

High Performance Housing



South East Building Conference 2005



Orlando, Florida

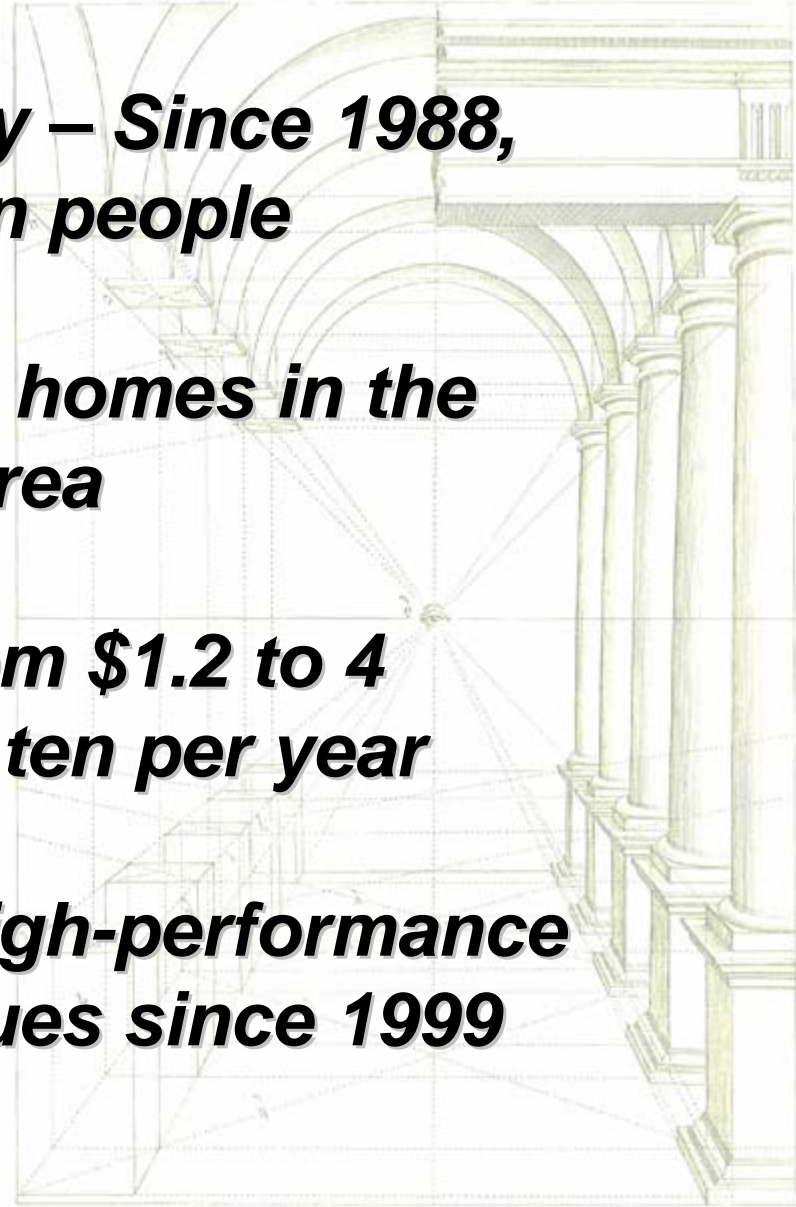
Thursday, July 14th, 2005

Jay Fechtel, The Fechtel Company

Introduction



- ***The Fechtel Company – Since 1988, employs eighteen people***
- ***Design/Build custom homes in the Tampa, Florida area***
- ***Homes are priced from \$1.2 to 4 million, seven to ten per year***
- ***Have implemented high-performance housing techniques since 1999***



What I'll Cover

- 1. Why build high-performance housing?***
- 2. What we do and how we do it –
Building with all things
considered***



