
PERFORMANCE
MEETS
AFFORDABILTY
GREEN CLASS
COMMUNITY

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Bryon Krebs

Opportunity Assessments
Danny Varghese

Systems
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Bryon Krebs

Structure
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Paul Skopek

Design
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Bryon Krebs

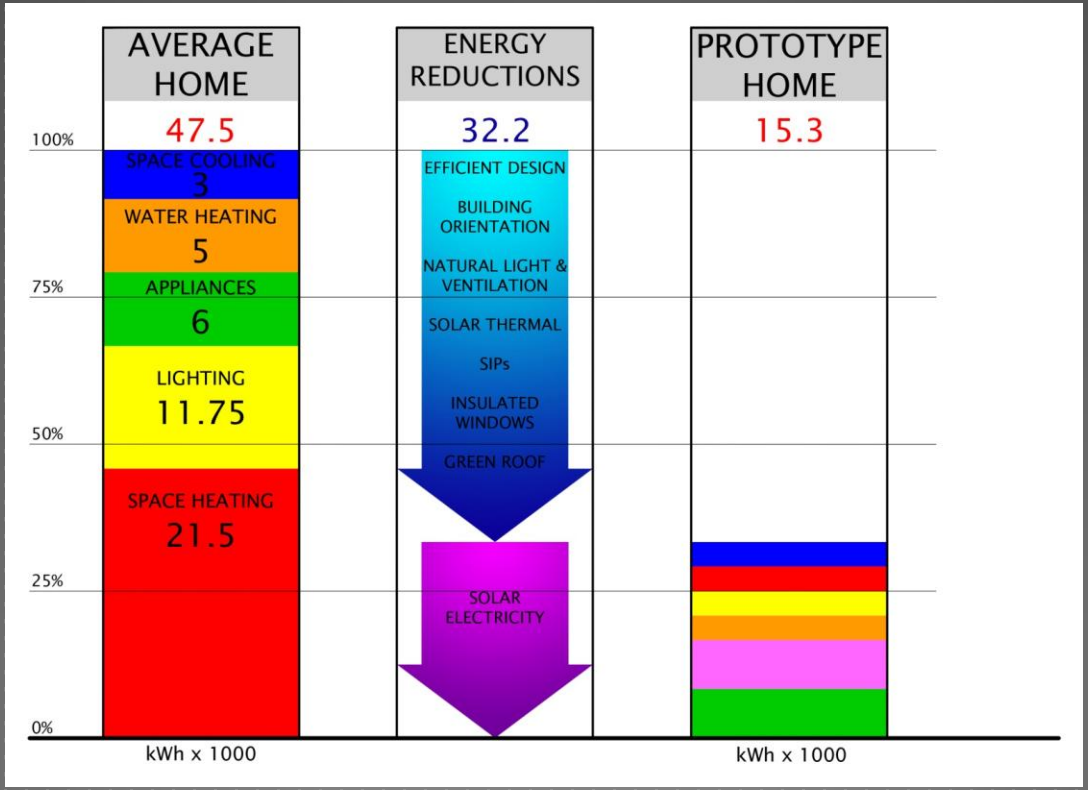
Green Class Community

- Continuation of iPro 323's theoretical *Zero Communiity*
- Design an affordable and efficient housing community in Evanston

ZERO COMMUNIITY

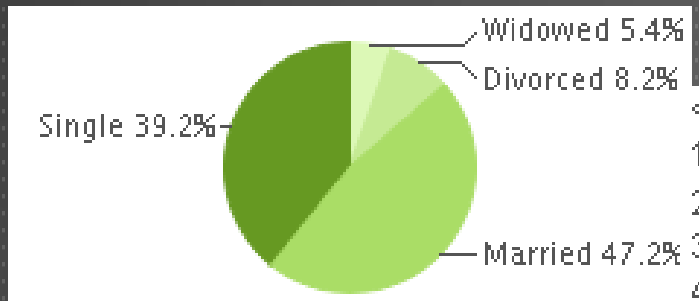
- iPro 323 created an almost self sustaining house
- Greatly reduced energy consumption
- Sacrificed affordability for sustainability

