

Georgia Institute of Technology – gt.5

Strategic Approach:

- Type of Project:
Two Story Townhome
- Location/Climate: Atlanta, GA, CZ 3A
- Design Strategy:
Open layout with emphasis on scalability by including a rear apartment that can be converted to family room later.
- Technical Strategy
 - Enclosure: 2x6 framing, Rigid insulation sheathing, No Attic, Self-shading facade
 - HVAC: Split system heat pump, Spot and integrated ERV
 - IAQ: zero VOC paint, CARB-II materials, No carpets
- Construction Cost Strategy: Used a custom computational optimization script to find balance between performance and cost.

Technical Specifications:

Wall R-Value: **R-21+6.6**

Ceiling R-Value: **R-38**

Slab Perimeter: **R-10**

Window R-Value: **R-3.3**

Window SHGC: **0.27**

Heat Pump HSPF: **9**

Heat Pump SEER: **16.0**

Water Heater EF: **2.4**

Key Statistics:

Location: **Atlanta, GA**

2009 IECC Climate Zone: **3A**

Square Feet: **2,390**

Number of Stories: **2**

Number of Bedrooms: **3**

Number of Bathrooms: **2.5**

Estimated Construction Cost: **\$230,000**

HERS Index Score: **-12**

Estimated Monthly Utilities: **\$14 (water included)**