Why We Do It

1. Happy Clients

- *Durability and Comfort*
- *Time Spent In The Home*
- *The Golden Rule*



Why We Do It

1. *Happy Clients*

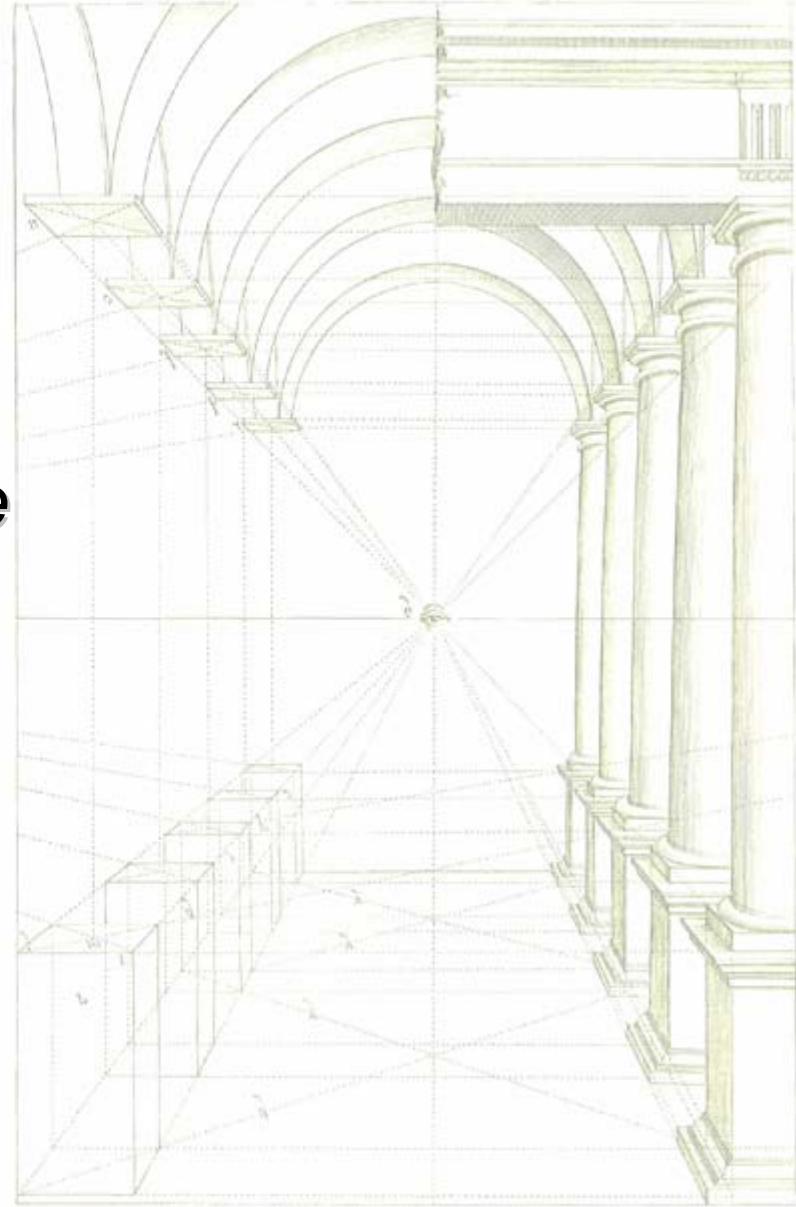
2. *Innovation*

- *Product Differentiation*
- *In The Search Of Excellence*



Why We Do It

- 1. Happy Clients**
- 2. Innovation**
- 3. Good Marketing**
 - *Media Coverage*



Media Coverage



■ A maker of massive schools for gorgeous yet practical and "green." You can peek at the results.

By ALZABETH BERTHOUD

The view from the first floor of the new school is a sight to behold. The architecture is a blend of modern and traditional, with large windows and a high ceiling. The school is a testament to the company's commitment to quality and sustainability.



COMMUNITY PROFILE

StillWater is home to American Lung Association's Health House

By HEATH DUKLAK
Special features correspondent

Not only does the upscale community of StillWater feature an intimate atmosphere, but it also offers a variety of amenities and services for its residents.

LUTZ

A sprawling house in Avila racks up little bills, thanks to an energy-efficient design.

