

# Worldwide Engineered Infrastructure Systems

PROPOSED ECM BUILDING SYSTEM SOLUTIONS,  
NEVADA-ARIZONA-CALIFORNIA, USA.

YEAR 2020



***Robert E. Oakley, Jr. - Founder and CEO of ECM Solutions.*** Over thirty years of experience in engineering, construction, and project management, He specializes in value engineering, security and risk assessments, and energy sustainability facility optimization. Mr. Oakley presents a combination of engineering knowledge and experience along with certification in investigative forensic procedures. He has over thirty-five years of experience in capital construction projects ranging from \$500,000 to \$1 billion dollars. Projects, both domestic and international, include ferry terminal, airports, roadways, bridges, hospitals, urban redevelopment authorities, and prisons. He has also conducted feasibility studies for large infrastructure projects. Other experience includes extensive expert witness testimony and litigation support, claims preparation and evaluations, damage calculations and assessments, schedule analysis and trending. Mr. Oakley has provided assistance and training to minority contractors for outreach assistance, technical and program administration, and compliance monitoring for government entities. He has experience managing all construction activity, from ground-breaking to total completion and turnkey finish. He also specializes in value engineering, cost estimates, security and risk assessment, and preparation of project and programs budgets. He has provided consulting services and analyses on numerous projects across various market sectors.



CONSERVATION MEASURES SOLUTIONS GROUP

***Patrice Manuel – Owner and Executive Director of P/Strada.***

**2001– Present**

She provides programs and project management in almost any environment and enterprise. Provision of staff augmentation primarily for various government agencies (i.e. Homeland Security, Army, GSA, etc.). We can supply administrative personnel through very specialized military and government requirements. P/Strada has an extensive training and management consulting capability as well. We can provide training and consulting in areas such as: Organizational Development- specializing in organizational structure and surveys and processes that assist organizations and individuals in achieving higher and greater success in their current environment. P/Strada's training can be delivered in a blended learning environment from the traditional instructor / classroom approach to a total virtual classroom provided via a Cloud computing solution. Diversity Integration- assisting government agencies and private companies in the achievement and reporting of minority and women owned business participation goals on projects and providing diversity training for compliance.



**CONSERVATION MEASURES SOLUTIONS GROUP**

**Dr. Simmon Wilcox- VP Sales & Operations-** He is an expert in Medical infrastructure development and wellness centers. Dr. Wilcox has traveled the globe and consults on various new procedures to create a healthy lifestyle and longevity. He is well trained in Stem cell procedures and has a passion for Brian rejuvenation for the elderly. This work and background provides the ECM team a wealth of knowledge in creating a healthy infrastructure environment when developing Senior homes and Veteran living conditions.



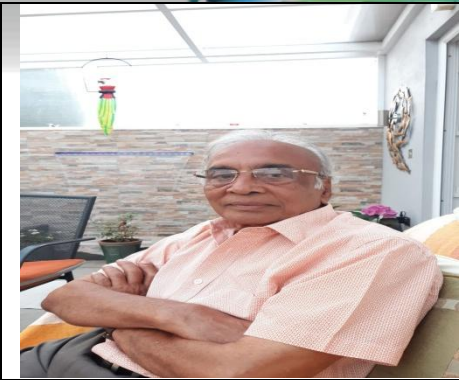
**Julius C. Poston** is the founder and CEO of StalwartBuilt Homes and has been a builder and developer since 1980. In 2012, StalwartBuilt Home evolved into Stalwart Green Global International (SGGI) as he moved the company into global markets. With Stalwart's patented Building Science process, SGGI delivers building solutions that exceed recognized standards of green, are cost efficient, stronger, healthier, lower in maintenance, more durable and has a faster build time. He has a deep experience as witnessed in his role in the Energy Efficient Design Building of the Weehawken Ferry Terminal, Crawford Robert's housing complex.



**EATON** is a power management company that provides energy-efficient solutions that helps it's customers manage electrical, hydraulic and mechanical power more efficiently, safely and sustainably. Eaton's vision is to improve the quality of life and the environment through the use of power management technologies and services.





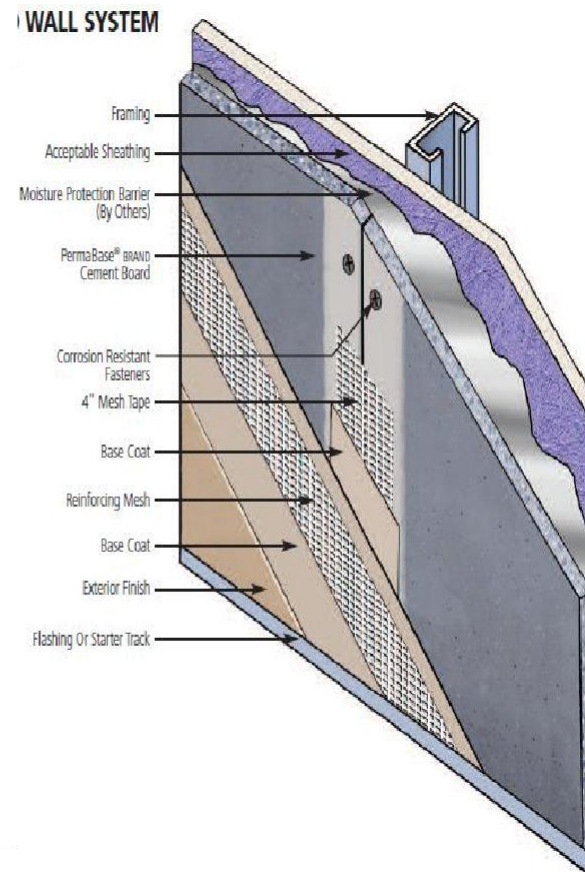


#### ATION MEASURES SOLUTIONS GROUP

##### **Jagdish H. Patel**

An experienced Geologist with long years of international exposure . He has a broad experience in the hospitality sector, IT enabled services, geo special survey and GIS with oil companies, granite and granite vanities, recycling business in paper, plastics, metal scrap, mining materials such as copper, aluminum, precious stones.

## Typical SGG Construction Methods



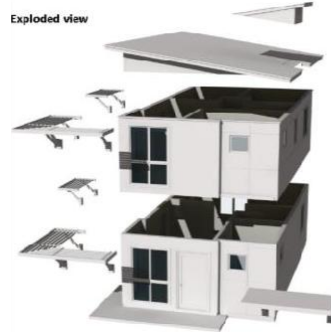
## Typical SGG Construction Methods



## Steel/Concrete Board Construction







## Economic Cities in Chinsali and Samfya Districts

### Residential Housing

#### Optional

- Fireplace
- 2<sup>nd</sup> door to back patio
- Solar power
- Solar HW



**1,200 sq. ft. to 2200 sq.  
ft 4 bed / 2 bath  
average cost \$50,000  
to \$110,000 USD**





ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



#### Resettlement Health Facility

- doctors offices
- screening rooms
- pediatric center
- exam rooms
- break room
- X ray
- physiotherapy
- dentist
- emergency room
- each hospital will have 2 specializations



VITHAN SANTU GROUP



ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



Resettlement House

- 3 bedroom 2.5 bath
- furnished
- air conditioning
- 2 car garage
- furnished
- landscaped



VPPBAI SANTU GROUP





ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



#### Developer Compound Clinic

- on staff nurse
- visiting doctor
- cuts / burns / bites
- pharmacy



UNIVERSITY OF CALIFORNIA



Developer Compound Club House

- common dining
- bar
- gym
- recreation room
- swimming pool
- BBQ area
- Wi Fi



IMPERIAL SANTU GROUP



ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



Developer Compound  
Management House

- 3 bedroom 2.5 bath
- open concept living
- office - Wi-Fi
- 2 car garage
- eco smart



IMPERIAL SANTU GROUP



## Economic Cities in Chinsali and Samfya Districts

**Residential Housing Units – All units constructed with concrete and steel**



## Economic Cities in Chinsali and Samfya Districts

### Residential Housing Units cont'd





## Economic Cities in Chinsali and Samfya Districts

### Schools



# Economic Cities in Chinsali and Samfya Districts

## Health Facilities



# Economic Cities in Chinsali and Samfya Districts

## Markets





# Economic Cities in Chinsali and Samfya Districts

## Shopping Facilities



# Economic Cities in Chinsali and Samfya Districts

## Shopping Facilities



# Integrated Building Solutions

TEAM & PROGRAM  
STRUCTURE



# Global Company Serving Global Needs



INNOVATION MEASURES SOLUTIONS GROUP

Julius Poston / SGGI

Julius C. Poston is Founder and CEO of Stalwart Green Global International (SGG). SGG marks the expansion of StalwartBuilt Homes into the global market. With Stalwart's Patented Building Science process, SGG delivers building solutions that exceed most recognized standards of green, are cost-efficient, stronger, healthier, lower in maintenance, more durable, and which have a faster build time. In other words...“Beyond Green”

Stalwart has registered patents for its building methodology that allow the company to hold license agreements with various manufacturers in the United States. The selected manufacturers are chosen based on their ability to comply with science integration, quality control, inspection, and building guidelines.

Since the year 2000 Mr. Poston has been working with the United States Department of Energy in modeling highly sustainable housing projects. Many published Case Studies have been produced as a result of this effort. Listed below is a short sample of some of the projects.

## High Performance Home

### Demonstration Project



Ribbon cutting ceremony  
Fairburn Commons - 2000.

From left: Ga. Gov. Roy Barnes, Dennis Creech Executive Director Southface Energy Institute, Julius Poston, project designer and construction manager.

Atlanta's first energy efficient, healthy, affordable, community built with research grant funding provided by the Building America program.

Fairburn Commons was the first of it's kind a true landmark in the Atlanta market. A collaborative effort created by the developer, construction management team, Southface Energy Institute, U.S. Department of Energy, and Building Science Corporation.



Fairburn, Atlanta, Georgia  
Health-E Enterprises  
1,400 - 2,100 sq. ft., 3 bedroom, 2 bath  
\$117,000 - 145,000 (including land)

#### Key Features

- Innovative termite-protected slab perimeter insulation
- Advanced framing
- Low-e spectrally selective windows
- Cellulose cavity insulation
- Carbon monoxide detectors
- Fully engineered HVAC system including all ducts sealed with mastic and in the conditioned space, correctly sized equipment, a simplified duct layout, transfer grilles for pressure relief, controlled mechanical ventilation and dehumidifier

SEE ENCLOSED CASE STUDY



# Global Company Serving Global Needs



## ZERO ENERGY COTTAGE

*The Captain Planet Zero Energy SIPS Cottage - 2002*  
National Park Service Sustainability Fair at the National Mall in Washington



1,700 sq. ft. home with 2 bedrooms, 2 bath and a loft

### Key Features:

- Photo Voltaic system
- Solar hot water heating
- Passive Solar design
- Ducts in conditioned space
- Controlled ventilation
- High performance envelope, windows and an integrated HVAC system
- Advanced framing with structural insulated panels (SIPs)

Donated to: Department of Natural Resources, Fargo Ga.

0 net energy cost.

## ZERO ENERGY HOME



International Builders' Show  
2002-Atlanta, Ga.

35,000 people in 2 1/4 days, registered for information about this house.

Georgia's first "Zero Energy" home  
Built with grant funding under the U.S. Department of Energy, Building America program as a public awareness and demonstration project.

### DONATION

After the event the home was donated to the Captain Planet Foundation and moved to its permanent location in Buckhead – Atlanta, Georgia to serve as an educational tool for six months to the general public.





# Global Company Serving Global Needs



## HIGH PERFORMANCE HOME

Public Awareness  
2008  
International Builders Show  
ORLANDO, FL.

