

## CASE STUDY: BLAIR TOWNS

*Silver Spring, Maryland*

SUMMARY INFORMATION	
Occupancy	Four-story apartment complex with 78 units
Size	107,000 sq. feet
Completed	August 2003
Owner	The Tower Companies
Developer	The Tower Companies
Architect	Niles Bolton Associates
Awards and Ratings	LEED Certified certification; National Association of Home Builders Research Center Energy Value Housing Award (Gold; 2004)

Located close to shops, restaurants and public transportation in Silver Spring's central business district, Blair Towns was designed to limit sprawl and curb its tenants' dependency on automobiles. To address stormwater runoff, the builders minimized paved areas and installed a pollution separation and filtering system in parking lot drains. Blair Towns consumes 30 percent less water than conventional apartment buildings through the use of highly water-efficient showerheads, faucet aerators and Energy Star dishwashers and clothes washers.

To cut energy use by 20 percent, the complex features a combined furnace and water heater in each unit, high-performance windows, high-efficiency ceiling fans and fluorescent lights, and a well-insulated thermal envelope. To help maintain indoor air quality, the builders used nontoxic paints, sealants, adhesives and carpets. Of the building materials, 63 percent were sourced locally within 500 miles of the project and 40 percent were made from recycled content.

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### COSTS AND SAVINGS

#### Construction Costs

Total: \$10,400,000  
Per square foot: \$97.20

#### Greening costs:

Soft: \$115,000  
Hard: \$35,000  
Total: \$150,000  
Per square foot: \$1.40

#### Projected Green Savings

Electricity: \$3,322/yr. (7.7 percent)  
Water: \$2,428/yr. (25 percent)  
Natural Gas: \$6,239/yr. (33 percent)  
Total: \$11,989/yr.  
Per square foot: \$0.11

**Projected Utility Use and Costs**

Electricity: \$42,998

Water: \$9,867

Natural Gas: \$18,609

**Pollution Reductions**

CO<sub>2</sub> : 10.9 tons

NO<sub>x</sub> : 0.14 tons

SO<sub>2</sub>: 0.16 tons

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**STRATEGIES****Site**

- A premium-grade sand filter removes more than 80 percent of the post-development total suspended solids and 40 percent of the total post-development phosphorus.
- Drought-tolerant landscaping eliminates the need for a permanent irrigation system.
- Residents have a storage area for bicycles, access to public transportation, and support car- and vanpooling.
- Paved surface areas are minimized.
- Parking lot drains contain a pollutant separation and filtering system.

**Water**

- Drought-tolerant landscaping eliminates the need for a permanent irrigation system.
- Apartments feature highly water-efficient showerheads, faucet aerators and Energy Star-qualified dishwashers and horizontal-axis clothes washers.
- Water use is sub-metered to provide an incentive for residents to conserve water.

**Energy**

- Energy performance was fully commissioned and verified.
- Apartments feature Energy Star-qualified dishwashers, clothes washers and ceiling fans.
- Thermal envelope combines high insulation values (walls: R-19, roof: R-38, perimeter slab: over R-2) with special attention to air tightness.
- Air sealing was inspected.
- Windows use low-e glazing to maximize daylighting.
- Each unit includes an energy-efficient combined furnace and water heater.
- Energy Star-qualified fluorescent lights with electronic ballasts are used in common areas.
- Light-colored finishes maximize reflected light.

**Renewable Energy**

- Purchases renewable electricity that is certified according to Green-e environmental and consumer protection standards.

**Materials and Resources**

- Of the building materials, more than 60 percent were locally manufactured, 40 percent contained recycled-content and more than 10 percent were made from locally harvested, extracted or recovered materials.
- Recycled-content materials include all steel products, the concrete sub-base, ground-granulated-blast-furnace slag in concrete mixes, recovered flue-gas gypsum in drywall boards, aluminum floor grates with recycled tire rubber treads, commercial carpet with recycled fiber, and recycled plastic wheelstops for parking areas.

### **Indoor Environmental Quality**

- Tracer gas testing of unit-to-common-space conditions was performed.
- Permanent floor grates minimize tracked-in dirt.
- Paints, sealants, adhesives and carpet systems contain low levels of volatile organic compounds.
- Ceiling fans in bedrooms improve ventilation and reduce energy costs.
- Residents are educated about nontoxic housekeeping products.