Five bathrooms, more than a four-car garage.



HILLSBOROUGH

Homes & Classified

THE TIMES ■ FRIDAY, SEPTEMBER 6, 2007

TAMPA.BAY.COM

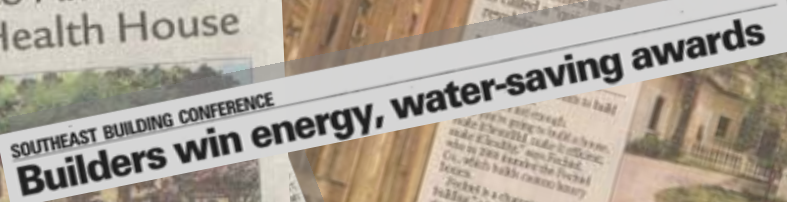
The 'green' house slowly blooms

■ A few builders offer efficient, water-wise healthy homes.



Cool heads prevail

A sprawling house in Avila racks up little bills, thanks to an energy-efficient design.



SOUTHEAST BUILDING CONFERENCE

Builders win energy, water-saving awards

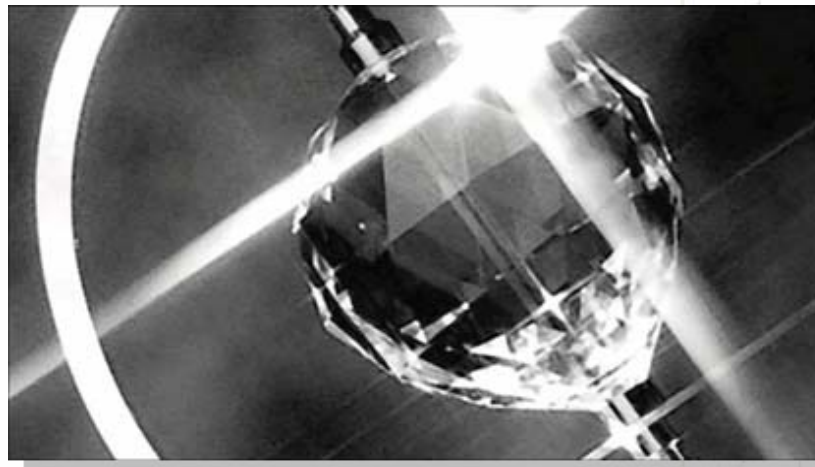


The Fechtel Co. received high honors at the Southeast Building Conference for the Avila home built in 2003. Now, the company is building a model home in Odessa that will take the green concept to another level.

Energy Award and the Grand Award for a Green Building. The company built the model home in Odessa, Fla., which is a testament to the company's commitment to sustainability and energy efficiency.

Why We Do It

- 1. Happy Clients**
- 2. Innovation**
- 3. Good Marketing**
 - *Media Coverage*
 - *Awards*



