

## **Entry Form - Northeast Green Building Awards 2003**

### **The Building Project**

1. Category Entered: Student
2. Building Location: New Haven, CT
3. Sustainable Design Features:
  - A. High Efficiency Appliances and Heating System:

Energy Star rated appliances provided by the owner; a 90+ efficient natural gas furnace; outside combustion air; direct vent high efficiency gas water heater; programmable thermostat.
  - B. Energy Conserving Building Materials:

Entire frame by Truss Joist, all composite timber strand material made from sustainable softwood (85% useable vs. 40% useable dim. lumber); Performance framing at 24" O.C.; HardiPlank cement wood fiber composite siding; Superior Wall precast insulated foundation system uses 20% of concrete in a typical 10" site-poured foundation wall; Galvalume metal roof with 30 year life span; performance framing 24" o.c.
  - C. Healthy House:

Hardwood floors throughout; continuous air exhaust 24 hours a day. Electrostatic air filter system.
  - D. Windows:

Marvin windows with fiberglass insulated frames; Argon filled insulated glass; u value of 0.29, shel of 0.35; summer shaded south elevation.
  - E. Lighting:

22 of 27 installed light fixtures have Energy Star label.
  - F. Low Infiltration:

Sprayed cellulose in all frame voids; insulated structural roof panels; all door and window frames foamed, and sill plates caulked.
4. Site:

Replaces substandard demolished building in residential zone maintaining urban fabric; site is a corner lot less than 50 feet from all public infrastructure.

5. Building Program:

Three bedrooms, two bathrooms, kitchen, dining room and living room; a large two story stair opening connects the first and second floors and with its large windows provides excellent natural light; a large south facing window wall provides solar gain in the colder months, while the large roof overhang shades in the summer months, high operating windows along the south side for continuous ventilation throughout the house.

6. Building Gross Square Footage:

1,500 s.f.

7. Project Cost:

\$84,000 @ \$56 per s.f.

8. Performance:

43,100,000 annual btu  
5659 degree day;  
507 btu per s.f.;  
Energy Star Rating 87.1

9. Design Intentions:

The primary intention of this project has been to provide designs for affordable housing through collaboration with non-profit developers and building material manufacturers in order to build a single-family house on an inner city lot with amenities light, space, and design details rarely seen in this segment of the housing market. This project has been used as a laboratory to address green building design for the past five years. That research and experimentation has resulted in the energy and sustainable features present in this residence built in the summer of 2002.