

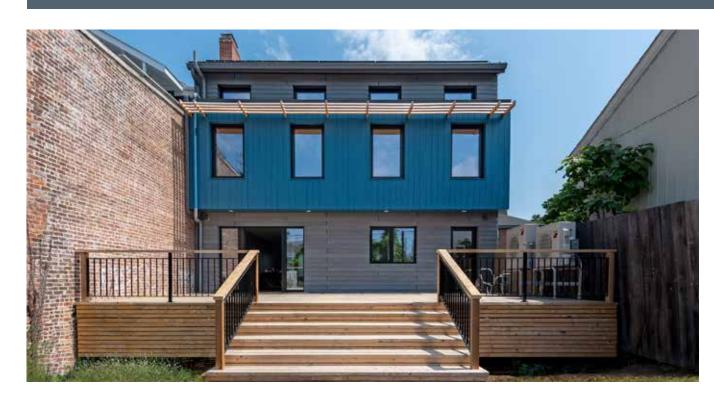
Passive Aggressive Housing

Warren St. Passive House | Hudson, NY | CTAArchitects.com















PROJECT DATA

• **Layout:** 4 bdrm, 2.5 bath, 2 fls + bsmt, 2,562 ft² + 350 ft² commercial space

Climate: IECC 5A, cold
Completed: May 2023
Category: Custom Spec

MODELED PERFORMANCE DATA

- **HERS Index:** without PV 35; with PV 3
- Annual Energy Costs: without PV \$850; with PV \$100
- Annual Energy Cost Savings: (vs typical new homes) without PV \$1,200; with PV \$2,150
- Annual Energy Savings: without PV 15,650 kWh; with PV 26,700 kWh
- Savings in the First 30 Years: without PV \$51,100; with PV \$89,500

CONTACT

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KEY FEATURES

- Walls: Double wall, R-42 total: Inside to outside: $\frac{5}{8}$ inch sheetrock, 1.5" service cavity, smart vapor retarder, 2x4 stud w/blown-in insulation, 3" cavity w/blown-in insulation, 2x6 stud w/blown-in insulation (or 2x4 if non-load bearing), $\frac{3}{4}$ " sheathing, house wrap, fibercement board or 3.25" brick face.
- Roof: Gabled rafter roof. 3/4" plywood, 6" polyiso, coated sheathing, steel roofing.
- Attic: Unvented, vaulted ceilings: 11.25" R-40 blown cellulose and 6" R-39 rigid polyiso.
- Foundation: Insulated basement; under slab: 6" gravel, 6" rigid mineral wool, vapor barrier, 4" concrete slab. Poured concrete walls: Exterior covered with waterproofing, drainage mat, and 3" rigid mineral rockwool. Interior covered with 3" rigid mineral wool, 2x4 stud wall with 3.5" blown mineral wool, 5%" sheetrock.
- Windows: Triple-pane, U=0.12, SHGC=0.39, low-e, aluminum framed, fixed awnings.
- Air Sealing: 1.24 ACH50, met PHIUS design requirements for air sealing.
- Ventilation: ERV, distributed. Passive radon system.
- **HVAC:** Ducted minisplit air-source heat pumps. Electric radiant floor heating in the second-floor bathrooms.
- Hot Water: Heat pump water heater, 50-gal. 4.09 EF. Closed-loop recirculation system.
- Lighting and Appliances: LED lighting. All-electric ENERGY STAR appliances.
- Solar: 10.8-kW rooftop PV.
- Energy Management System: Three-zone heating and cooling with advanced controls.
- Other: Passive House-certified urban infill mixed-use building combining residential and commercial space.