Why We Do It

1. Happy Clients

2. Innovation

3. Good Marketing

4. Good Stewardship

- *Philosophical: Resource Management*
- *Practical: Waste Not, Want Not*



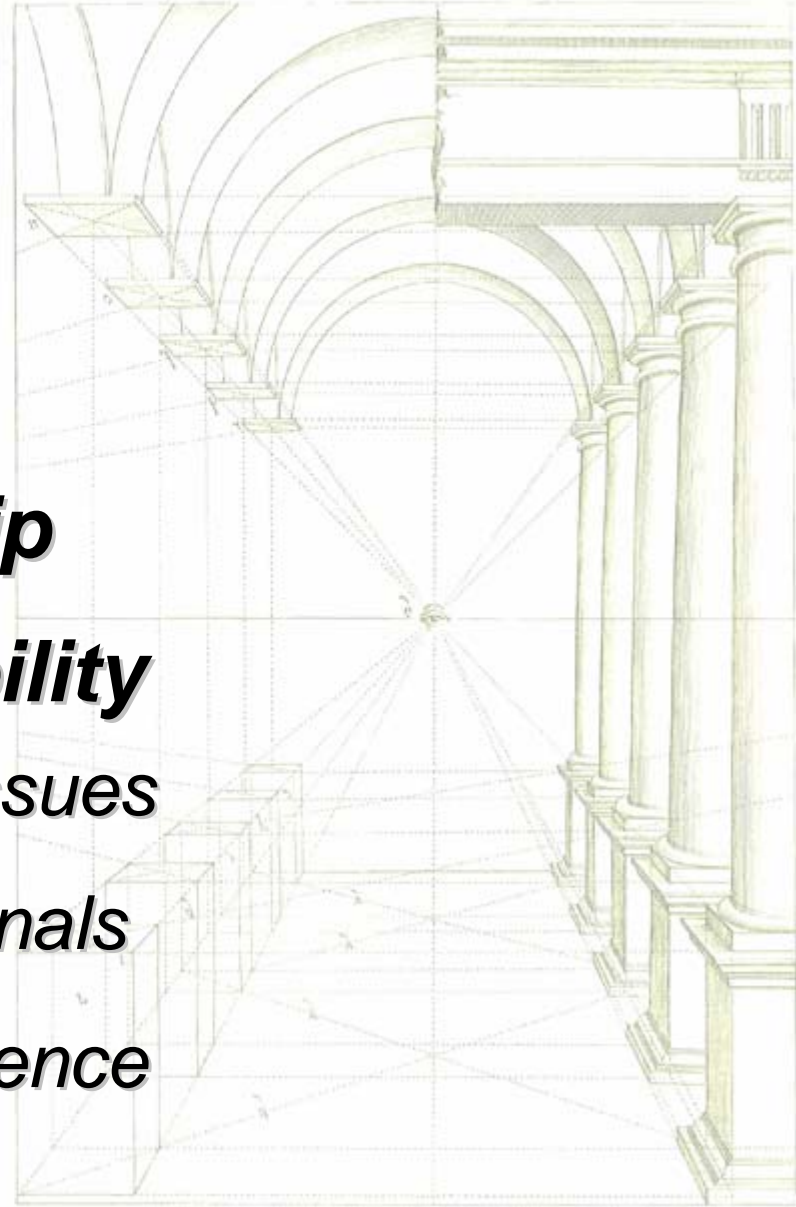
Why We Do It

- 1. Happy Clients**
- 2. Innovation**
- 3. Good Marketing**
- 4. Good Stewardship**
- 5. Lowers Risk/Liability**
 - *Popular Legal Issues*



Why We Do It

- 1. Happy Clients**
- 2. Innovation**
- 3. Good Marketing**
- 4. Good Stewardship**
- 5. Lowers Risk/Liability**
 - *Popular Legal Issues*
 - *Eager Professionals*
 - *Personal Experience*



Practical Application

2004 A.L.A. Health House



What We Do...

...And How We Do It



Design & Systems Synergy



High-Performance Standards




 3010 W. Bascom Avenue
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 415.244.0700 • Fax 415.244.1776

"HEALTH HOUSE" AND ENERGY EFFICIENT FEATURES OF VILLA SERENA

August 1, 2014

"Health House" construction and design techniques (per American Lung Association Guidelines) to be included. These features are intended to improve indoor air quality and enhance the home's performance to provide health benefits for the owner. The majority of these features also have the added benefit of producing better energy performance. Any items that are over and above the Health House requirements (not required) are noted. For more information, visit the ALA's special website at www.healthhouse.org.

Special site clearing emphasis to be made during construction including removal of all stumps, branches, and other debris and stumps.

Special house construction cleaning and management emphasis to be made during construction including strict enforcement of no smoking or drinking from during construction in the home, no leaving of any food or food sources for bugs and animals, and the ALA's special website at www.healthhouse.org.

Design of home to include a "read" room to provide room to remove and store tools, shoes, coats, laundry and other items from the site regularly in order to minimize potential food sources for termites.

Site orientation is to the south to provide maximum solar exposure to the front and rear facade windows and doors.

Final grading to provide for a minimum of 6" slope in 10 feet of final-grade/ground surface away from the foundation to promote good water flow away from the structure.

