

GREEN BUILDING PRACTICES

February 2008

Goals and Purpose:

The Island Housing Trust attempts to acquire and develop property for permanently affordable housing that is close to workplaces, accessible by public transportation, within areas that have already been developed, and uses existing housing stock through renovations and house moves whenever possible. We try to minimize impact on the land, fit our house designs into existing neighborhoods, and model our scattered site developments on existing neighborhoods. While achieving initial affordability is a primary concern, we are also committed to using best green building practices to decrease maintenance and energy costs to ensure on-going affordability. Partnerships between Martha's Vineyard's leading land conservation organization and the Trust have also realized the benefits of conservation based affordable housing.

The following is a list of practices divided into three categories:

- Community and neighborhood planning practices that we try to incorporate in affordable housing development projects.
- Standard practices which we try to incorporate, as a matter of course, in all houses, as these practices are easy to implement and form the basis for a serious commitment to high performance green building.
- Additional practices that we try to implement when finances allow.

Community/ Neighborhood Planning Practices We Aspire To

- Prioritize developments in areas located close to transportation and services;
- Preserve and create residential/ commercial mix-use developments;
- Move and/or renovate existing buildings whenever possible;
- Preserve historic buildings, whenever possible;
- Develop properties that preserve prime conservation (and agricultural) land in partnership with land conservation organizations;
- Attach houses or cluster tightly;
- Create shared systems (wells, septic, etc.) and functions (common land, driveways, etc.);
- Design pedestrian friendly neighborhoods that keep vehicular traffic on the perimeters, limit paving, and maximize green space;

Standard Practices We Employ

Site Design & Landscaping

- Site houses to minimize visual and habitat impact and maximize solar gain;
- Provide enough clear south facing roof to accommodate solar collection;
- Site houses utilizing terrain features to increase ease of physical access (see Universal Design);
- Protect existing trees, plants, and landscaping features on site from construction damage;
- Minimize grass lawns and use local drought resistant plant species well adapted to the climate;
- Avoid use of pesticides and chemicals that may leach into groundwater;

Building Construction

- Minimize square footage and volume of houses (e.g. 1-BR +/- 900 sf , 2-BR +/- 1,100 sf, 3BR +/- 1,300);
- Meet or exceed Energy Star II for Homes Standards with third party testing that achieves a Home Energy Rating System (HERS) Index of 65 or better, including:

- Use higher quality insulation (cellulose or foam) with third party inspection to Grade #1 insulation;
- Use airtight construction, air leakage test lesser of ≤ 0.25 ACH or 2 sq inches per 100 sf building shell area;
- Use high performance insulated windows of maximum U-0.36 and exterior doors of maximum R-2.8;
- Use programmed or continuously operating, quiet bath fans (1.5 sones or less) with booster controller, 34 cubic feet per minutes (CFM) per house;
- Use instantaneous gas boilers for both heating and hot water rated at 85% AFUE or greater;
- Use five or more Energy Star qualified light fixtures, appliances, ceiling fans with light fixtures, and/or ventilation fans as possible (minimum five).
- Use high efficiency water conservation fixtures (toilets, showers, faucets);
- Incorporate sun-tempering techniques (+/-10% south glass to floor area).
- Design good daylight and cross ventilation throughout (including light on two sides of every room whenever possible);
- Design for natural summer cooling – wire for ceiling fans in living room and bedrooms;
- Incorporate Universal Design practices; including most or all of the following:
 - Entrance/Site: smooth path leading from driveway to house, minimum 36” wide and 1 in 20 or less slope is preferable;
 - Doors/Patio/Decks: low or no thresholds between floor surfaces. Door levers are easier than knobs;
 - Interior Circulation: open floor plan design, at least one ground floor bath and bedroom, 42” min. width for passage and halls, 32” min. clear passage all doors
 - Kitchens: stoves with knobs at front;
 - Switches and Controls: light switches above floor at 36-44” and thermostats at 48” max. easy touch rocker switches, electrical outlets at 18” min. height;
 - Bathrooms: install plywood layer behind all shower wall for versatility in grab bar installation, board blocking in walls around toilet.
- Incorporate materials that are durable and require no finishes;
- Use zero-maintenance exterior materials;
- Avoid toxic construction materials (high VOC paints, glues, etc.);
- Design area for convenient solid waste separation/ storage (cans, glass, etc.)
- Use salvage and locally produced materials, and FSC certified as much as possible;
- Incorporate materials with high recycled content as much as possible;
- Design and construction for moisture, mold, and mildew prevention (utilizing air barriers, drainage, sealed basements/ crawl spaces);
- Install plumbing for future solar hot water heating system;
- Design and construction for future radon mitigation if it becomes necessary;
- Find positive use for as much construction and demolition waste as possible.
- Supply building manuals for all new construction and renovations with information on green building practices used, list of subcontractors, photographs of walls with rough electric and plumbing for new construction, maintenance manuals, and warranties.

Advanced Green Building Practices

- LEED for Homes – gold or platinum standards;
- State-of-the-art glass and super insulation techniques which substantially exceed Energy Star Plus Standards;
- Solar hot water heating;
- Composting toilet(s);
- Photovoltaic (solar electric) system;
- Cordwood and pellet stoves;
- Wind power electrical system.