

Penn State University – Nittany Lions E-den

Strategic Approach:

- Type of Project:
Two-Story Single-Family Residence
- Design Strategy:
Small gas powered home that feels big and can grow with the family. Optimized to meet Challenge Home energy standard, while maintaining maximum affordability
- Technical Strategy
 - Enclosure: Superior Walls, R-sheathing on 2x4 walls w/ dense packed insul., Roof trusses w/cellulose insul.
 - HVAC: Central air, HRV, combined heating/DHW system
 - IAQ: HRV, Make-up air, sealed combustion heating equipment, metal ductwork, low-pollutant emitting interior finishes
- Construction Cost Strategy: Use modestly priced components and familiar construction methods. Use multi-functional , prefinished prefabricated, readily available products to eliminate trades on-site.

Technical Specifications:

Wall R-Value: **R-21.6**

Ceiling R-Value: **R-54**

Foundation R-Value: **R-23.1**

Window R-Value: **R-5**

Window SHGC: **.21**

Heat Pump SEER: **16.0**

Water Heater EF: **.82**

Key Statistics:

Location: **Berwick, Pennsylvania**

2009 IECC Climate Zone: **5**

Square Feet: **1180.6**

Number of Stories: **2**

Number of Bedrooms: **3**

Number of Bathrooms: **2**

Estimated Construction Cost: **\$171,316**

HERS Index Score: **46**

Estimated Monthly Energy Cost: **\$91**

