approach our daughter Mallie's first birthday, we have peace of mind knowing we are raising her in a healthy home. We feel fortunate to live in a city as beautiful as Boulder, where we have been able to realize our passion for a better environment personally and professionally. •

**Year Built, Extended&Remodeled:**  
1955, 2007

**Home Size:** 2,637 sq. ft.

### Contractors:

- Arch 11 and Brad Burch (Designer/Architect)
- Morningstar Homes (Builder) (see ad on page 36)
- Lighthouse Solar (PV System and Solar Thermal System) (see ad on page 20)

### ☀️ Energy Features

- Passive solar design
- 4kW grid-tied PV system
- Solar thermal flat-plate panels for domestic hot water
- High-efficiency boiler supplying hot water for radiant floor system
- Evaporative cooler
- Natural lighting (glass walls facing west)
- Low-E glazed, aluminum-clad, wood-frame windows
- Rigid board walls (R-34) and roof (R-45)
- Zoned heating: 3 zones
- ENERGY STAR appliances

### 🌿 Green Features

- Advanced framing technique: 24 on-center smart framing
- Utilized engineered lumber, FSC-certified lumber, composite lumber, and recycled lumber
- FSC harvested walnut engineered floors
- VOC-free wool carpet
- ECOSpec paints, water-based finishes, low-VOC adhesives

### 💧 Water Features

- Low-flow plumbing fixtures

### ♻️ Re-Use/Salvage Features

- Utilized lumber from the original house
- Utilized ReSource Yard
- Recycled all steel, cardboard, lumber off-cuts at Western Disposal