

EarthWays Center

Moving St. Louis towards Sustainability

by Tony Tancini



EarthWays House

<http://www.earthwayscenter.org/demonstrations.html>



View of the famous St. Louis Gateway Arch and the city's skyline

<http://www.your-stl.com/>

Green Design & the City
ENVS 662-660
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OUTLINE



1. HOLISTIC APPROACH TO GREEN BUILDING

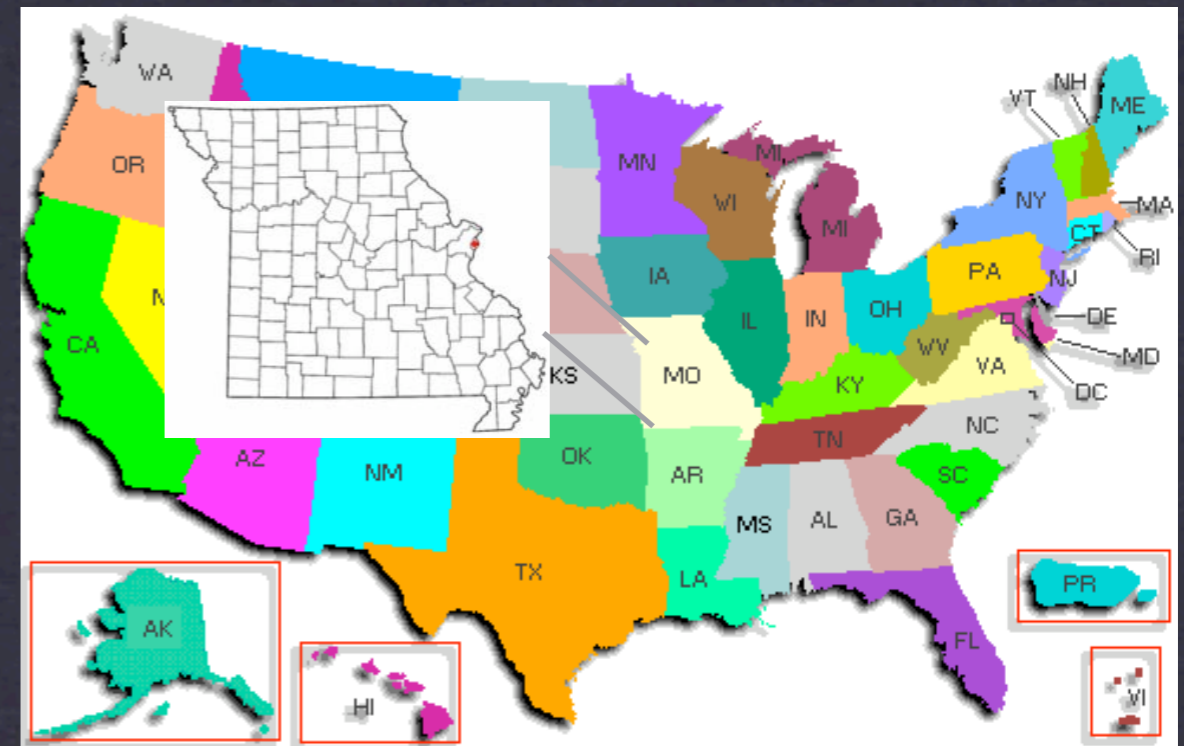
2. RENOVATING 1885 VICTORIAN HOME

3. CARBON FOOTPRINT REDUCTION

4. WATER FOOTPRINT REDUCTION

5. REDUCE, REUSE, RECYCLE

6. SUSTAINABILITY IN ST. LOUIS



HOLISTIC APPROACH TO GREEN BUILDING

- From LEED to Holistic Approach
- Net Zero Buildings (Mazza, 2007)
- As bar for environmental performance increases so should certification standards (Wedding & Crawford-Brown, 2008)



<http://www.edcmag.com>

“Meeting the needs of the present generation without compromising the ability of future generations to meet their needs.”
(Brundtland Report, 1987)

RENOVATING 1885 VICTORIAN HOME



Renovation Raw Material
The EarthWays Home "Before" and "After"

