



# PREFABULOUS WORLD

ENERGY-EFFICIENT AND SUSTAINABLE HOMES AROUND THE GLOBE

SHERI KOONES

FOREWORD BY ROBERT REDFORD

# Everett House

Panelized

**PHOTOGRAPHER:**

Anthony Rich

**ARCHITECT:**

Jonathan Davis with Davis Studio  
Architecture + Design

**DEVELOPER:**

Asani Development Corporation

**MANUFACTURER:**

Kingston Lumber (panels)

**BUILDER:**

PHC

**LOCATION:**

Grow Community, Bainbridge Island,  
Washington, United States

**SIZE:**

1,840 square feet (171 sq m)

**CERTIFICATION:**

Built Green 5 Star

**BLOWER DOOR TEST:**

1.93 ACH @ 50 Pascals

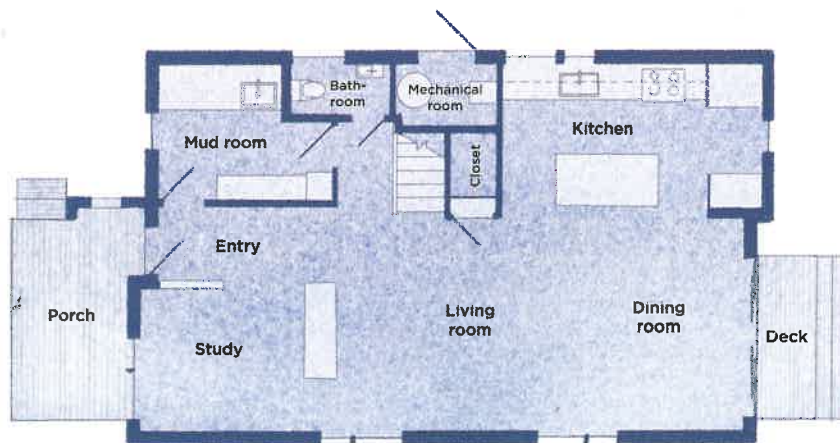
**GREEN ASPECTS:**

Bamboo flooring  
Bike share program  
Car share program  
Community gardens with compost areas  
Community play areas  
Drought-tolerant, native, and edible plants  
Eco-batt insulation  
Locally sourced cedar siding  
Low-flow toilets and fixtures  
Low-maintenance exterior (cement and metal panels)  
Low-VOC paints and finishes  
Minimal PVC  
No added urea formaldehyde cabinets and trim  
No carpeting  
No garage  
One Planet-endorsed residential community  
Recycled countertops (recycled paper and plant-based resins)  
Recycled rubber and cork composite flooring  
Renewable and recycled decking (bamboo composite)

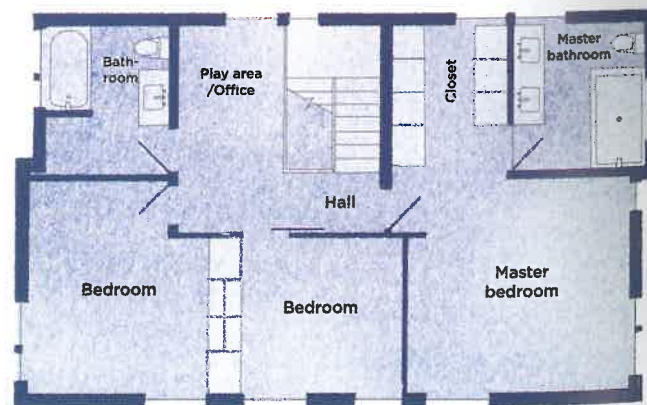
Walking and biking trails connect to downtown  
Walking community  
WaterSense-rated plumbing fixtures

**ENERGY ASPECTS:**

Cool roof (see Glossary, page 288)  
Double wall system, with multiple thermal breaks  
ENERGY STAR-rated appliances  
Heat pump (for hot water and heat)  
Heat recovery ventilator (HRV, ducted, whole-house air circulation and filtration, 95 percent efficient)  
High R-value insulation  
Induction cooktop and convection oven  
LED lighting  
Liquid applied breathable waterproof air barrier  
Optimal window orientation  
Photovoltaic panels



FIRST FLOOR



SECOND FLOOR

OPPOSITE The house is sheathed with fiber cement siding and metal, which require minimal maintenance. Windows were positioned for optimal solar gain and privacy in this close-knit community. Plantings are all regional or edible, and paving is permeable.







The Grow Community on Bainbridge Island is the creation of architect Jonathan Davis, whose longtime goal has been to create an enclave of net-zero homes in an environmentally friendly community. Working with One Planet Living Community (see sidebar, page 286), Grow Community became the first One Planet-endorsed residential community to be built in North America. Jonathan designed the individual homes and multi-family townhouse apartments as well as the site and infrastructure layout.