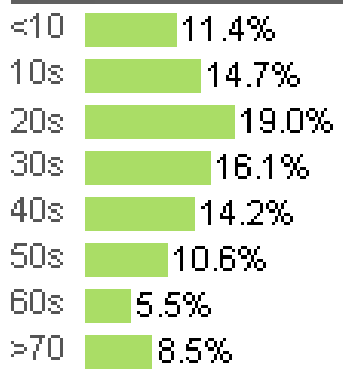
ENERGY USAGE

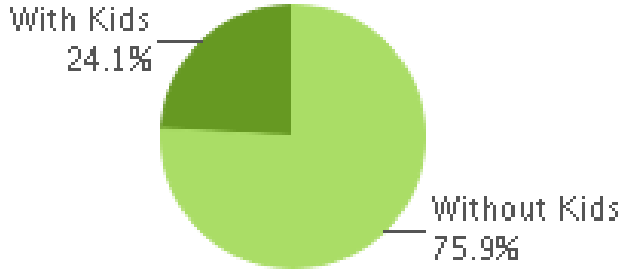


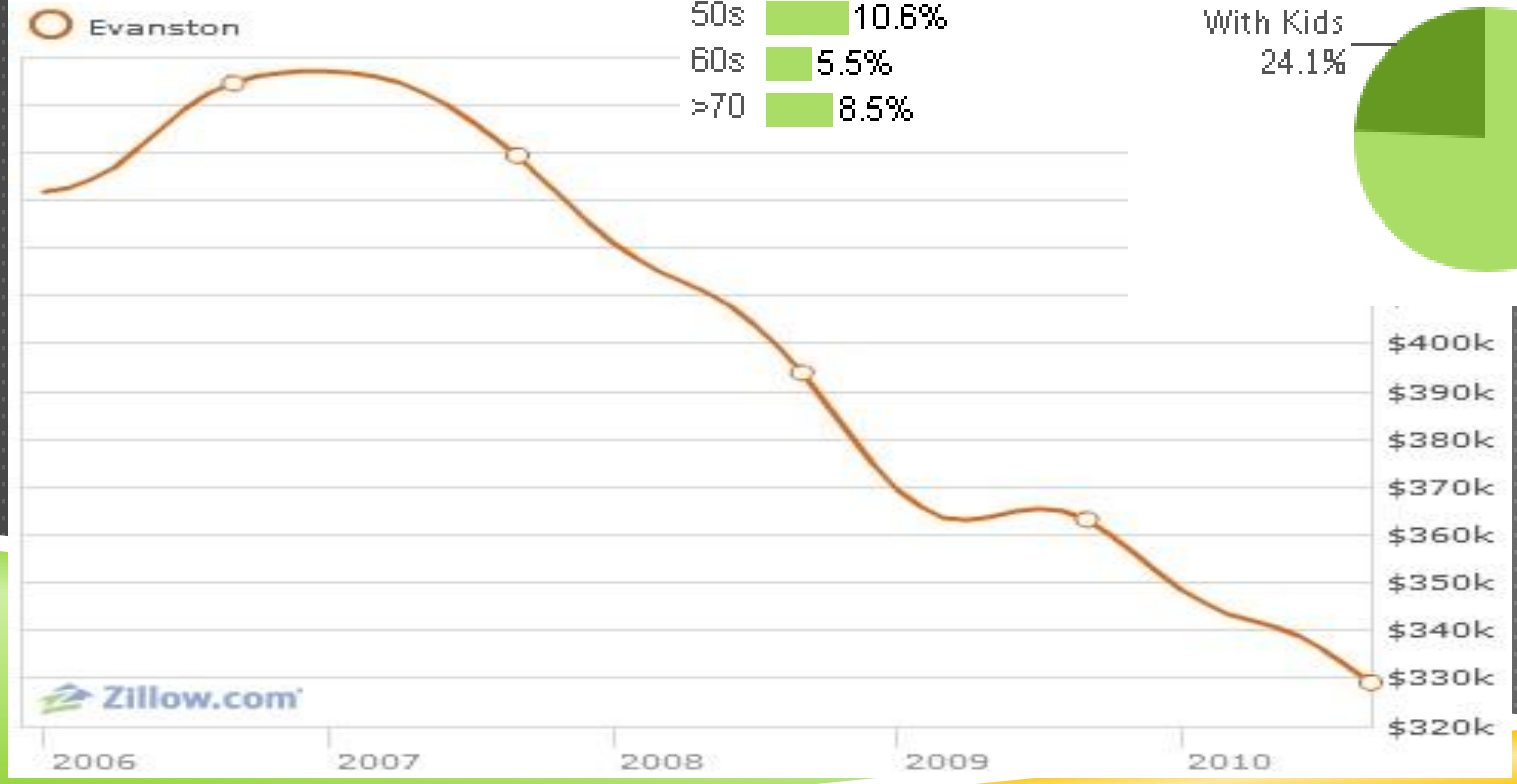
IPRO 358

EVANSTON MARKET

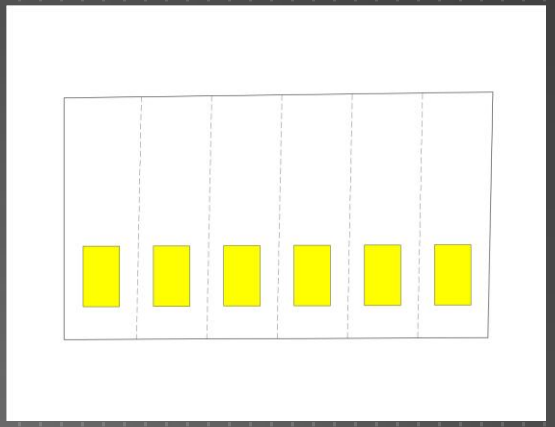