Systems built home constructed by Palm Harbor Homes to Stalwart Built Homes standards. Approximately 45,000 attendees toured this home.



US Secretary of Energy Samuel Bodman places Energy Smart scale on the Waterview's Glen Cairn model.



In 2008, Julius Poston, president of StalwartBuilt Homes, was honored as a pioneering green builder by the U.S. Secretary of Energy.

## ZERO ENERGY HOME

U.S. Department of Energy  
**Energy Efficiency and Renewable Energy**  
Bringing you a program where energy is clean, affordable, reliable, and efficient.  
Building Technologies Program

U.S. Department of Energy  
Research Leading to Zero Energy Homes

**First LEED Platinum Home in FL**

**Stalwart Built Homes**  
**NZEH**  
**Callaway, FL**

Prototype House Peer Review  
February 25, 2009

Eric Martin  
D. Parker, J. Sherwin, C. Colon

**HERS Index = 27**

### LEED® Facts

Stalwart Built Homes  
Panama City, FL

LEED for Homes Program  
Certified on: March 21, 2009

|                              |    |
|------------------------------|----|
| Platinum                     | 86 |
| Locations & Linkages         | 9  |
| Sustainable Sites            | 12 |
| Water Efficiency             | 7  |
| Energy & Atmosphere          | 34 |
| Materials & Resources        | 7  |
| Indoor Environmental Quality | 10 |
| Innovation & Design          | 5  |
| Awareness & Education        | 2  |



SEE ENCLOSED CASE STUDY



# Global Company Serving Global Needs



Since the launch of SD in 2002, subsequent competitions have been hosted in U.S. and Europe. StalwartBuilt Homes is part of the University of Illinois & Peking University team. StalwartBuilt Homes' scope of work includes providing modular building integration, technology integration and foundation design.

## U.S. / China Agree on joint participation





# Global Company Serving Global Needs



## USGBC Awards Yangzhou Ancient City LEED First Platinum Certification

12.9.2013 – (Yangzhou, China) Today, No.98 of Nanhexia, Guangling district, Yangzhou city, Jiangsu Province was awarded LEED Platinum certification by USGBC for achievement in green homebuilding and design. LEED for Homes is a green home certification program that rewards homes that are designed and built to be energy- and resource-efficient and more healthy and durable for the occupants. LEED-certified homes complete a technically rigorous process that often includes a home energy (HERS) rating and onsite inspections to verify that the home is built to be energy and water efficient, environmentally sound, and a healthier place to live.

Stalwart Built Homes which is known for their expertise in building LEED homes. Green homes may have substantially lower utility bills and may qualify for advantageous financing, lower insurance rates and government incentives. Through their commitment

Mr. Poston and Ms. Zheng (Deputy Director of YZ City Construction





# FINAL CERTIFICATION APPROVALS

Project Target w/o Solar PV

30

Project Target w/Solar PV

**BUILDING ENERGY RATING GUIDE**

Confirmed Rating: \$695

Reference: \$2314

0 MBtu 21.6 MBtu 72 MBtu

HERS Index: 26

★★★★★

**30 ANNUAL ENERGY SAVINGS**

**\$1796** typical existing home (\$/yr) **\$1257** typical new home (\$/yr)

A great score! This home is 70% more energy efficient than a standard new home and 100% more efficient than the typical resale home! It has been designed and built with energy efficiency in mind, resulting in a home that is environmentally friendly, enjoys a high comfort level and benefits from low energy costs.

“BUILDING CAPACITY FOR SUSTAINABLE DELIVERY”

**To treat each planning decision as an  
important part in a cumulative chain of events**

## **Manufacturing**



ENERGY CONSERVATION MEASURES SOLUTIONS GROUP  
ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



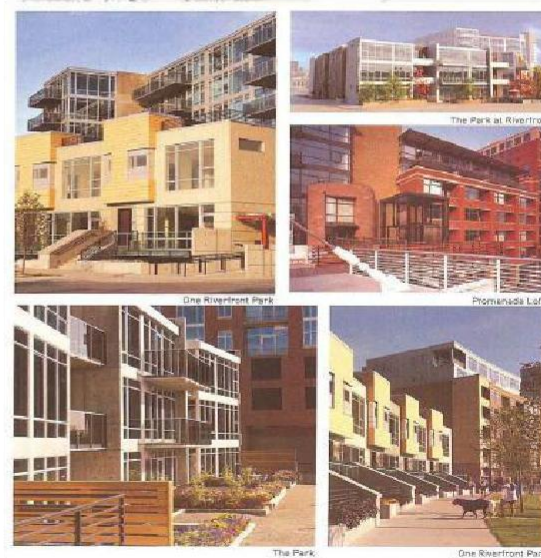
**Concrete**

**Light Steel**

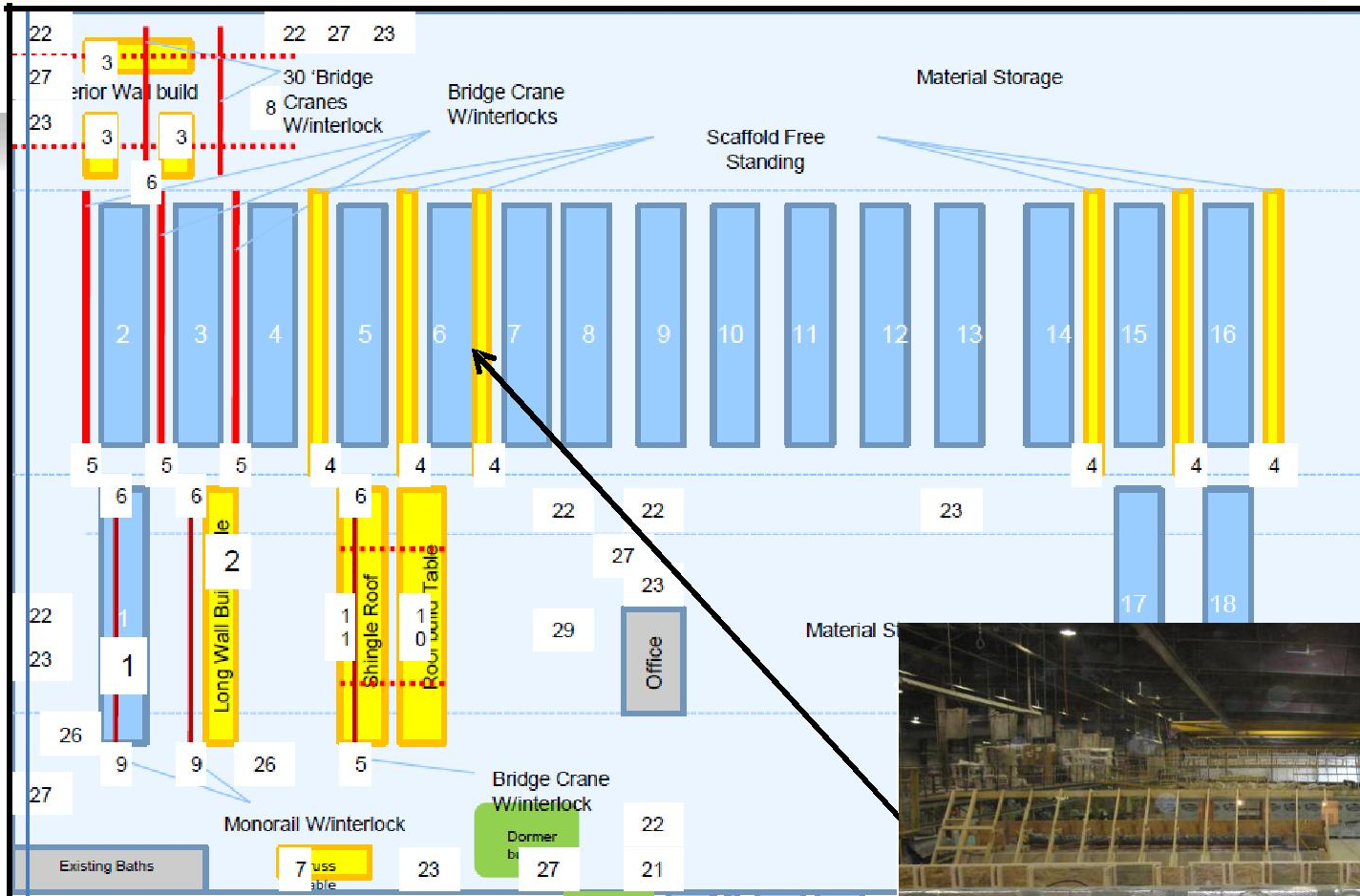


*Clocktower Lofts & Townhomes*

## Product diversity

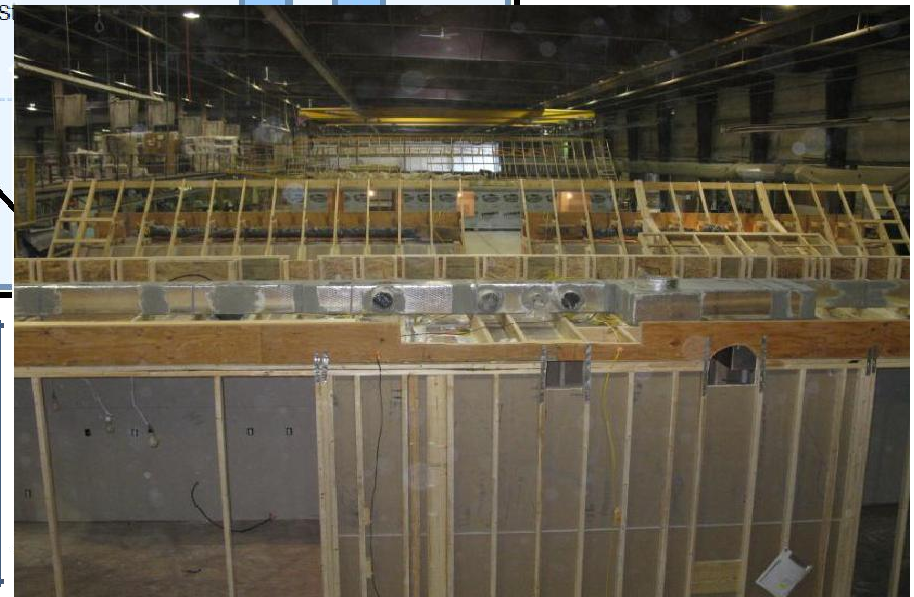


**“CREATING A WHOLE NEW INDUSTRY”**



Station 6  
Plumbing,  
Electrical and  
HVAC Rough

Station 6  
Illustration of duct –between first and  
second floor







## Station 7 Insulation

### Station 7

Insulation , seal all penetrations,  
install exterior sheathing and any  
remaining interior wall board