The Everett is one of four model houses in the community. Future plans are for a total of fifty single-family homes and eighty-one rental townhouse apartments. Prices for the houses are in the \$300,000 to \$500,000 range, which is below market value for the island.

### THE GROW COMMUNITY

In order to reduce the footprint of transportation (one of the One Planet goals) the eight-acre Grow Community is located walking distance from the ferry, making it easily accessible to downtown Seattle. Winslow, a thriving town with cafés, shops, a farmers' market, and other amenities, is adjacent to the community and easily accessed by foot or bicycle. This is a walking community with paths throughout, making it easy for residents to move about and connect with one another and the nearby town and neighborhoods. Community cars and bicycles are available for the residents to share, and cars are relegated to the perimeter of the site, separating them from the pedestrian paths and community spaces.

Homes are arranged in "micro-hoods," which

are clusters of six to eight homes around a community space that includes a garden and informal gathering spaces. Community gardens are run as an urban farm with residents sharing responsibility for the upkeep as well as the crops that are grown.

### BUILT EFFICIENTLY

The Everett is the largest of the four model houses. Like all the models, the house has an airtight, highly insulated envelope with R-35 walls, an R-60 attic, an R-48 flat roof, R-30 floors, and high-performance U-0.28 fiberglass and wood windows. Energy-saving appliances, LED lights, and a single mini-split ductless heat pump greatly reduce the energy needs of the house. An HRV is ducted to circulate warm or cool air throughout the house and provide five air changes per day.

The Everett achieves net-zero energy status with its grid-tied photovoltaic panels on the roof. The panels are optional when homeowners purchase the house, but Jonathan says all the buyers have opted to include them, making this essentially a net-zero community. Due to the net-zero design, the utility bills for the houses could be \$0 per year, depending, of course, on the individual homeowners' practices for efficiency. All yet unsold houses will be wired for future installations, so that panels are easy to install at a later date, even if the homeowners opt not to include panels at the time of purchase.

### BUILDING PREFAB

The Everett and the other two models were panelized and plans are to panelize future houses and rowhouse buildings as well. Building prefab is the

A zero-emission Nissan Leaf Electric car is powered by renewable energy using a 3.6 kW solar array, which is on top of the small community Welcome Center. This car and additional future cars will be available to be shared by residents.



best option on an island, such as Bainbridge Island, where materials are less readily available. Panelizing was also used for speed of construction.

Materials were chosen for their sustainability and low maintenance. Floorings, for example, are from fast-growing bamboo, recycled rubber, and cork. Fiber cement panels and corrugated steel siding were used, as both require minimal maintenance. Many of the materials were locally sourced, such as the cedar siding on the houses and the photovoltaic panels. The result of using locally sourced,

Washington-manufactured panels is an extremely lucrative production rebate\* of \$0.54 per kilowatt produced.

Jonathan not only envisioned and designed the community but also is a resident with Mary Jo, his wife and business partner, their son, Everett, and their daughter, Dashwood.

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\* [www.a-rsolar.com/net-metering-and-production-incentives](http://www.a-rsolar.com/net-metering-and-production-incentives)

Appliances in the kitchen are the most efficient ENERGY STAR-rated available; there is an induction cooktop and convection oven; the countertops are made from recycled paper and plant resins.

## One Planet

One Planet Communities is a nonprofit organization that has set out to create a network of the earth's greenest neighborhoods. These neighborhoods are designed to be as energy efficient as possible, but also have services, infrastructure, and design features that make it easy, attractive, and affordable for people to live in, in an environmentally friendly way. There are currently such communities in the United Kingdom and Portugal, and others are applying similar principles in South Africa, China, Australia, and Canada. The staff of this program help to create the projects, offering advice, support, planning, and eventually judging whether it meets the standards for the organizations endorsement. The program has ten guiding principles to structure the development, including zero carbon, zero waste, sustainable transport, sustainable materials, access to local and sustainable food, sustainable water and land use, and protection of wildlife. The goal of the organization is for these communities to be all net zero by 2020. This program was developed by UK nonprofit BioRegional Development Group and WWF International. For additional information about this program, see [www.oneplanetcommunities.org](http://www.oneplanetcommunities.org).



The flooring is stranded bamboo, a highly renewable plant, and the lighting is created by LED bulbs, which are long lasting and use about 75 percent less energy than incandescent bulbs.





# ABULOUS WORLD

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Real Estate Book Award from NAREE in  
2008, 2011, and 2013. Koones is also a col-  
umnist and speaker.

e future, it is clear that more and more intelligent mate-  
will be brought to hand as preassembled optimized  
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—William McDonough, designer, advisor, thought leader,  
and coauthor of *Cradle to Cradle* and *The Upcycle*



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