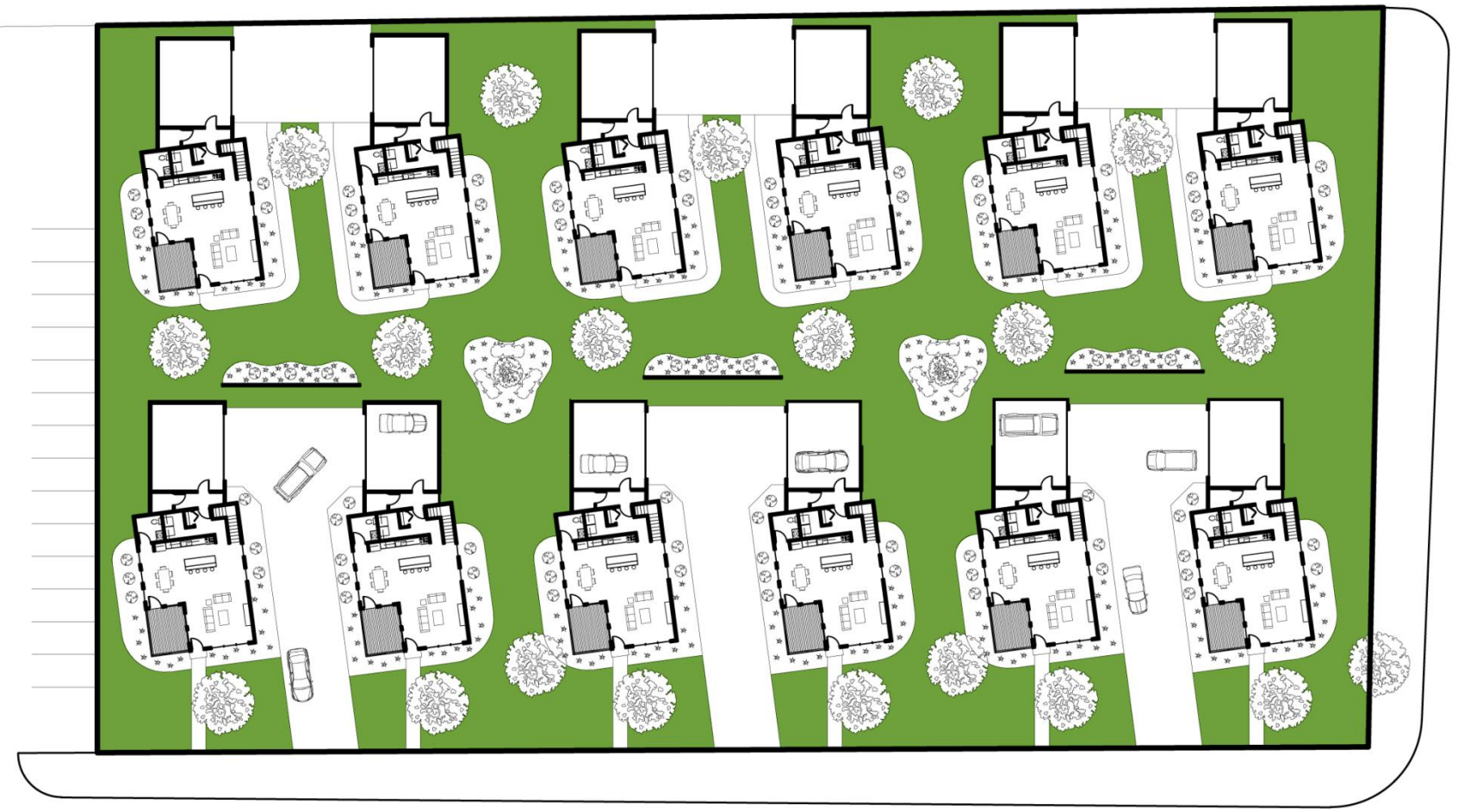


SITE UTILIZATION

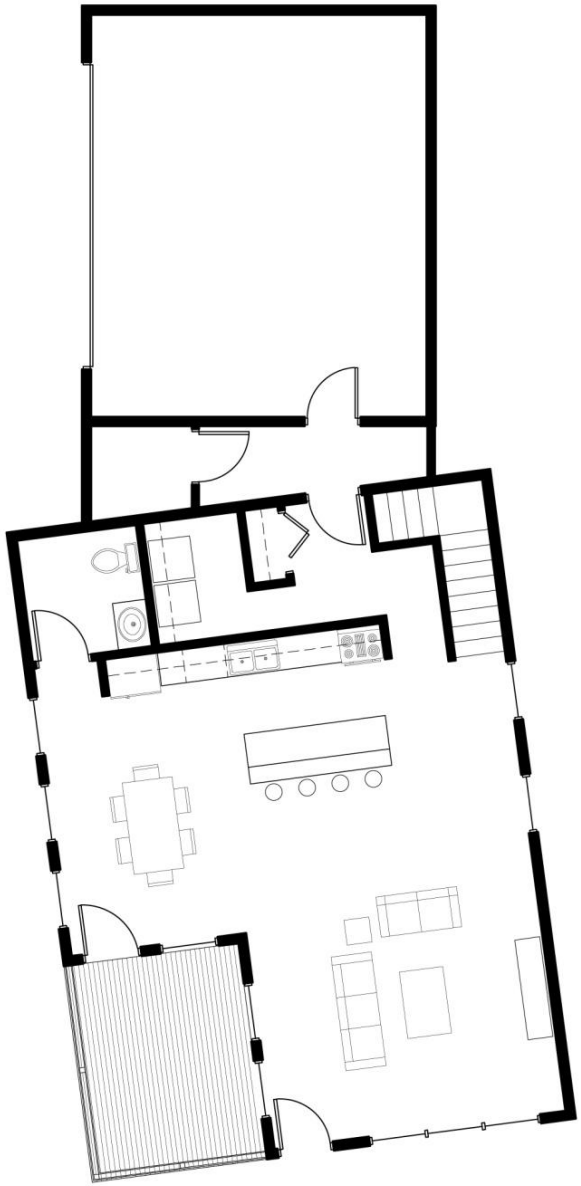