**To treat each planning decision as an important part in  
a cumulative chain of events**

Set and Finish



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**Build / Turn  
Key**



Boxes are staged for  
next day assembly





ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



**Build / Turn  
Key**



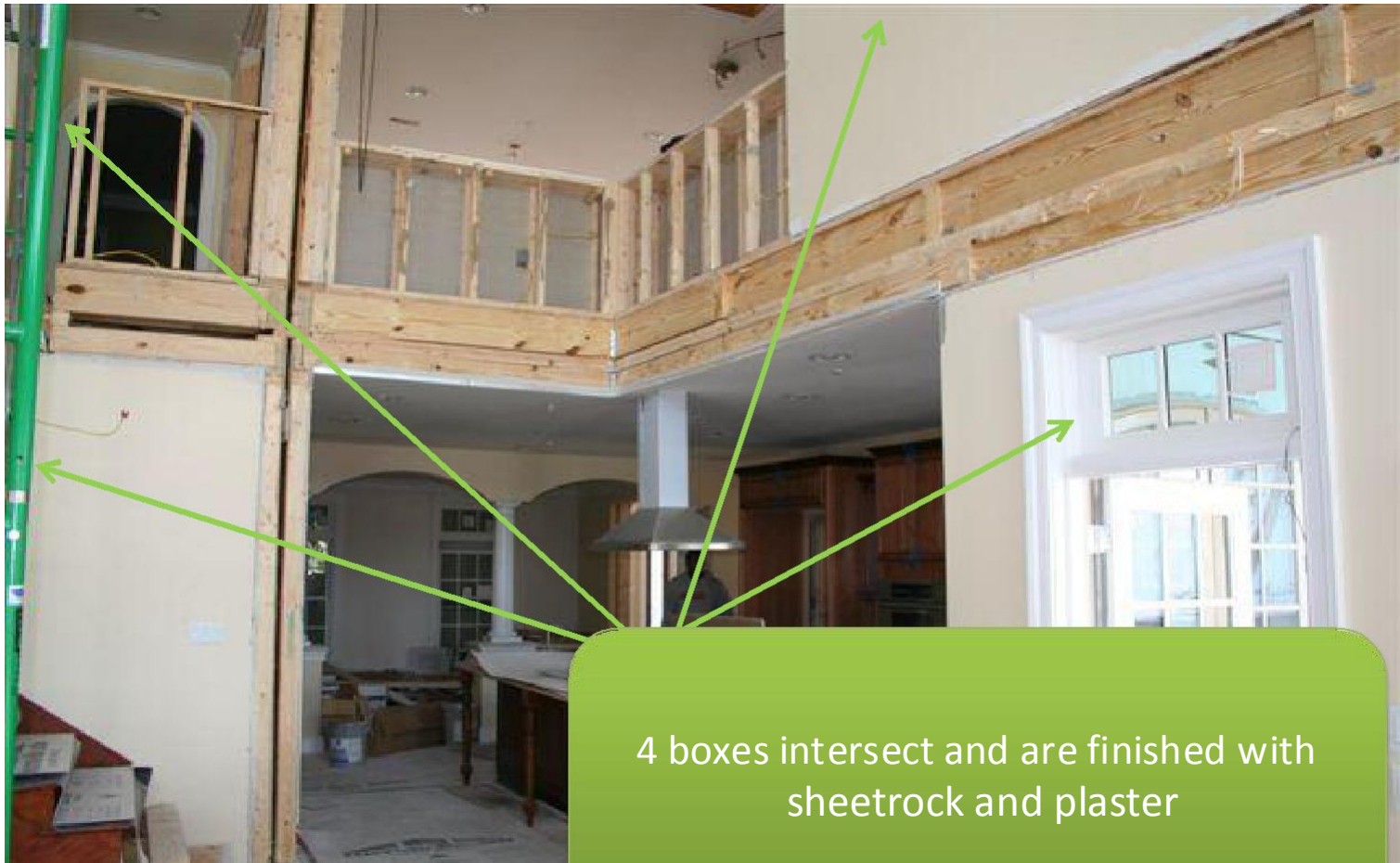
Set box and hinge  
roof into place



ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



Build / Turn  
Key



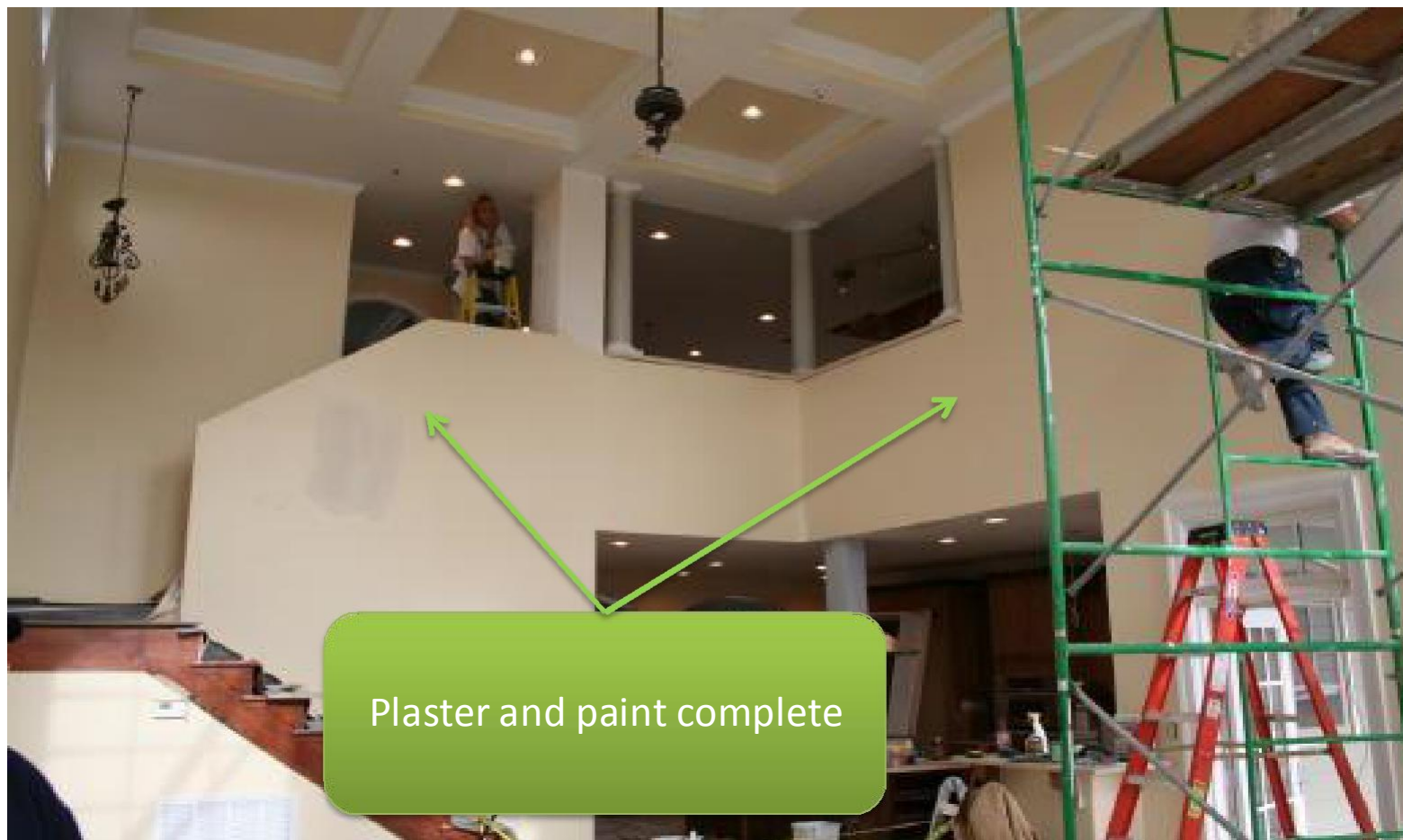
4 boxes intersect and are finished with  
sheetrock and plaster



ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



**Build / Turn  
Key**

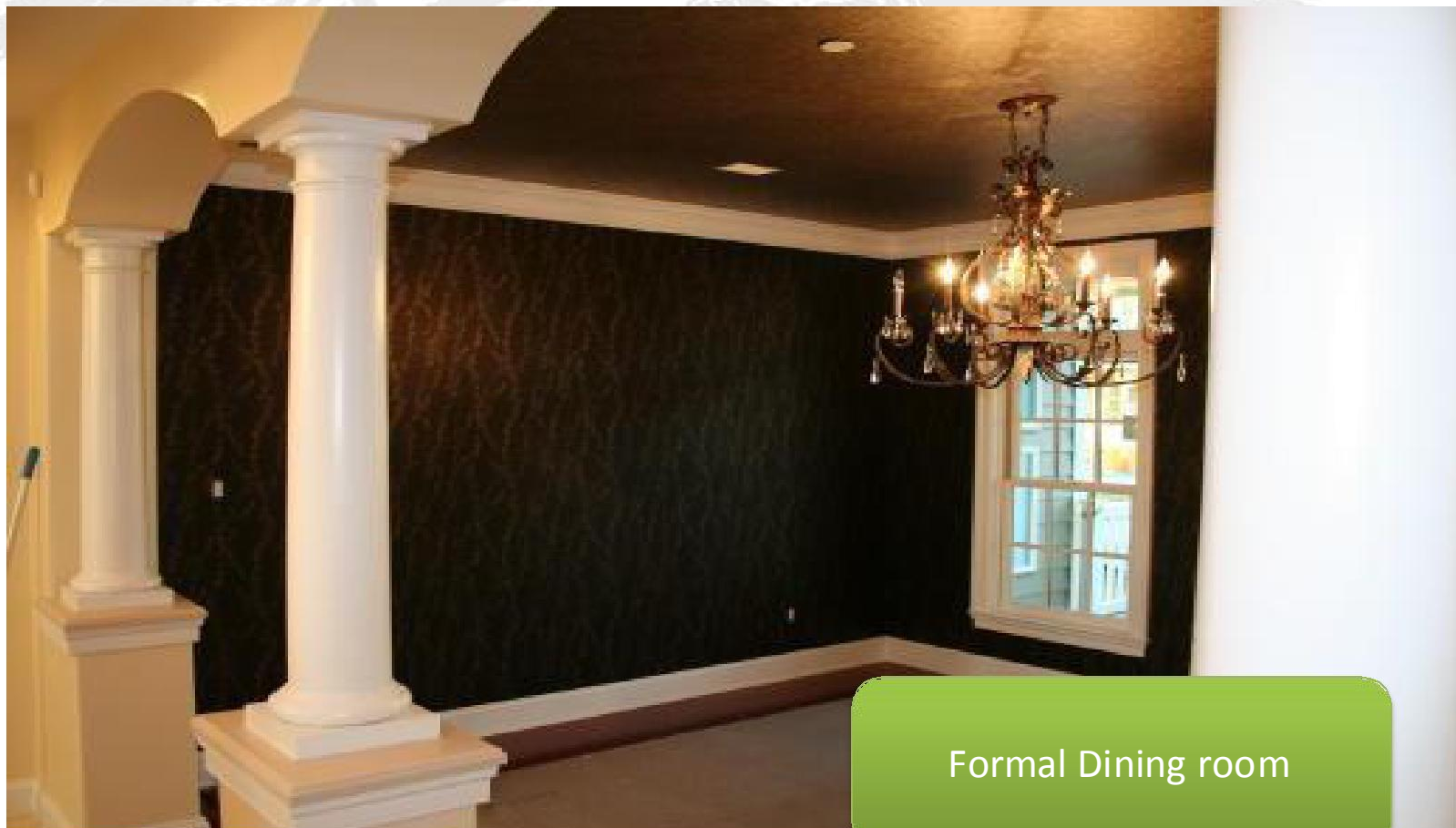


**Plaster and paint complete**





Build / Turn  
Key



Formal Dining room



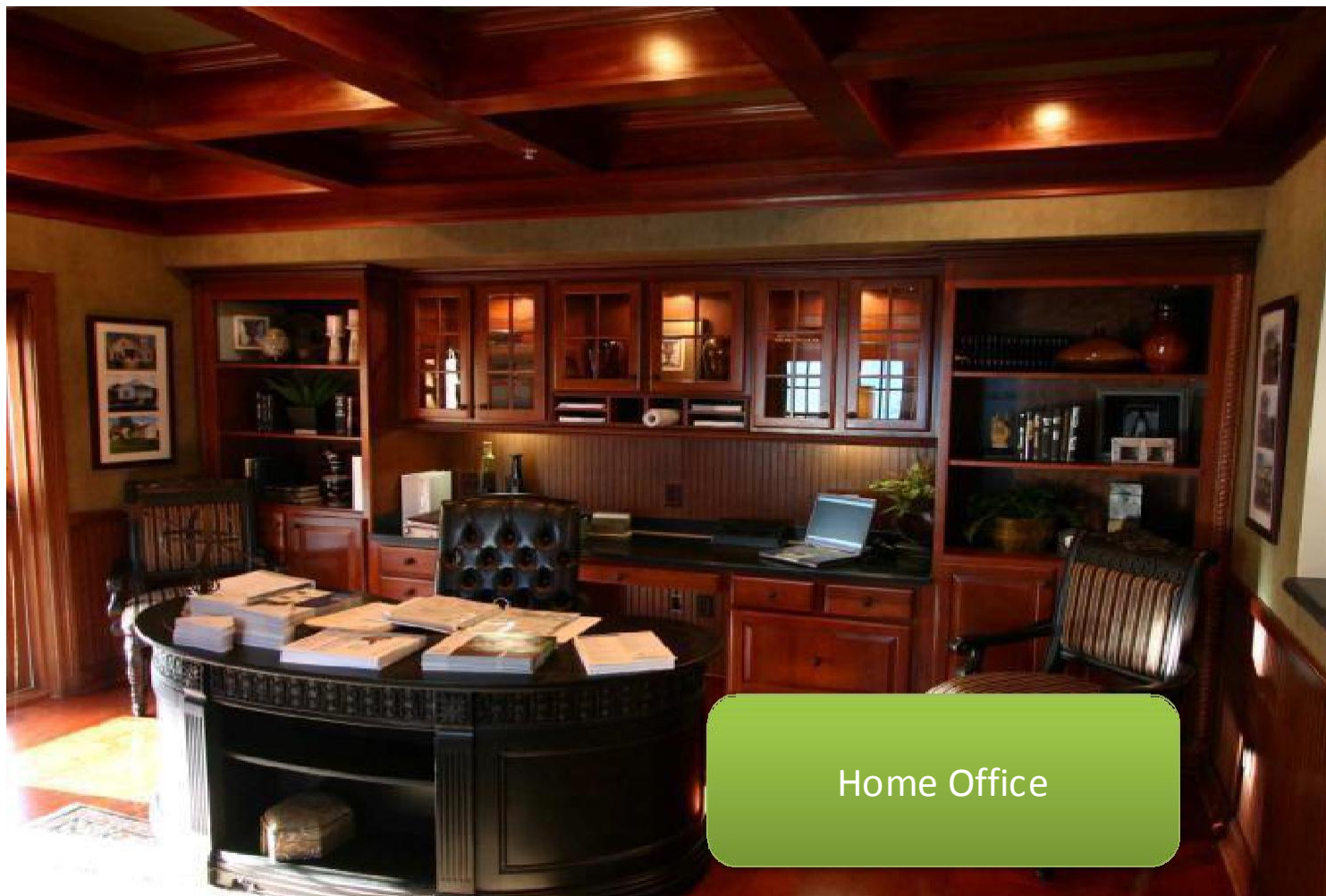
Entrance Foyer



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Build / Turn  
Key



Home Office

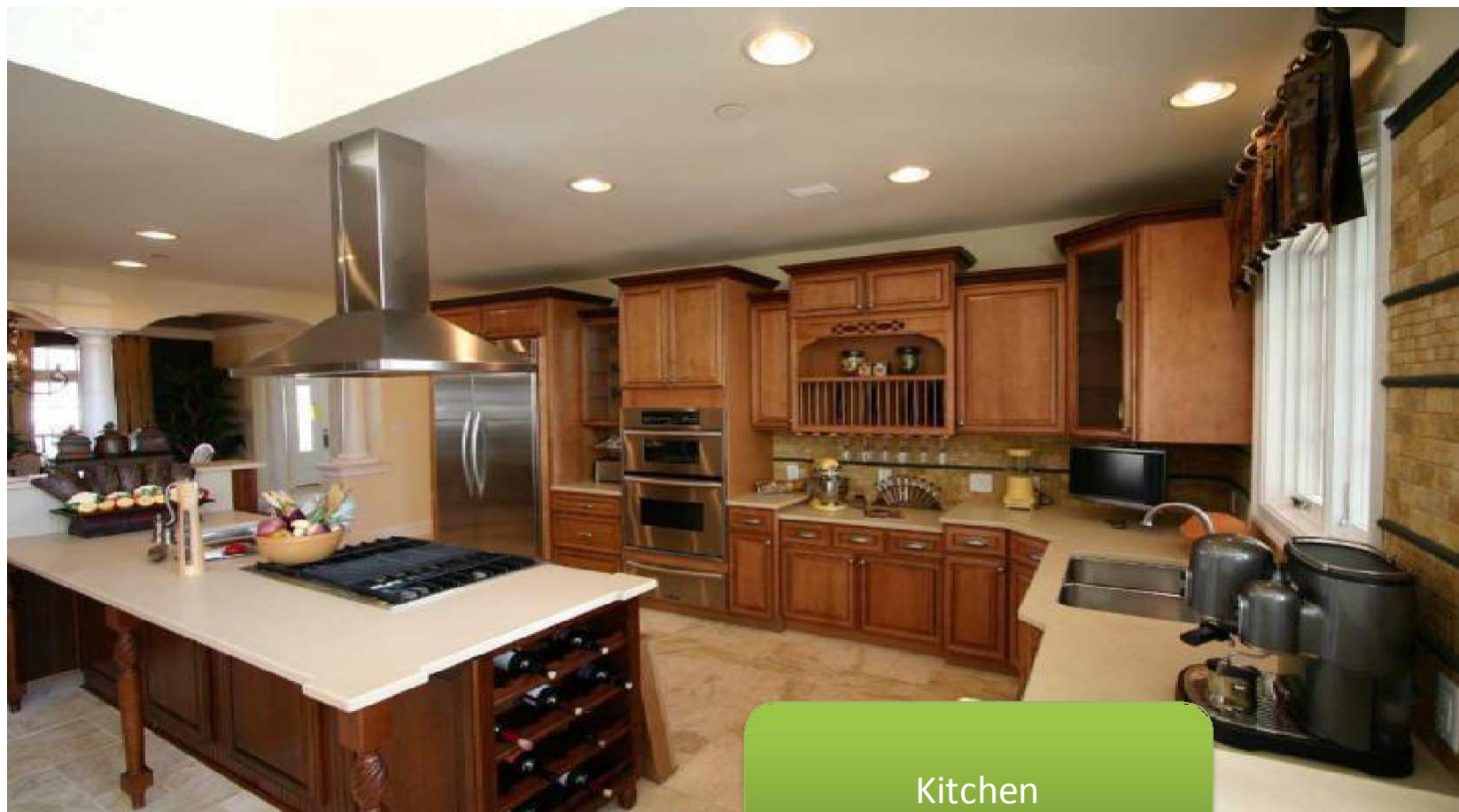




ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



Build / Turn  
Key



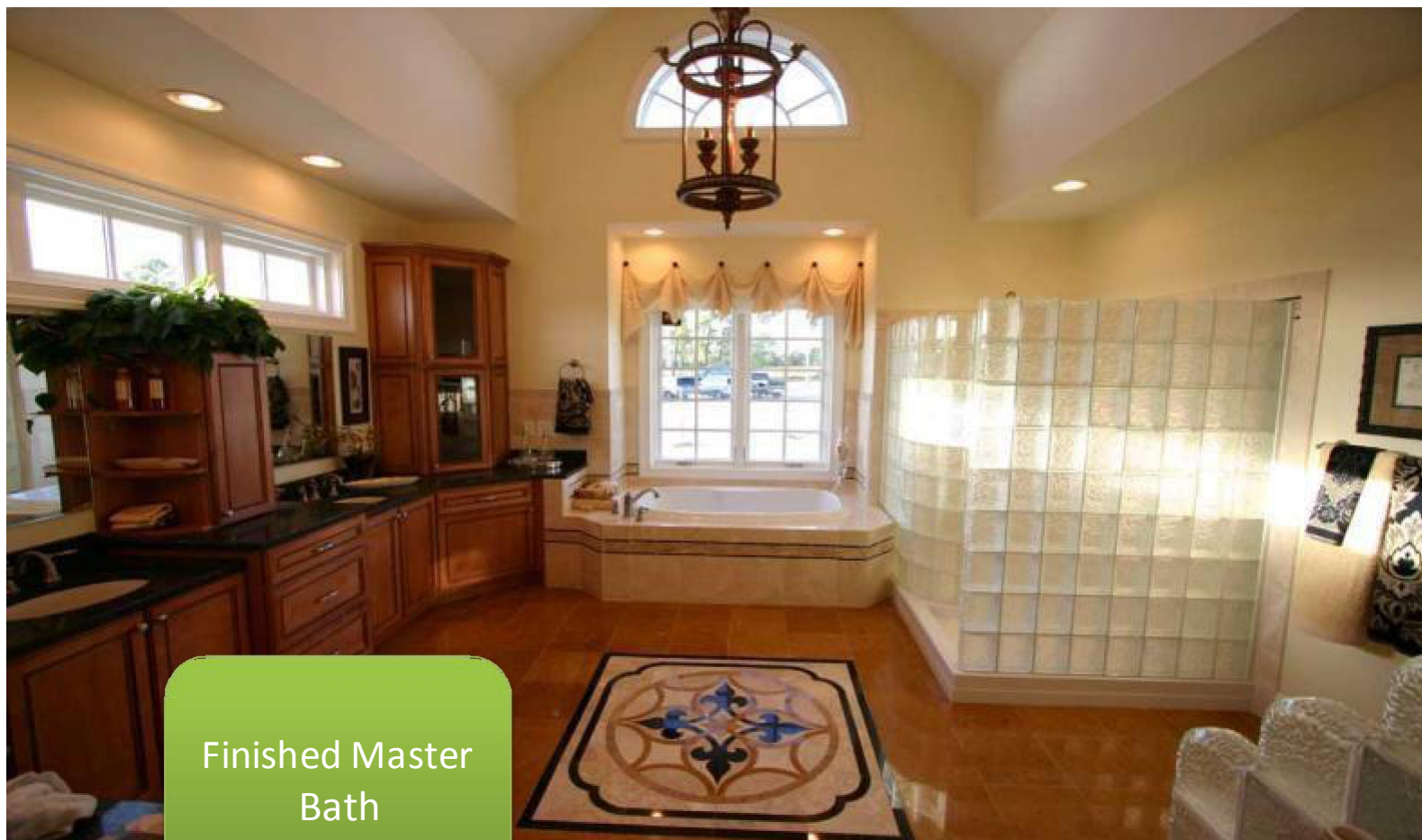
Kitchen



ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



Build / Turn  
Key



Finished Master  
Bath



Family Room



**To treat each planning decision as an important part in  
a cumulative chain of events**

## Energy Efficiency

# Power and Energy Management

*We help clients use electrical, fluid, and mechanical power more reliably, efficiently, safely and sustainably.*

- Reduce environmental footprint
- Meet regulations, lower risk
- Provide cost efficient energy solutions
- Make power intelligent and efficient
- Enhance safety of facilities and machines