<http://www.earthwayscenter.org/2004/calendar.html>



Carbon Footprint	<ul style="list-style-type: none"> • energy-efficient lighting sources • energy-efficient window options • blown-in cellulose insulation • geothermal heating and cooling • high-efficiency gas furnace energy-efficient fireplace options • on-demand water heating (also helps to reduce water use) • photovoltaic solar system powering high-efficiency kitchen appliances and exterior lighting
Water Footprint	<ul style="list-style-type: none"> • water-saving fixtures • native plant landscaping • water and energy saving green roof (also addresses carbon footprint)
Building Materials and Recycling/Composting	<ul style="list-style-type: none"> • recycled and non-toxic products • recycling and composting systems • recycled-plastic lumber garden beds (used for the green roof) • sustainable flooring options

<http://www.earthwayscenter.org/>

CARBON FOOTPRINT REDUCTION

Most efficient, cost-effective way to reduce the amount of energy that a building consumes is to reduce the amount of energy needed.
(Karolides, 2002)

- Blown-in cellulose and
- Doubled-pane windows
- Daylighting
- Compact fluorescent lighting
- Tankless water heater
- Energy Star Appliances



<http://earthwayscenter.org/2005/ewh-night.jpg>

CARBON FOOTPRINT REDUCTION

New and existing buildings “should be viewed as an opportunity to produce sustainable energy, a chance to reduce the community’s carbon footprint and to reduce our collective dependence on fossil fuels.” (Beatley, 2000, p. 287).

- Photovoltaic (solar panel) array
- Ground-source (or geothermal) heating and cooling system



<http://www.mobot.org/education/earthways/janmarch09.news.htm>

WATER FOOTPRINT REDUCTION



- Water-saving fixtures
- Rain barrel
- Green Roof
- Native plants

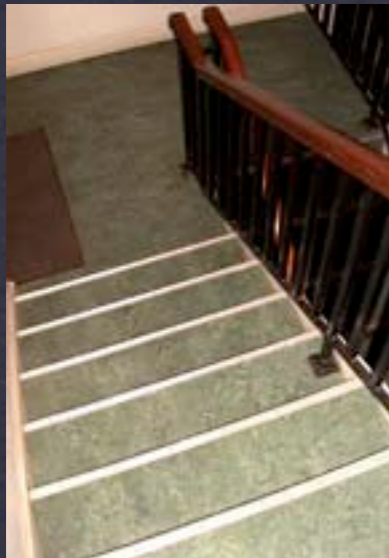
http://www.greenroofs.com/premium_directory/green_blocks_p3_earth_ways_home137.jpg

“Green roofs are idea for urban storm-water management because they make use of existing roof space and prevent runoff.” (Oberndorfer, et al., 2007).



http://www.greenroofedge.com/images/493_Earth_Ways_Home_141.jpg

REDUCE, REUSE, RECYCLE



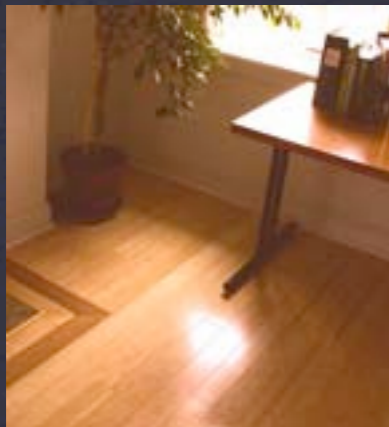
Marmoleum



Hardwoods



Recycled Glass Bathroom Tiling



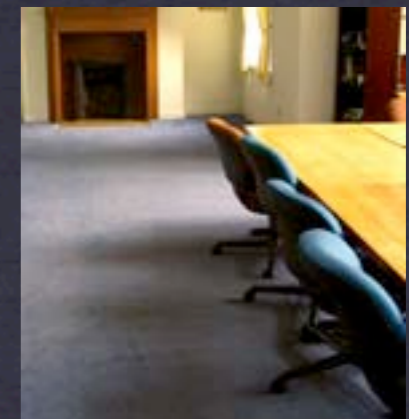
Bamboo



Cork



Terrazzo



Carpet

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SUSTAINABILITY IN ST. LOUIS

EarthWays Center provides educational opportunities for people of all ages



<http://www.mobot.org/education/earthways/janmarch09.news.htm>

- Tours
- Adult Education Programs
- Children Programs
- Sustainability Workshops
- Website is a source of information



<http://earthwayscenter.org/2005/ewh-night.jpg>

QUESTIONS?



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