Chemical treatment for subterranean termites at all non-covered concrete slab areas of the home should include baiting in the slab and chemical application to pre-slab holes. A warranty should be provided by the pest control company.

Foundation stem wall is to be up to its courses, full in lieu of standard 2 course to allow for a rocky (faced) foundation above grade, and to provide that the lowest floor is well above the 100 year flood level (well over 12" minimum Health House standard). This also provides good drainage and keeps high rain water (surt) and the slab from entering the home at any point.

Fill voids in the foundation stem wall of a minimum, the top course is to be filled for greater protection from possible future termite intrusion.

Double layer vaporscan with taped joints and taped penetrations prior to slab pour to be provided in lieu of single layer. The process will be to lay the vaporscan one way and then lay another layer across (perpendicular) pattern. The top layer will have all of the joints and pipe penetrations taped and sealed with 30 (brand) hot construction tape. This provides extra protection from moisture migration from beneath the slab.

... as a form around all tub and shower traps instead of cardboard...
 ... to be run into the box that is cast into the...
 ... to be sealed with low...
 ... where it enters the bottom of the box. This will prevent...
 ... any organic material in these "wet" areas.

... potential radon to be captured and vented to the outside...
 ... locations. Vent area to be created by excavating an 18"...
 ... block material, then installing a 1-1/4" (+ or -) "well point"...
 ... 20". The PVC pipe will then be sold above the slab and...
 ... on the back elevation.

... the concrete slab meets the pipe with low emitting...
 ... appropriate possible access points for termites or other...

... framed, stucco finished walls per plans. This...
 ... stucco, but still allowing it to "breathe." Vapor barrier...
 ... must be a...
 ... material, not the...
 ... home per plan locations where there is good...
 ... "breath" so that it can dry if moisture does enter...
 ... and taped to seal them.

... double...
 ... per plans (in areas where a "double...
 ... (inner wall) in lieu of regular PT furring...
 ... 1/2" horizontal nailing/furring strip to fasten to...
 ... wall will be insulated later. This gives...
 ... "Health" requirement).

... of glass, also with internal air space...
 ... from the sun's rays.

... thermostats and damper systems for...

... is not required in a Health...
 ... room.

... be tightly than in the past...
 ... that brings a small amount...
 In addition to allowing...
 ... light positive air...

... water supply. Heating...
 ... the utility cost associated...
 ... to water on demand...

... plumbing piping is...
 ... prevents the...

... systems during construction. Temporary use of portable AC...
 ... and dehumidify the home prior to framing, so that the...
 ... and finish elements of the home prior to completion.

... For any unavoidable wire penetrations, caulking and/or...
 ... finish below.

... interior building envelope areas, including under the attic...
 ... venting the garage from the main house. This insulation will...
 ... which is to be deleted. Thickness of layers is to be 5"...
 ... R values compared to normal fiberglass in large part...
 ... areas of the home). This product allows for the entire...
 ... temperatures will vary but usually stay in the 70's...
 ... the structure.

... wall envelope are to be sealed with low emitting...
 ... (product).

... to be completely sealed with laminate, maintaining...
 ... constructed with phenol-formaldehyde or...
 ... should meet HUD's formaldehyde emission...
 ... than laminate (see the Masonry Section for the...
 ... of the slab).

... per manufacturer and type) to all...
 ... to be emphasized in plant selections.

... to tightly seal the garage space from...
 ... to remove fumes.

... to take the area to remove...
 ... (slip) applications is to be used...
 ... greater than 1000 cycles on...
 ... (per manufacturer) and greater...

... that rolled out and left to...
 ... certain requirements:

... wet, low VOC...
 ... completed by...
 ... each hinge (one of the...