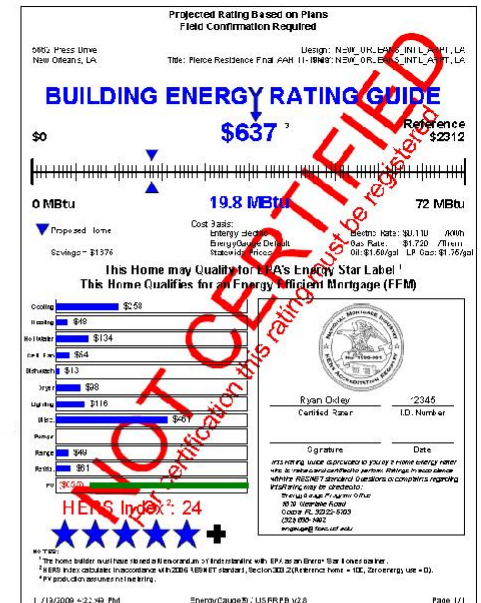
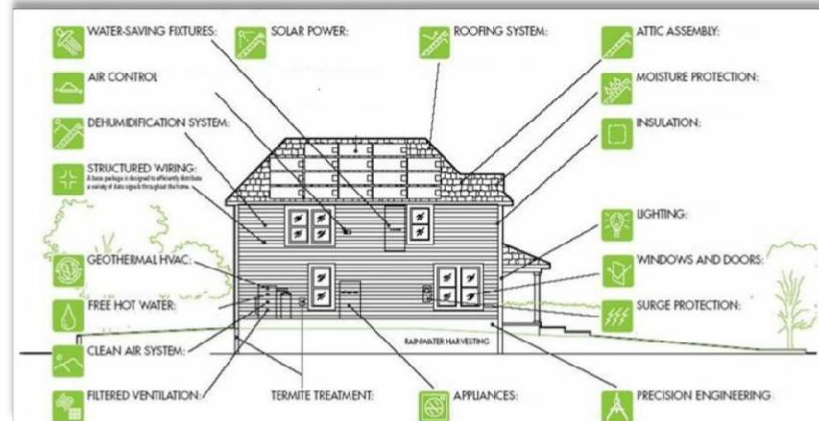
Zambia Development Group

# Energy Solutions



**ENERGY  
SOLUTION**







# Energy Efficiency

ENERGY CONSERVATION MEASURES SOLUTIONS GROUP

**“The Guidelines and Checklist are used to ensure compliance with the Certification requirements.”**



## Sustainability Guidelines Checklist



This is a 76 point check list designed to ensure program compliance with all certifications and inspections required to meet the performance standards of StalwartBuilt high performance buildings both residential and commercial.

|        |   |                                      |     |     |     |     |     |     |     |  |  |
|--|---|--------------------------------------|-----|-----|-----|-----|-----|-----|-----|--|--|
| BC = Builder's Challenge    ES = Energy Star    WS = Watersense    IAP = Indoor Air Plus    LH = LEED For Homes    EFL = Environmental For Living    BSG = Building Science Group  |   |                                      |     |     |     |     |     |     |     |  |  |
| Check List Requirements  | Manufacturer Documentation & Verification Requirement | Third Party Verification Requirement | BC  | WS  | IAP | LH  | ES  | EFL | BSG |  |  |
| 1 Construction/Design Documentation  | ✓   | ✓                                    | ✓   | N/A | N/A | ✓   | N/A | N/A | ✓   |  |  |
| 2 Building Envelope Moisture Management  | ✓   | ✓                                    | ✓   | N/A | ✓   | ✓   | ✓   | ✓   | ✓   |  |  |
| 3 Space Conditioning Design Based on ACCA Manual J.D. and S.   | ✓   | ✓                                    | ✓   | N/A | ✓   | ✓   | ✓   | ✓   | ✓   |  |  |
| 4 All Hot Water Pipe Shall Be Have R-4 insulation  | N/A   | ✓                                    | N/A | N/A | N/A | ✓   | N/A | ✓   | ✓   |  |  |
| 5 Windows Shall Be Qualified Energy Star Southern Climate Zone   | ✓   | ✓                                    | ✓   | N/A | N/A | ✓   | ✓   | ✓   | ✓   |  |  |
| 6 Whole Building Mechanical Ventilation  | ✓   | ✓                                    | ✓   | N/A | ✓   | ✓   | N/A | ✓   | ✓   |  |  |
| 7 There Shall Be Continuous Air Barrier Separating attached garages from living space  | ✓   | ✓                                    | ✓   | N/A | ✓   | ✓   | N/A | ✓   | ✓   |  |  |
| 8 Blower Door Testing shall be performed at 0.25 cfm/ft <sup>2</sup> @ 50 pascals  | N/A   | ✓                                    | ✓   | N/A | N/A | N/A | N/A | ✓   | ✓   |  |  |
| 9 Blower Door Testing shall be performed at .16 ACH Kitchen Exhaust Fan at 100cfm  | ✓   | ✓                                    | ✓   | N/A | N/A | N/A | N/A | ✓   | ✓   |  |  |
| 10 Bathroom Exhaust Fan at 50cfm (intermittent use) or a 20 cfm (continuous use)   | ✓   | ✓                                    | ✓   | N/A | N/A | ✓   | N/A | ✓   | ✓   |  |  |
| 11 Clothes Dryer Vented Directly To Outdoors   | ✓   | ✓                                    | ✓   | N/A | N/A | N/A | N/A | ✓   | ✓   |  |  |
| 12 All Duct Connections Shall Be Sealed with An Underwriters Laboratories Listed Mastic Product  | N/A   | ✓                                    | ✓   | N/A | N/A | ✓   | N/A | ✓   | ✓   |  |  |
| 13 Total Duct Leakage < 7%   | N/A   | ✓                                    | ✓   | N/A | N/A | ✓   | N/A | ✓   | ✓   |  |  |
| 14 Complete Energy Star Thermal Bypass Inspection  | ✓   | ✓                                    | ✓   | N/A | ✓   | N/A | ✓   | ✓   | ✓   |  |  |
| 15 Use Central Air Handler With a Filter a MERV 10   | ✓   | ✓                                    | ✓   | N/A | ✓   | ✓   | N/A | ✓   | ✓   |  |  |
| 16 Combustion Safety   | N/A   | N/A                                  | ✓   | N/A | N/A | N/A | N/A | N/A | N/A |  |  |
| 17 Central Air Handler Isolated From The Garage by Thermal and Air Barrier   | N/A   | ✓                                    | ✓   | N/A | ✓   | ✓   | ✓   | ✓   | ✓   |  |  |
| 18 The Static Water Service Pressure < 80 psi  | ✓   | ✓                                    | N/A | ✓   | N/A | N/A | N/A | N/A | ✓   |  |  |
| 19 All Toilets Shall Be Comply with < 1.1 gpf  | ✓   | ✓                                    | N/A | ✓   | N/A | ✓   | N/A | ✓   | ✓   |  |  |
| 20 Bathroom and Kitchen Sink Faucets Shall Comply with Max Flow Rate Of 1.5 gpm  | ✓   | ✓                                    | N/A | ✓   | N/A | ✓   | N/A | ✓   | ✓   |  |  |
| 21 Showerheads Shall Comply with Max Flow Rate Of 1.75 gpm   | ✓   | ✓                                    | N/A | ✓   | N/A | ✓   | N/A | ✓   | ✓   |  |  |



# Energy Efficiency

## Energy Report For Fannie Mae Desktop Underwriter®

Use this Energy Report to show the Energy Savings (for underwriting purposes in accordance with the requirements of the Energy Efficient Mortgage product) to determine the Energy Savings related to the property. This Report is to be completed by the Energy Rater and submitted to the Lender. This Report must be retained by the Lender in the Loan file.

Borrower Name(s): \_\_\_\_\_

Property Address: 5562 Press Drive, New Orleans, LA \_\_\_\_\_

### Energy Savings

Monthly Energy Savings \$ 134.92

Enter Monthly Energy Savings Value into Section V "Monthly Income and Combined Housing Expense Information" in Desktop Underwriter®.

### Energy Value

#### New Homes or Energy Efficient Existing Homes

Energy Savings Value \$ 21654.00

Enter Energy Savings Value into "Additional Data" in the Desktop Underwriter® screen by adding this value to appraised value.

OR

#### Energy Improvements to Existing Homes

Energy Savings Value \_\_\_\_\_

Enter into Section VII "Details of Transaction". Add to Line B "Alterations, improvements, repairs"

AND

Enter Energy Savings Value into "Additional Data" in the Desktop Underwriter® screen by adding this value to appraised value.



Rater's/Provider's Signature \_\_\_\_\_

Date 7/16/2010

## Savings Summary

Title: Perce Residence 7-6-10  
User \_\_\_\_\_

TMJ City: LA, NEW ORLEANS  
Elec Util: Entergy Electric  
Gas Util: EnergyGauge Default  
Run Date: 07/16/2010 15:00:36

of AAH Plans 11-19-09

70% energy  
reduction

| HERSRef06 | Savings | Percent |
|-----------|---------|---------|
| 21032     | 8799    | 42 %    |
| 0         | 0       | 0 %     |
| 0         | 0       | 0 %     |
| 0         | 0       | 0 %     |
| 0         | 5921    | N/A     |

| HERSRef06          | Savings      | Percent       |
|--------------------|--------------|---------------|
| 0                  | \$968        | 42 %          |
| \$0                | \$0          | 0 %           |
| \$0                | \$0          | 0 %           |
| \$0                | \$0          | 0 %           |
| On-Site Production | \$-651       | \$651 N/A     |
| <b>Totals</b>      | <b>\$695</b> | <b>\$2314</b> |
|                    | \$1619       | 70 %          |

| Estimated Annual Emissions | This Home | HERSRef06 | Savings | Percent |
|----------------------------|-----------|-----------|---------|---------|
| Carbon (Tons)              | 3.8       | 12.6      | 8.8     | 70 %    |
| SO2 (Lbs.)                 | 16.7      | 55.6      | 38.9    | 70 %    |
| NOX (Lbs.)                 | 10.5      | 35.0      | 24.5    | 70 %    |

#### Component information for this home for code and other compliances

|   |                                |
|---|--------------------------------|
| EPA Thermal Bypass Inspection Checklist Satisfied | Yes                            |
| Attic / Ceiling R-value                           | R-1                            |
| Wall R-value                                      | R-19                           |
| Floor / Sub R-value                               | R-1                            |
| Window U, SHGC                                    | U=0.33, SHGC=0.28              |
| Heating System Type / Efficiency                  | Geothermal Heat Pump, COP=4.0  |
| Cooling System Type / Efficiency                  | Geothermal Heat Pump, EER=18.2 |
| Water Heating System Type / Efficiency            | Electric, EF=0.90              |



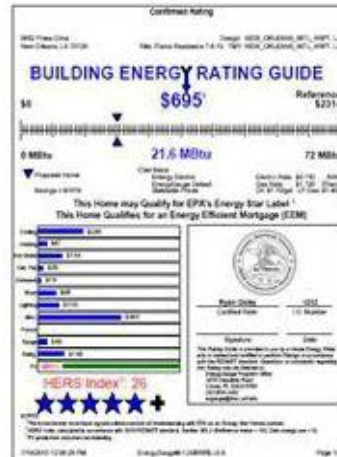
# Energy Efficiency

## Final Testing





## FINAL CERTIFICATION APPROVALS



**To treat each planning decision as an important part in  
a cumulative chain of events**

## Alternative Energy





ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



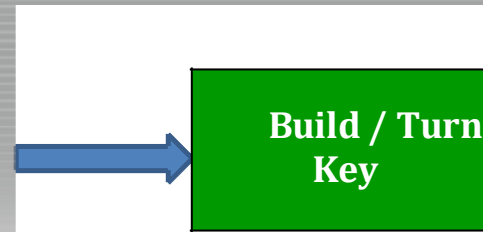
**Build / Turn  
Key**

# Energy Strategies



✂ Achieving Net-Zero & Energy Surety

✂ Successfully Achieving Energy Market Transformation



## Expertise

Energy Plan Consulting,  
Micro-grid Development, Eco  
& Energy Districts,  
Sustainability Plans, Energy  
Standards, Demand  
Response, Verification  
Services, Project Finance



