



Photos courtesy of Sustainable 9 Design + Build

“You don’t need to sacrifice quality and design to lessen your home’s carbon footprint.” Sustainable 9 Design + Build



PROJECT DATA

- **Layout:** 4 bdrm, 3 bath, 2 fls + bsmt, 4,795 ft²
- **Climate:** IECC 6A, cold
- **Completed:** May 2020
- **Category:** Custom for Buyer >3,000 ft²

MODELED PERFORMANCE DATA

- **HERS Index:** without PV 29; with PV -8
- **Annual Energy Costs:** without PV \$1,600; with PV -\$150
- **Annual Energy Cost Savings:** (vs typical new homes) without PV \$1,000; with PV \$5,900
- **Annual Energy Savings:** without PV 40,000 kWh, 2 Therms; with PV 58,700 kWh, 2 Therms
- **Savings in the First 30 Years:** without PV \$42,100; with PV \$245,700

CONTACT

Ryan Hanson & Paul Trieu
612-636-3232
ryanhanson@sustainable9.com

KEY FEATURES

- **Walls:** Double Wall via 2x6 insulated studs 24" o.c., R-32.25 full spray foam cavities; plywood, house wrap, corrugated plastic rainscreen, fiber cement, stone, or stucco siding.
- **Roof:** Truss gable roof: plywood deck, ice & water shield, standing seam metal cladding.
- **Attic:** Vented: R-80 total: 4" R-27.2 spray foam on attic floor + 14" R-53 cellulose.
- **Foundation:** Insulated basement, R-35.5 total: 8" concrete, spray-on waterproofing, 2.4" fiberglass exterior, 2x4 interior wall R-19 spray foam, 4" EPS under slab.
- **Windows:** Triple-pane, argon-filled, low-e2, wood frame, casement style, U=0.210, SHGC=0.220, tuned to direction.
- **Air Sealing:** 0.66 ACH 50.
- **Ventilation:** ERV, MERV 6 filter.
- **HVAC:** Ground-source heat pump, 3.1 COP, 15.0 EER, for radiant and central air heating and cooling small-diameter high-velocity ducts. Dehumidifier.
- **Hot Water:** Desuperheater from ground-source heat pump, COP=3.61, 80-gal.
- **Lighting:** 100% LED. No can lights; controls integrated with home automation.
- **Appliances:** All appliances are ENERGY STAR certified.
- **Solar:** 14.6-kW DC rooftop panels.
- **Water Conservation:** Low-flow fixtures. Central manifold with PEX piping. Motion-sensor-activated recirc pump. Drought-resistant landscaping.
- **Energy Management System:** Smart thermostat; PV, electric use monitors and lighting.
- **Other:** Electric vehicle charging. Accessibility features. Low/no VOC paints, stains.