TYPICAL LAND USE

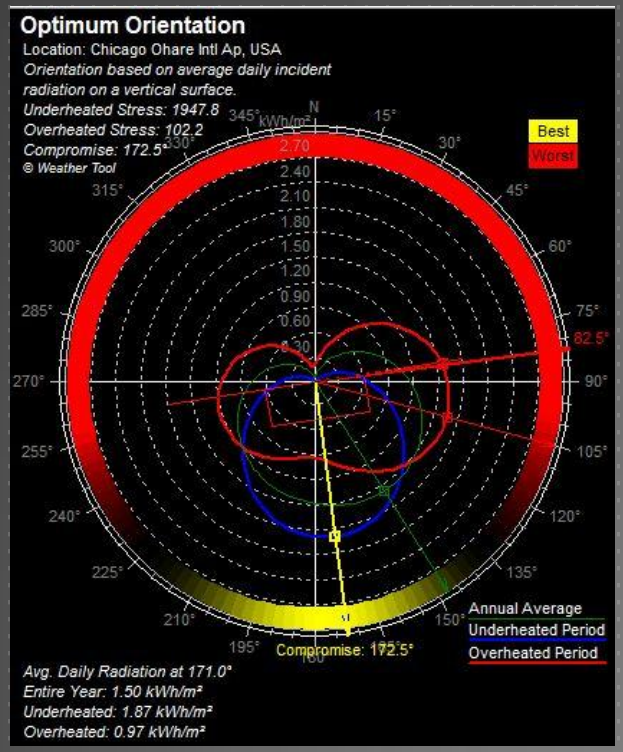
PROPOSED LAND USE