## Expertise

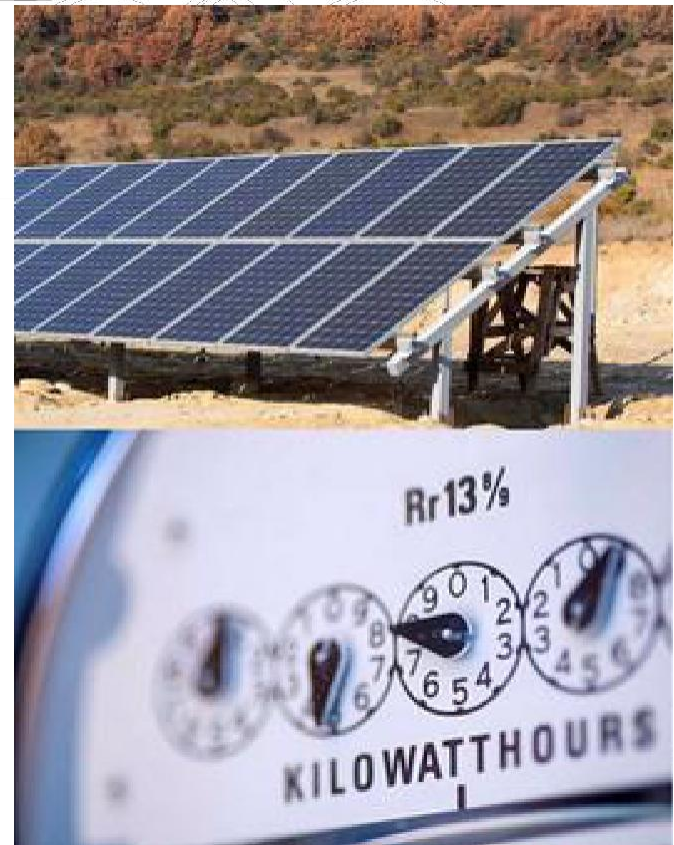
Sustainable MEP Designs,  
strategies, Energy Studies,  
Central Plants and  
Infrastructure Upgrades,  
Commissioning and Technology



Build / Turn  
Key

## Energy's Process

- Utilize industry best practices in providing services
- A comprehensive partner: work with clients from project discovery all the way through to finance and development
- Strong network of strategic partners to deliver the most effective, cutting edge technologies to address the energy and environmental needs of our clients







ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



**Build / Turn  
Key**

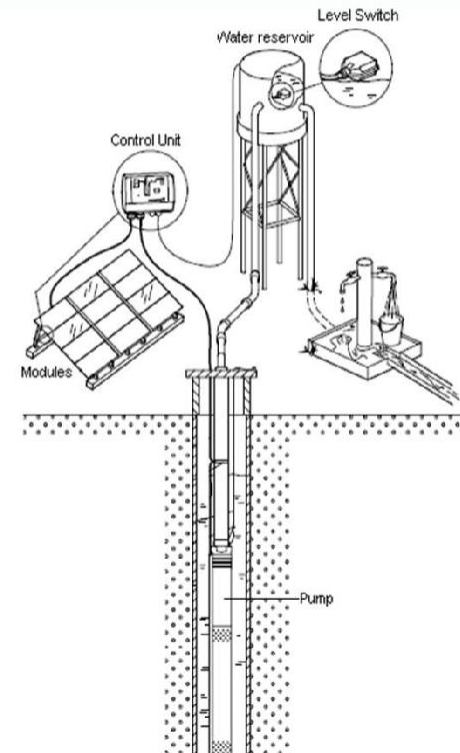
## Water Pump – Solar Kit

The SQFlex Solar water pump is especially suitable in remote locations, Villages, Schools, Hospitals and Farms etc

There is a natural link between the availability of solar energy and water needs. The system pumps the water from the reservoir to the required location.

- Total water pumped per year: 4800 m<sup>3</sup>
- Avg water pumped per day: 13m<sup>3</sup>/day
- Height: 41m
- Peak Sunshine Hours for the site (PSH): 4H

| Equipment                   | Quantity          |
|-----------------------------|-------------------|
| M-prime Solar Module 220W   | 3                 |
| Switch Box/Grundfos Control | 1                 |
| Level Switch                | 1                 |
| Grundfos SQFlex Pump        | 1                 |
| Cable and Connectors        | 1                 |
| PV Module support structure | 1                 |
| <b>System Price</b>         | <b>On Request</b> |





ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



**Build / Turn  
Key**

## Lighting – Solar Kit



- Energy consumption: 240 Wh/Day
- 8 x 5 Watt LED's for 6 hours per day
- Voltage: 220-240 V
- Frequency: 50 Hz
- Peak Sunshine Hours for the site (PSH): 5H
- Battery Autonomy: 2 days of power (No Sun)
- Maximum power: 200 W

| Equipment                      | Quantity          |
|--------------------------------|-------------------|
| Module 80W                     | 1                 |
| Regulator Phocos Charger CX 10 | 1                 |
| Steca Inverter AJ 275-12       | 1                 |
| Lead Crystal Battery 65Ah      | 1                 |
| Cable, Connectors & Protection | 1                 |
| PV Module support structure    | 1                 |
| <b>System Price</b>            | <b>On Request</b> |



ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



**Build / Turn  
Key**

## Standard House – Solar Kit



- Energy consumption: 1.5 KWh/Day
- 8 x 5 Watt LED's + TV + Fridge
- Voltage: 220-240 V
- Frequency: 50 Hz
- Peak Sunshine Hours for the site (PSH): 5H
- Battery Autonomy: 2 days of power (No Sun)
- Maximum power: 500 W

| Equipment                      | Quantity          |
|--------------------------------|-------------------|
| Module 220W                    | 2                 |
| Regulator Steca MPPT 2010      | 1                 |
| Steca Inverter AJ 600-24       | 1                 |
| Lead Crystal Battery 90Ah      | 4                 |
| Cable, Connectors & Protection | 1                 |
| PV Module support structure    | 1                 |
| <b>System Price</b>            | <b>On Request</b> |



**To treat each planning decision as an important part in a  
cumulative chain of events**

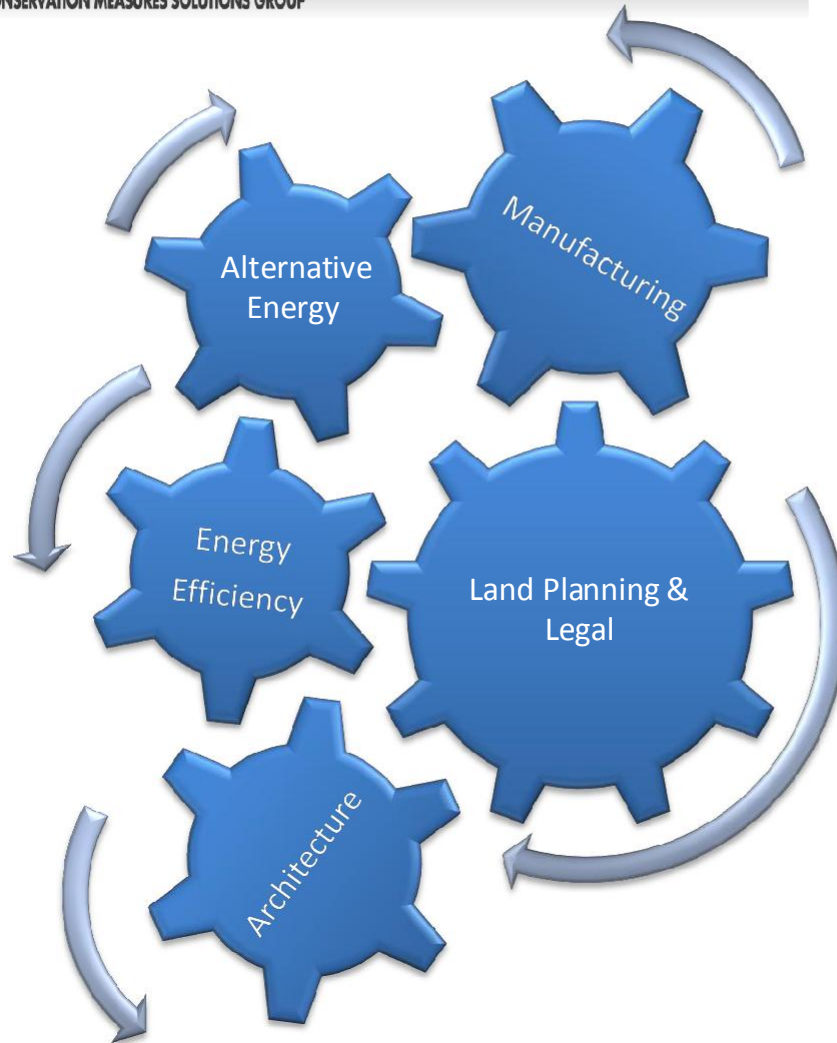
Infrastructure Development Management  
Alternative Energy  
Construction



ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



Development  
Management



To treat each  
planning  
decision as an  
important part in  
a precise  
rotation  
of events



ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



**Development  
Management**







ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



**Development  
Management**





ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



**Development  
Management**

## **DEVELOPMENT MANAGEMENT SERVICES**

- **Land Planning**
- **Architecture**
- **Engineering**
- **Pre-Development**
- **Materials**
- **Equipment/tools**
- **Sub contractors**
- **Labor/Supervision**
- **Permits**
- **Alternative energy, water sewer solutions**
- **Other related Services**



**Development  
Management**

## **Development Services are proposed to be administered in 3 Phases**

### **PHASE I Pre-Development**

Based upon the Owner's Project requirements, schematic design studies will be prepared by the Development Manager

and the Architect and Engineer designated by the Development Manager and employed by the Owner. These schematics are for the purpose of assisting the Owner in determining the feasibility of the Project. These schematics will include the following Facility Business Plan® components:

1. Schematic site plan showing:
  - a. Vehicular and pedestrian circulation
  - b. Access to site -- streets
  - c. Building location on the site
  - d. Master plan showing additional phases of construction.
2. Schematic design floor plan:
  - a. Single or multistory
  - b. Configuration -- square, rectangular, etc.
  - c. Program room requirements.
3. Elevations and exterior design treatments:
  - a. Multiple concept sketches (if necessary) -- no detail
  - b. Preliminary materials recommendation
  - c. Penetrations -- exterior windows and doors.





**Development  
Management**

## PHASE II

After the completion of activities associated with Phase I, and subsequent to Owner approval of Phase I, Owner will execute and deliver Owner's authorization to proceed to Phase II. At the commencement of Phase I, (a) Owner will enter into a formal agreement, (Owner-Architect and/or Engineer Agreement), (b) Owner and the Development Manager shall enter into an agreement enumerating the duties and responsibilities of the Development Manager during the architectural and construction phase of the Project

Upon approval of schematic designs and authorization from the Owner to proceed, the Architect/Engineer employed by the Owner shall prepare design development documents to set the size and character of the Project as to civil and site development standards and other appropriate essential items in the Project. The design development documents are to be submitted to the Development Manager for review and for preliminary approval, after which the Development Manager will submit the design development documents to Owner's Project Manager, as agent of the Owner, for final approval.

