DOE Zero Energy Ready Neighborhood

Kendall Carpenter

Mike Carpenter

AquaZephyr: Construction Management
When all Stakeholders are NOT integrated
Integrated Home Building

• Accessible
• Affordable
• Sustainable
Passive House Design Principles

- Super insulated – very comfortable homes
- Air sealed envelope – no thermal bridging
- Energy recovery ventilation - excellent air quality
- High-performance windows and doors
- Passive solar orientation
- Minimizes the heating and cooling load
- Systems approach to modeling, design and construction
## Different Approaches for Different Results

<table>
<thead>
<tr>
<th>Code</th>
<th>LEED</th>
<th>Passive House</th>
</tr>
</thead>
</table>
| • Architect / Engineer
• Owner
• Contractors
• Code Enforcer
• Construction Manager | • Architect / Engineer
• Owner
• Contractors
• Code Enforcer
• LEED Certifier
• HERS Rater
• Construction Manager | • Architect / Engineer
• Owner
• Contractors
• Code Enforcer
• Passive House Verifier
• Construction Manager |
When the Rules Conflict

Code requires vapor barrier on inside of wall system

High performance house using foam insulation puts a vapor barrier on the outside of wall
The Tree Houses
The Blower Door Rules the Day!
HRVs
HRVs
Attention to the R-value of the eve
Under-slab Insulation
Caulk the Framing to the Sheathing
Mid-rise vs Single Family

- Excellence in Energy Performance
- Affordability
- Efficiency in Materials Use
- Simplified Accessibility
AquaZephyr

Eco-Village Ithaca
Ithaca, NY

One-foot-thick, double-stud walls helped the Eco-Village Ithaca community achieve certification from the U.S. Department of Energy’s Zero Energy Ready Home program. The 17 single-family and four duplex homes are the third, and most efficient, phase of a community of 100 homes that were built for a cooperative living organization called Eco-Village Ithaca, which is part of a loose affiliation of Eco-Village communities around the world. Eco-Village seeks to provide housing that is affordable, durable, sustainable, comfortable, and
Contact Information

Kendall Carpenter
Aqua Zephyr: Construction Management

607-279-5559
Kendallmcarpenter@gmail.com
Katie Borgella  
Tompkins County Planning Department  
607-274-5560  
kborgella@tompkins-co.org

Liz Walker  
EcoVillage at Ithaca  
607-272-5149  
ecovillageliz@gmail.com

Kendall Carpenter  
AquaZephyr  
607-279-5559  
Kendallmcarpenter@gmail.com

Interested in a tour?  
Contact us through EcoVillageithaca.org

Visit our website for more information
Climate Smart Communities
Webinar

Website Address

http://www.dec.ny.gov/energy/50845.html