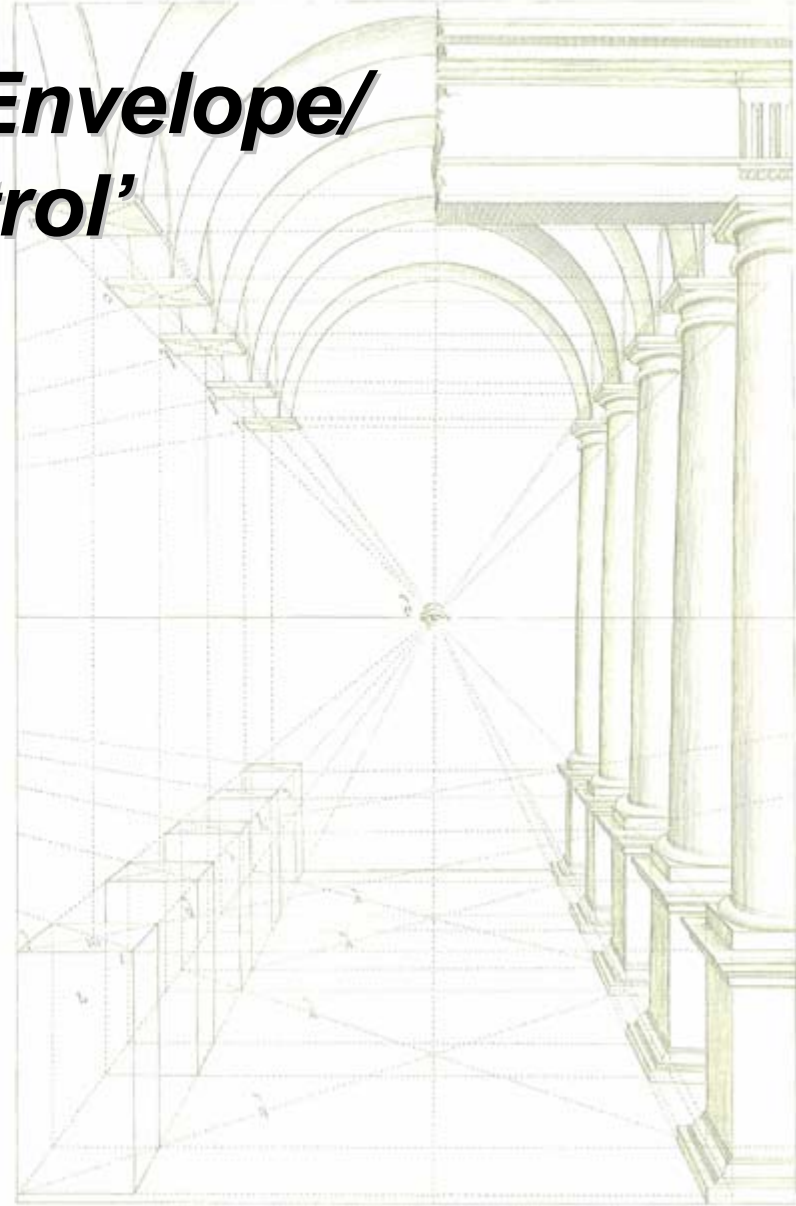
these are available by email upon request