From the design development documents the Architect/Engineer will prepare working drawings consisting of fully dimensioned detailed plans, sections and specifications setting forth in detail the requirements for the construction of the Project. Such working drawings, plans, and specifications will be submitted to the Development Manager for review and preliminary approval, after which the Development Manager will submit same to the Owner's Project Manager, as agent of Owner, for final approval. The Development Manager will submit to Owner the final cost of construction and all pricing support. Owner will release the Design/Build to Phase III—Construction.



ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



Design







ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



Design



### Multi-Family Apartments (1 & 2 Bedrooms)

The 3 and 4 story apartment homes are designed with an **open floor plan** concept that integrates living room, dining area and kitchen area. Plans are designed with both one and two bedroom unit plans and boast **walk-in closets** in the master bedroom. All apartment homes come with an **outdoor balcony** with **direct access** to the living room allowing views to community park spaces from indoor living and dining spaces. Each building includes **handicap accessible units** on the first floor of the building along with commercial retail space in certain buildings at the street level.



Multi-family unit floor plan



Type of Single Family Homes

### Single Family Homes (3 & 4 Bedrooms)

Residents of single family homes enjoy the benefit of a front porch to sit and view the community gardens and parks. All homes are designed with an **open floor plan concept** that integrates living room, dining area and kitchen area. Many designs include three bedrooms and two full bathrooms.



2 BED ROOM SINGLE FAMILY HOME



3 BED ROOM SINGLE FAMILY HOME



12

13



**Development  
Management**

## **PHASE III**

After Owner approves Phase II, the Owner will issue to the Development Manager a Notice to Proceed to begin construction of the Project. Project Construction will be the responsibility of the contractors selected by the Owner. All construction shall be in accordance with the Project drawings and specifications as approved by Owner and The Development Manager.

### **PHASE III services shall be as follows:**

- Completion of Site Development Plan.
- Construction date established.
- Project funding procedures will be established.
- Contractors selected and all construction contracts; signed long lead material to be ordered.
- Architectural prints submitted to proper authorities for permits.
- Permits obtained.
- Groundbreaking Ceremony.
- On-Site job mobilization, construction begins.
- Program Manager assigned to guide the Project through development





ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



**Development  
Management**

### Teams include

- SGG Modular Assembly Plants
- Design Team
- Capital / Finance
- Legal Team
- Construction Team
- Senior Development and Management Team

### Our Clients

- Banks
- Investors
- Municipalities
- Non Profit Service Agencies
- Faith Based Institutions
- Real Estate Developers
- Home Builders

### Our Services Include

- Real Estate and Community Development Service
- Planning and Design Services
- Construction Management Services
- Homebuilding and Renovation Services
- New Market's and Low income Housing Tax Credit Services
- Private Equity and Community Lending Services
- Asset and Property Management





ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



**Development  
Management**

**Concrete Products**



**Concrete plant**, also known as a batch plant. ECM facilities would be able to provide not only the entire building, but foundations, walks, basements and foundations. In regard to Development the plant could provide curbing and walks.



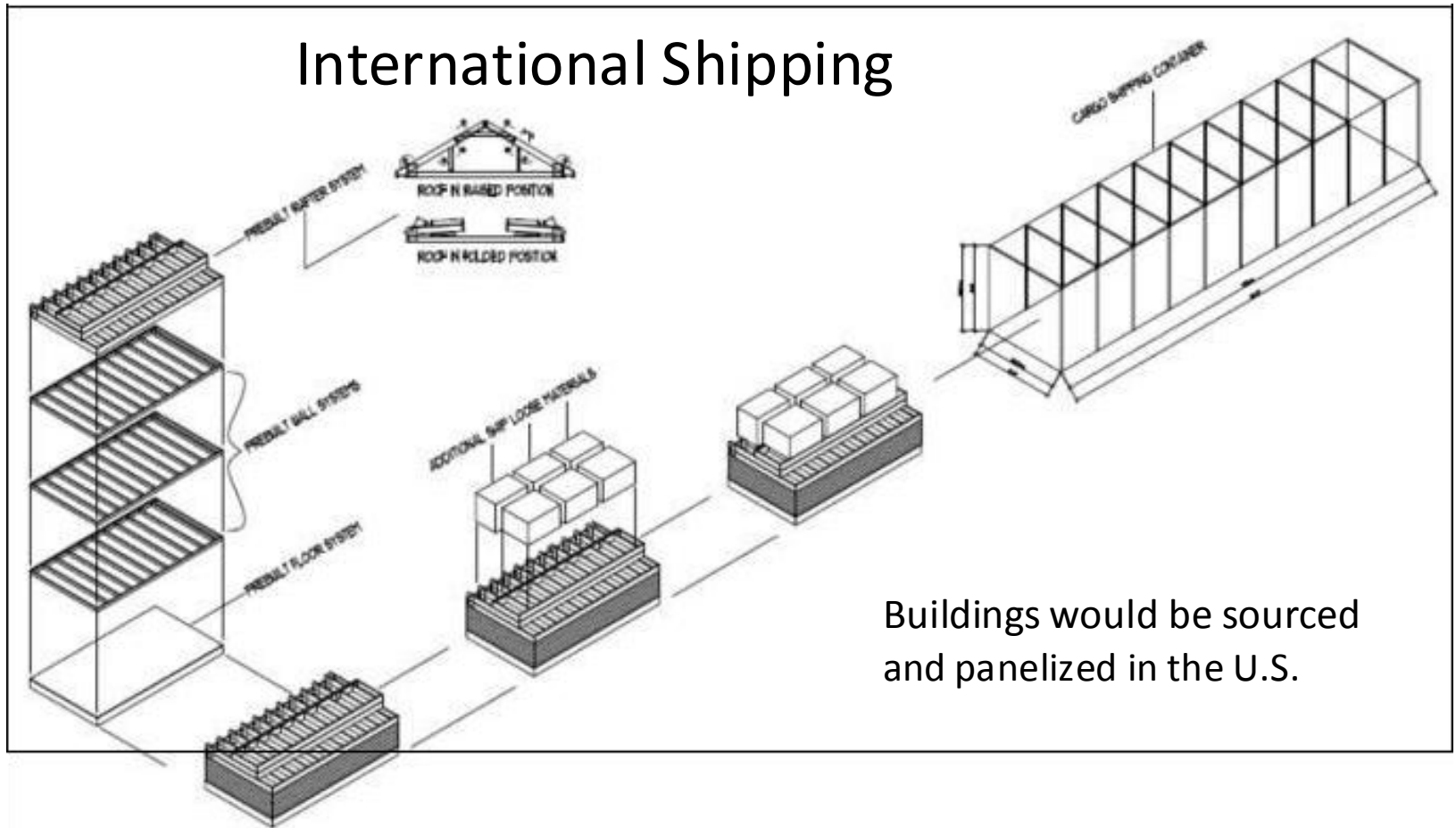


ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



Import /  
Export

## International Shipping







Import /  
Export

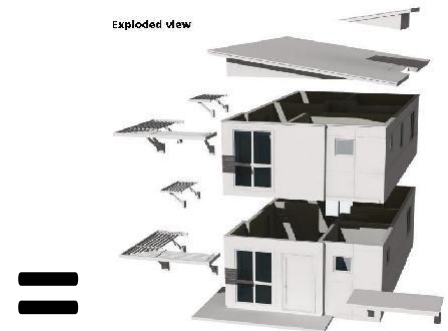
## Global Housing Solutions

Climate  
Controlled  
Facility

Dedicated  
Work Force

High  
Performance  
Engineered  
Designs

**SPEED  
=  
QUALITY  
SAVINGS**



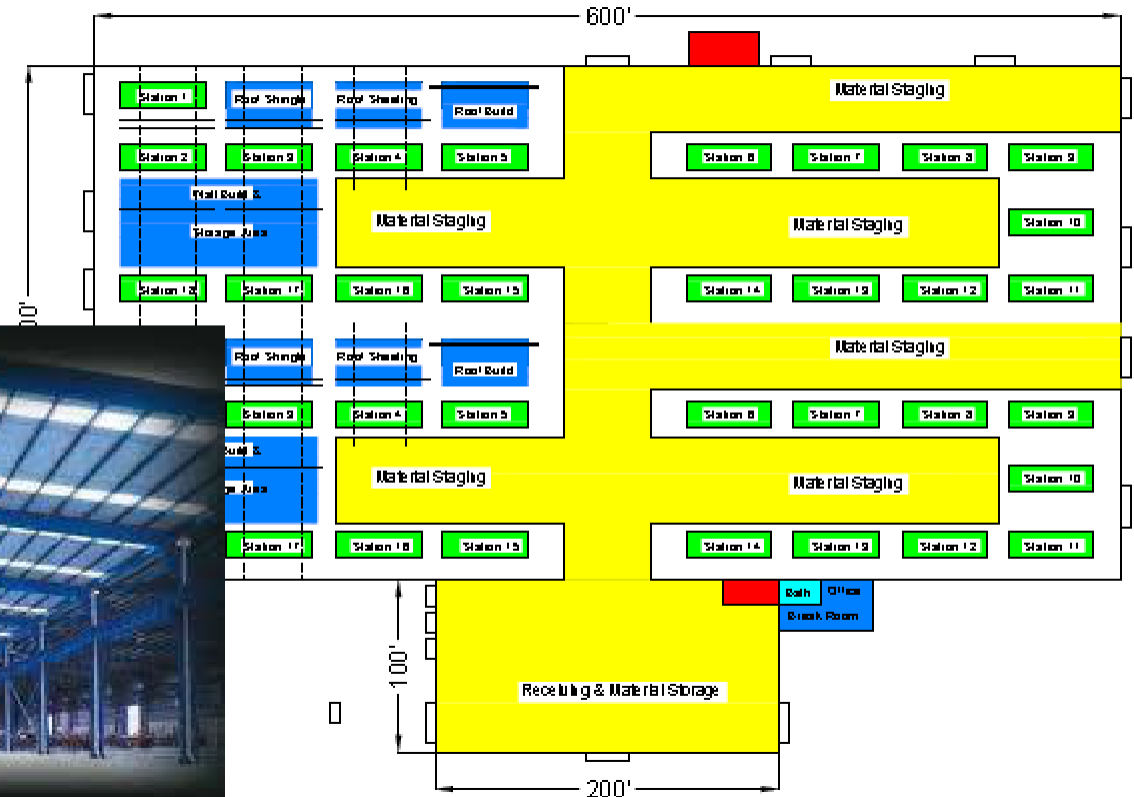


ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



Import /  
Export

## Assembly Facility





Import /  
Export

## Manufacturing Plant

1. A typical manufacturing facility would be 180,000 square feet.
2. Estimated cost of construction \$35.00 per square foot. = 6.3M USD
3. Tooling a facility including cranes and 1.5 million USD.
4. Typical ROI based on 3-5 years
5. Plant management and sourcing provided in a fee Agreement

