



Nelson Construction, Inc.

Nelson Construction had a "great deal of focus on the value of energy efficiency before, during, and after the sale of the home." This focus started by optimizing the efficiency of a traditional production home design through solar orientation and a systematic design process—and continued by applying this optimization to the entire neighborhood of 10 homes. "The company demonstrated a very strong commitment to energy efficiency," the EVHA judges said. "They had an excellent outline of criteria and they clearly demonstrated how those criteria informed the design and selection of materials." Careful parametric analyses performed during the design phase resulted in only a very small increase in sales price—3% excluding PV—due to the home's efficiency features.



Thermomass foundation system

Cold Climate, Production Category

Company Overview

Years in business: 19
Average homes built per year: 20
Member: Home Builders Association of Hartford County

House Overview

Size: 3,128 s.f.
Location: Farmington, Connecticut
Construction cost: \$127 per s.f.
Completion date: October 2008

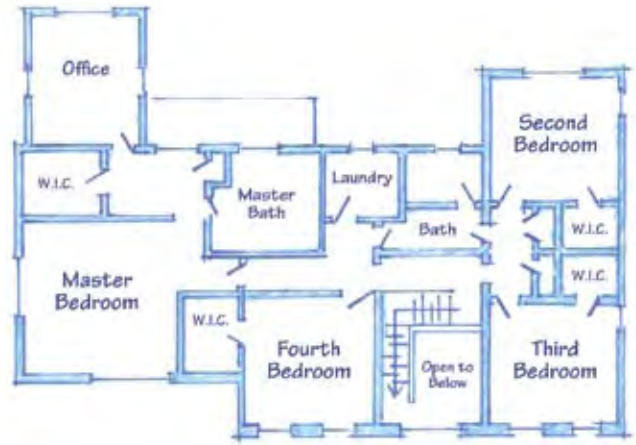
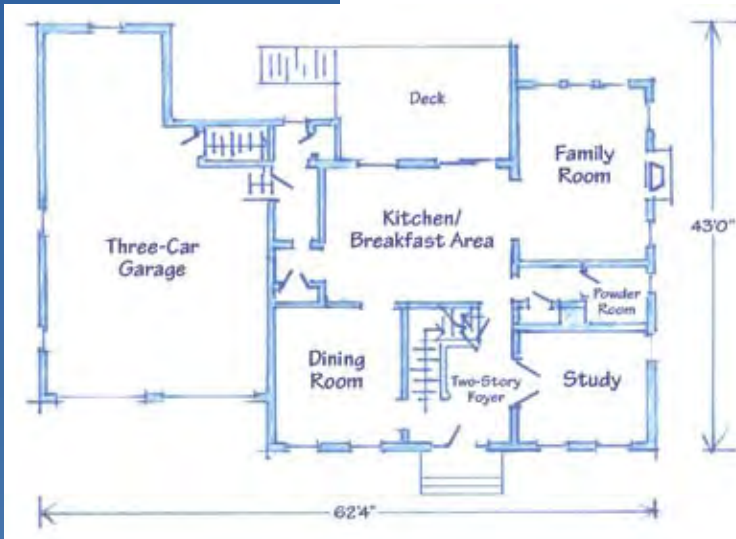


Nelson Construction would like to thank the following:

- Energy & Design Consultants
- Thermo-Mass Foundation Systems
- Glasco Heating & Air Conditioning
- Waldo Renewable Electric
- EJR Plumbing & Heating
- Dow Chemical Company
- Aprilaire
- Architectural Design
- Talcott Mountain Materials
- Harvey Industries
- Rinnai
- Lennox

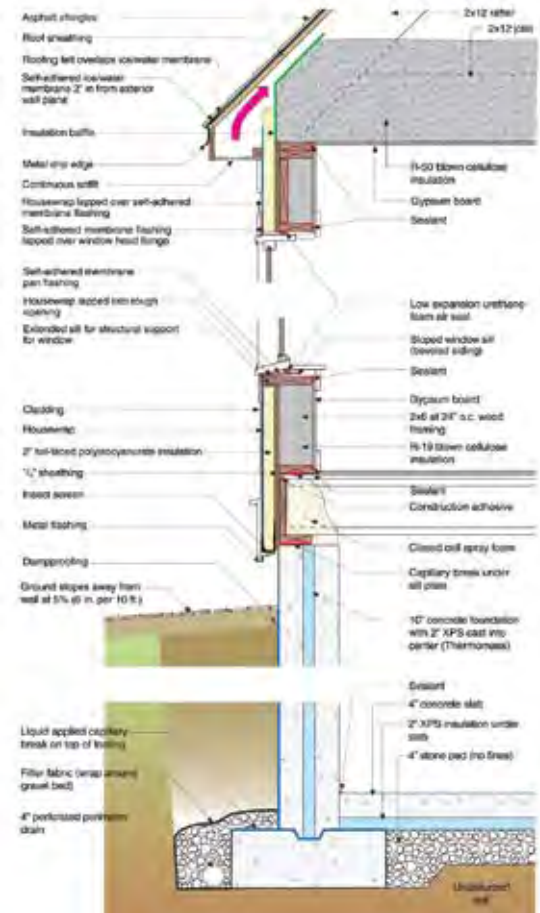


R-10 basement slab insulation



Energy Features

- Foundation:** Basement with 2" XPS R-10 sub-slab and poured wall integrated insulation + R-32
- Wall Construction:** 2x6
- Wall Insulation:** R-19 spray cellulose + R-12 exterior polyisocyanurate foam sheathing
- Rim Joist Insulation:** R-36 polyurethane foam
- Roof Construction:** Rafters
- Ceiling Insulation:** R-50 blown cellulose
- Windows:** Low-e, gas-filled; U-0.32, SHGC 0.27
- HVAC:** 93 AFUE furnace; 14 SEER air conditioner
- Ducts:** All in conditioned space; Minimized duct design with registers at interior walls
- Water Heating:** 82 EF tankless gas water heater
- Lighting:** 100% ENERGY STAR fixtures and compact fluorescent lamps
- Appliances:** ENERGY STAR refrigerator and dishwasher
- On-Site Energy Generation:** 7 kW photovoltaic system
- Duct Leakage Test:** 360 cfm total at 25 Pa; 40 cfm to exterior at 25 Pa
- Blower Door Test:** 1,544 cfm at 50 Pa; 2.48 ACH50
- HERS Index:** 46 (without PV); 31 (with PV)
- Energy/Green Building Programs:** NAHB Green Building, Building America, Energy Star, DOE Builders Challenge qualified house



Foundation to deck closed cell foam sealing



Sloped window sill flashing detail



R-6 closed cell spray foam flash seal