

LivingHomes

A Catalyst in Green Residential Design



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- Introduction to LEED and LEED for Homes
- LivingHomes Background
- Evaluation of LEED Categories in LivingHomes
 - Water Efficiency
 - Indoor Environmental Quality
 - Materials & Resources
 - Energy & Atmosphere
 - Innovation & Design Process
- So What?
- Questions/Comments

What is LEED?

- Leadership in Energy and Environmental Design (LEED)
- Developed by the US Green Building Council (USGBC)
- Voluntary
- Consensus-based national standards for green design
- Has become a nationally recognized “brand”

What is LEED for Homes?

- Currently a pilot program that started in 2005, but will officially launch in early 2007
- Rewards green homebuilders in various markets
- Pushes homebuilding industry towards a more sustainable practice
- National consensus on elements of a green home
- Based on a 4-tiered rating system: Certified, Silver, Gold, and Platinum
- Points are awarded based on the project's application of several categories (energy resources, water resources, building construction resources, land resources, enhanced indoor environmental quality)
- Over 125 builders and 725 homes in the pilot program

LivingHomes

- LivingHomes is a developer that focuses on green homes
- The model home received a platinum LEED rating in August of 2006, the first home to do so
- Located in Santa Monica, California
- Designed by architect Ray Kappe, founder of the Southern California Institute of Architecture
- The home is “zero energy, zero water, zero waste, zero carbon, and zero emissions”



Source: www.livinghomes.us

LEED Points Obtained

EVALUATION CATEGORY	POINTS AVAILABLE	POINTS OBTAINED
Location & Linkages (LL)	10	10
Sustainable Sites (SS)	14	14
Water Efficiency (WE)	15	15
Indoor Environmental Quality (IEQ)	14	9
Materials & Resources (MR)	22	8
Energy & Atmosphere (EA)	29	32.5*
Homeowner Awareness (HA)	1	1
Innovation & Design Process (ID)	4	1.5
TOTAL	109	91

Certified = 30-49 points / Silver = 50-69 points / Gold = 70-89 points / **Platinum = 90-109 points**

* Awarded bonus points

Water Efficiency (WE)

- Water reclamation for irrigation
- Native landscape and rooftop garden to divert stormwater
- Sub-surface irrigation
- 3500-gallon cistern
- Grey water recycling system

Indoor Environmental Quality (IEQ)

- Paid “carbon off-set” for a year
- Low VOC paints and stains
- Steel structure to avoid mold growth
- Radiant heating system
- Indoor gardens to filter indoor air

Material & Resources (MR)

- 75% less construction waste
- Low-e window glazing on doors and windows
- Forest stewardship certified wood
- 100% post-consumer recycled paper-based countertops
- Recycled glass tiles
- Recycled porcelain tiles
- Green fiber 100% recycled denim insulation

Energy & Atmosphere (EA)

- 80% more efficient than a conventional home of similar size
- Energy produced by on-site photovoltaics
- Solar water heating
- Radiant floors
- Energy star appliances
- LED lights
- Fans in garage and shower

Innovation & Design Process (ID)

- Flexibility in construction to fit various programs
- Moveable walls
- Modular millwork
- Easy to add on to the steel structural frames
- Contains products of other companies involved in sustainable design (Kohler, Design within Reach, Herman Miller, etc.)
- Collaboration with other companies





Source: www.livinghomes.us



FSC Wood

Modular Framework

Source: www.livinghomes.us



Source: www.livinghomes.us



So What?

- **Benefits:**
 - Lower operating costs
 - Increased home value
 - Reduced maintenance problems
 - Improved indoor environmental quality
 - 20-40% reduction in cost compared to a similarly constructed home
 - Available to consumers across the country

So What?

- Problems:
 - Cost!
 - \$250 per square foot
 - Add 10-15% for design costs, permit fees, engineering, transportation, installation, and foundation work (add \$70-90 per square foot)
 - Promoted car usage through garage design
 - Does not emphasize location of sites near mass transit

Questions/Comments