What We Do, How We Do It



1. Good 'Building Envelope/ Moisture Control'

- *Roofing*

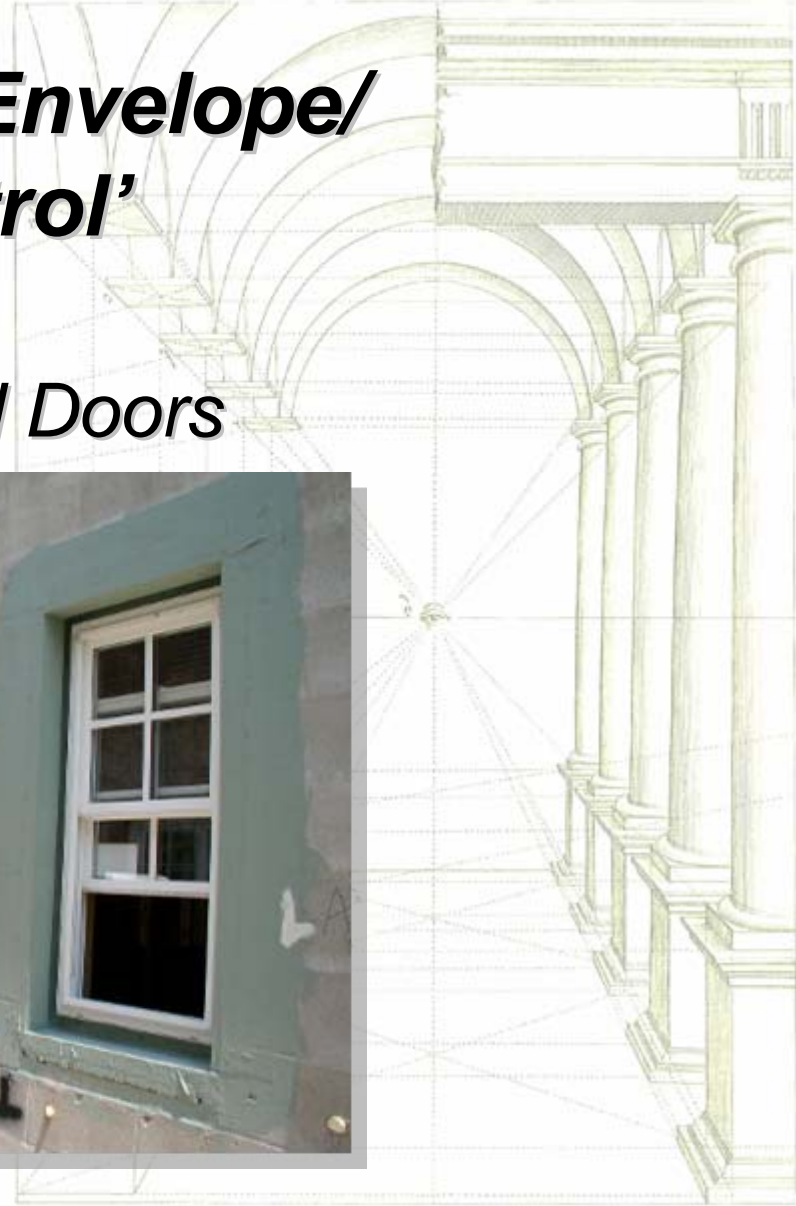


What We Do, How We Do It



1. Good 'Building Envelope/ Moisture Control'

- Roofing
- Windows and Doors



What We Do, How We Do It



1. Good 'Building Envelope/ Moisture Control'

- *Roofing*
- *Windows and Doors*
- *Balcony Decks*



What We Do, How We Do It

1. Good 'Building Envelope/ Moisture Control'

- Roofing
- Windows and Doors
- Balcony Decks
- House Wrap



What We Do, How We Do It

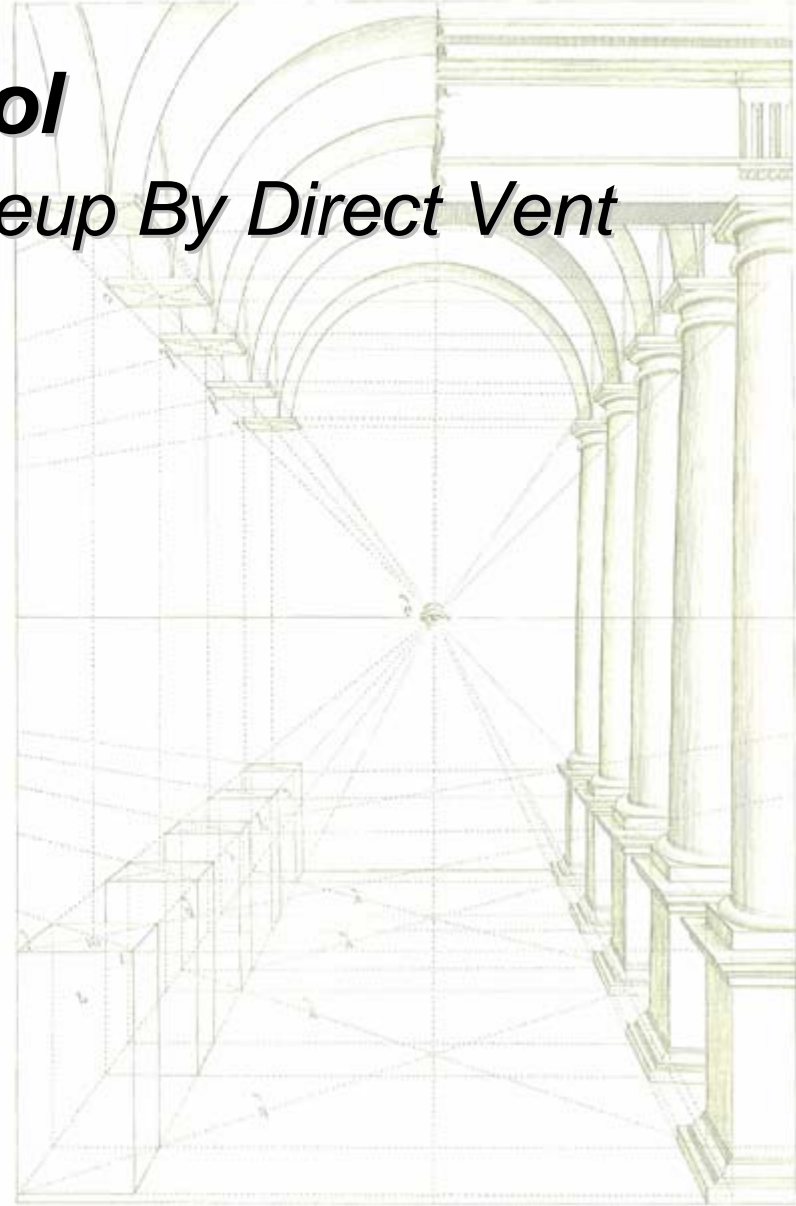
1. Good 'Building Envelope/ Moisture Control'

- *Insulation*



2. Indoor Air Control

- *Outside Air Makeup By Direct Vent*



2. Indoor Air Control

- *Outside Air Makeup By Direct Vent*
- *Outside Air Makeup By Air-Purifying Dehumidifier – Positive Pressure*



2. Indoor Air Control

- *Outside Air Makeup By Direct Vent*
- *Outside Air Makeup By Air-Purifying Dehumidifier*
- *Enhanced Air Filtration*



3. Resource Efficient Systems

- *Energy Efficient HVAC Systems*
- *Water-Conserving Appliances*
- *Tankless and Solar Water Heating or Heat Recovery With Gas Water Heating*
