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**