THE MONTAGE

A 1,925 Square Foot Single Family Home:

- 2 Stories, 3 Bedrooms, 2.5 Baths
- Est. Construction Cost: $243,082
- HERS Index Score: -5
- Estimated Monthly Energy Cost: $2

Location: Syracuse, NY - IECC Climate Zone 5

Design Strategy: Inspired by American Craftsman style architecture to fit the pattern language of the neighborhood. Optimized solar exposure for PV, Solar Thermal, and passive lighting/heat gain.


Space Conditioning: Integrative air-source to water heat pump tied to Solar Thermal array to provide heat (radiant distribution), and DHW.

IAQ: Eliminated/minimized pollutants at source when possible and provided a high-efficiency decentralized whole house HRV system with merv 10 filters.

CONSTRUCTION COST STRATEGY:

Invested first in 100-plus year components to ensure longevity and reduce the load while optimizing rapidly evolving “plug and play” mechanical systems and renewables.

TECHNICAL SPECIFICATIONS:

- Wall R-Value: R-45
- Ceiling R-Value: R-60
- Foundation R-Value: R-25
- Window R-Value/SHGC: R-3.3 SHGC: .3
- Air-Source to Water Heat Pump COP: 3.7
- Water Heater EF: 2.5
- 8 kW PV System
- 96 SF Evacuated Tube Solar Thermal Array

KEY STATISTICS:

Visitable – universal features make 1st floor accessible to all.
Constructable – within the skill set of local contractors, shovel ready.
Local – climatically relevant design.
Beautiful – fits local vernacular, and incorporates biophilic design.
Timeless – designed to last.
Efficient – optimal use of resources.
Healthy – for people and the environment.
Resilient – IBHS Fortified certification ready.
Affordable – based on Syracuse MFI
Adaptable – promotes aging in place with space for future residential elevator.