- *Smart Fan and HVAC Control*
- *Lighting and Home Control*
- *Reclaimed Material*

4. Site Planning

- *Passive Solar Siting*
- *Work With The Site – Trees, Etc.*



4. Site Planning

- *Passive Solar Siting*
- *Work With The Site – Trees, Etc.*
- *Landscape And Irrigation Design - Xeriscape Principles*



5. Aesthetic Sensitivity and Design

- *Functional Sculpture*



5. Aesthetic Sensitivity and Design

- *Functional Sculpture*
- *High Performance Doesn't Mean Ugly*



5. Aesthetic Sensitivity and Design

- *Functional Sculpture*
- *High Performance Does Not Mean Ugly*
- *Good Design = Good Emotional And Physical Health*
 - *Mud Rooms*
 - *High-Traffic Spaces Should Not Irritate*
 - *Lines of Sight*



Conclusion

Why **Build High-Performance Housing?**

1. *Happy Clients*
2. *Innovation*
3. *Good Marketing*
4. *Good Stewardship*
5. *Lowers Risk/Liability*

What **We Do, How We Do It**

- a.) *Good Building Envelope/Moisture Prevention*
- b.) *Indoor Air Control*
- c.) *Resource Efficient Systems*
- d.) *Site Planning*
- e.) *Aesthetic Sensitivity and Design*

**High Performance Housing is Good
Business!**