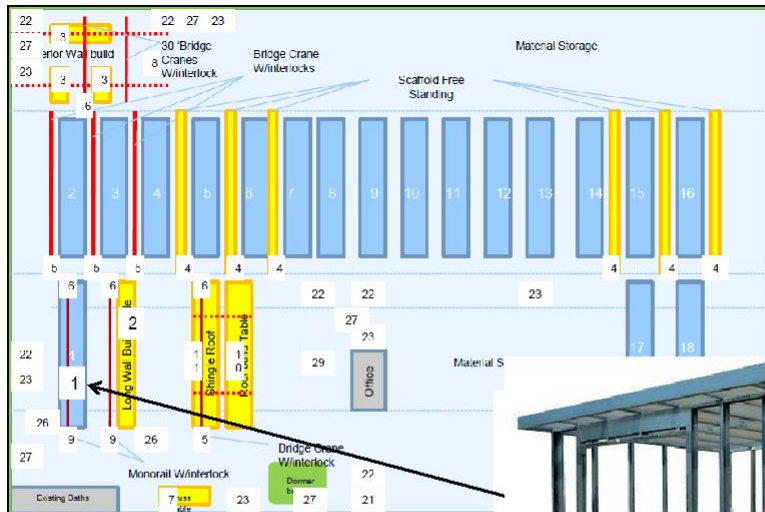


ENERGY CONSERVATION MEASURES SOLUTIONS GROUP



Import /  
Export

## Manufacturing



ECM

Item # 1  
Floor  
Framing  
and  
Subfloor

Item #1  
Wood component framing and floor  
decking installation



### Attributes of light steel construction

- High quality, aesthetic
- Lower maintenance costs
- Non combustible to fire
- Steel is environmentally friendly
- Components can be used again and again
- [Steel construction](#) is strong, durability and stability
- Steel Construction promotes good design and safety
- Construction with Steel is sustainable to Temperature effects
- Steel frame construction is rigid in structure and dimensionally stable
- Steel can be re-used without effecting the environment
- Construction with Steel components is very fast compared to other materials
- Steel construction of buildings with steel components is resistant to termites and other destructive insects.
- Steel constructions are cheaper than any other construction methods
- Steel construction is a fast method of construction





**Import /  
Export**

## Concrete Board

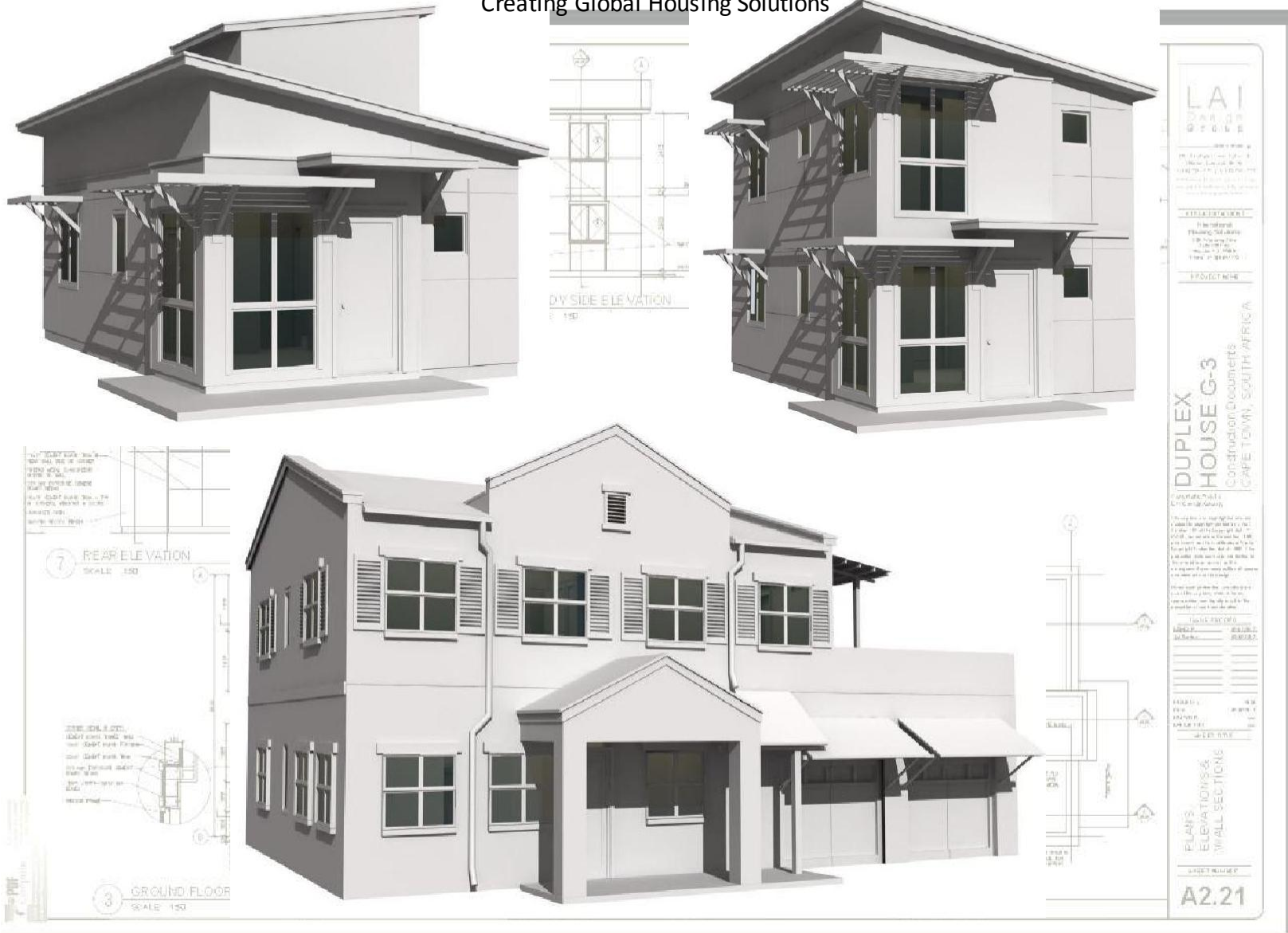


### Characteristic

- 1) Environmental friendly material; Non-asbestos and no formaldehyde; No poison gas or radiation producing during using.
- 2) Water and moisture proofing; An ideal material for interior partition wall of kitchen, washing room and so on and for exterior wall.
- 3) Can used as wall or barrier to satisfy the requirement of sound insulation.
- 4) Rapid and easy for construction; No matter as wall board or suspended ceiling, easy to drill, cut and dig. Can do surface treatment and so on.
- 5) Light weight and high strength, easy to transit and construct.
- 6) Fire proofing; No burning and poison gas happened of the board even there is fire; No flame transfer.
- 7) With lower thermal conductivity, had good heat insulation property.
- 8) Good property of anti-aging; Antisepsis and moth proofing.

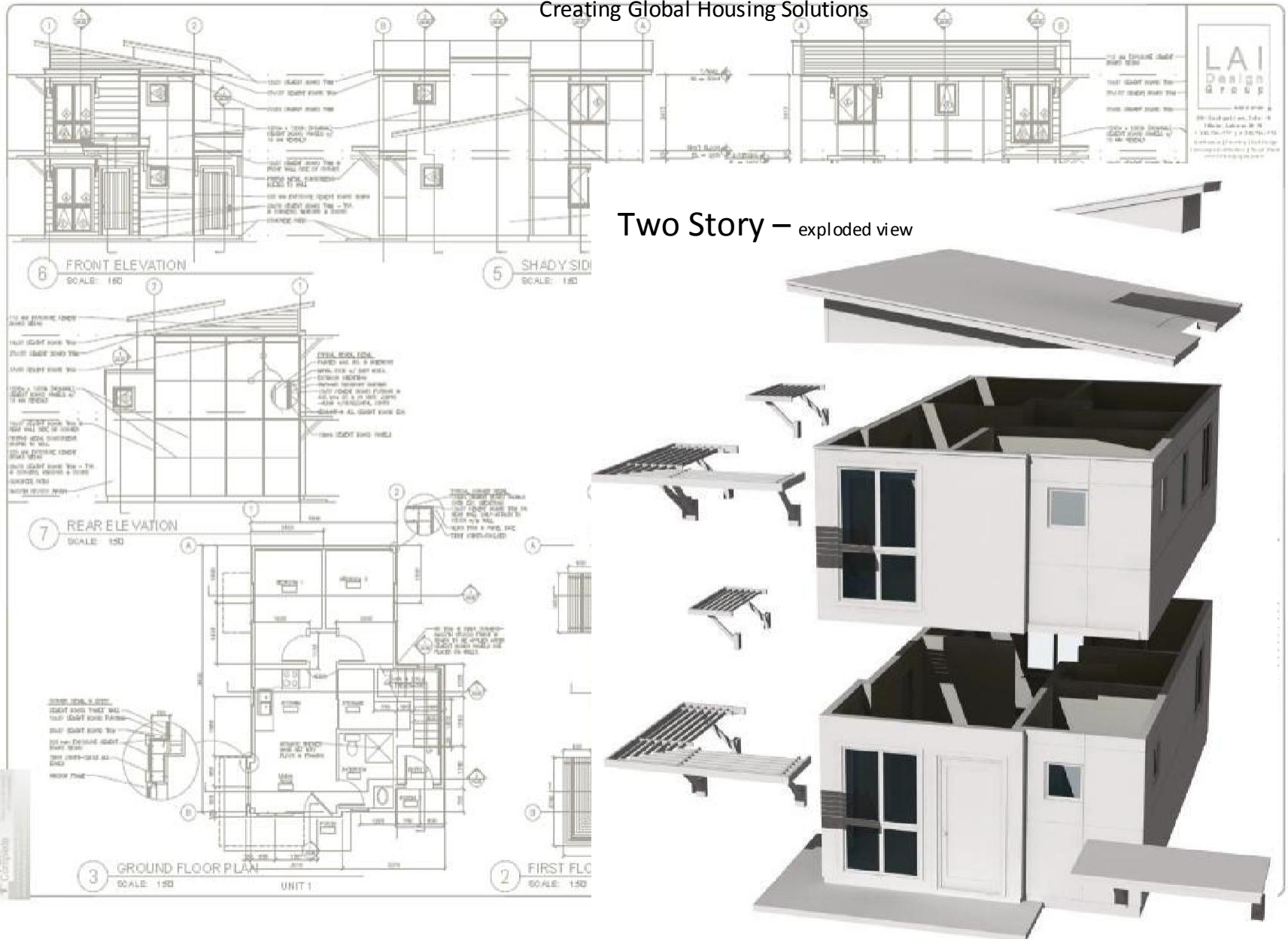
# SOLUTION CONCEPT DRAWINGS

Creating Global Housing Solutions



# SOLUTION CONCEPT DRAWINGS

Creating Global Housing Solutions



Two Story – exploded view

## 1 bedroom Model \$15,250 USD



### Optional

- Fireplace
- 2<sup>nd</sup> door to back patio
- Solar power
- Solar HW



480 sq. ft. 2 bedroom Model \$24,000 USD



International Housing Solutions | 4801 Woodway Drive Suite 300 East, Houston, Texas 77056 | www.IHUSA.co

Powered by:



### Optional

- Fireplace
- 2<sup>nd</sup> door to back patio
- Solar power
- Solar HW

## Global Housing Solutions

1,200 sq. ft. to 2200 sq. ft 4 bed / 2 bath  
average cost \$50,000 to \$110,000 USD



### Optional

- Fireplace
- 2nd door to back patio
- Solar power
- Solar HW



Market Rate 2100 – 8,000 sq ft priced upon request







**Global Housing  
Solutions**

Base price \$48.00 - \$75.00 per sq. ft pending finish



Town Home - 430 SF / 40 m<sup>2</sup>

3 Bedroom - 2 Bath - Ranch & 2 Story Units

**Optional**

- Solar power
- Solar HW



Base price \$48.00 - \$55.00 per sq. ft pending finish

**Optional**

- Solar power
- Solar HW



Apartments - 18 & 30 Unit Building - 800-1,100 SF / 74-102 m<sup>2</sup>

1 Bedroom - 1 Bath & 2 Bedroom - 2 Bath Units

Not To Scale



ENERGY CONSERVATION MEASURES SOLUTIONS GROUP

Thank you



## Contact Information

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