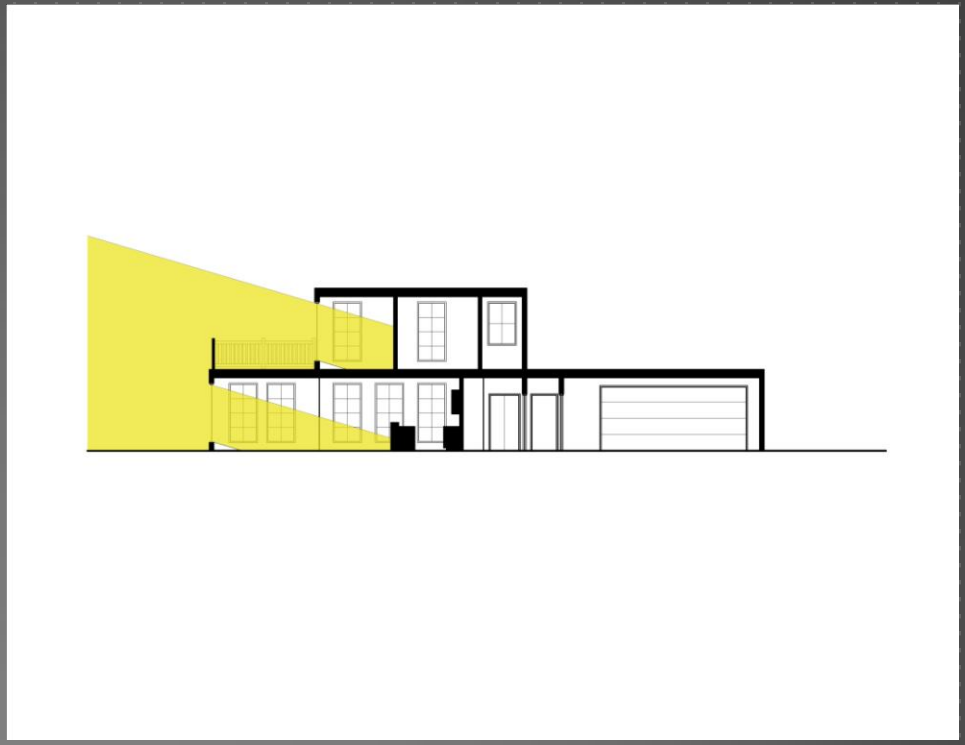


SITE PLAN



SOLAR EXPOSURE

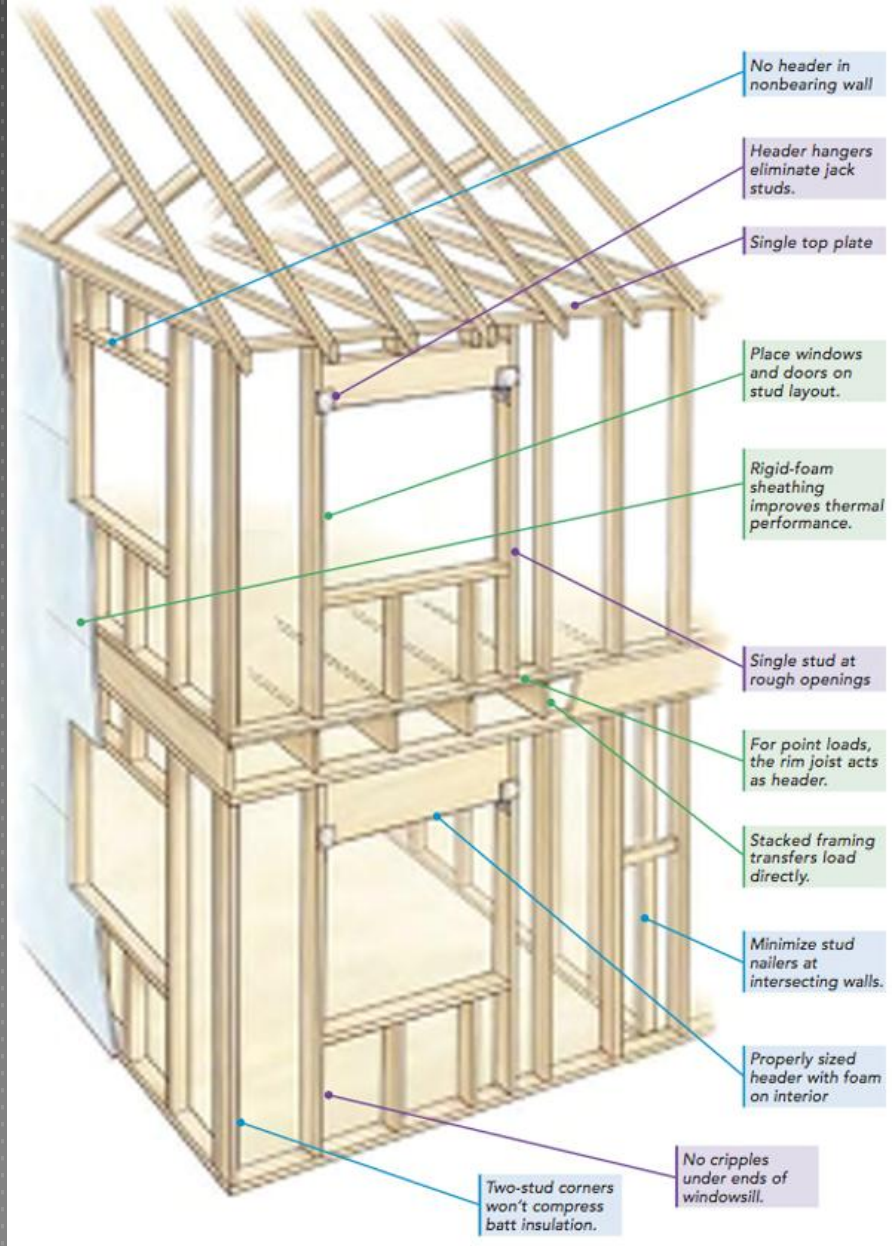




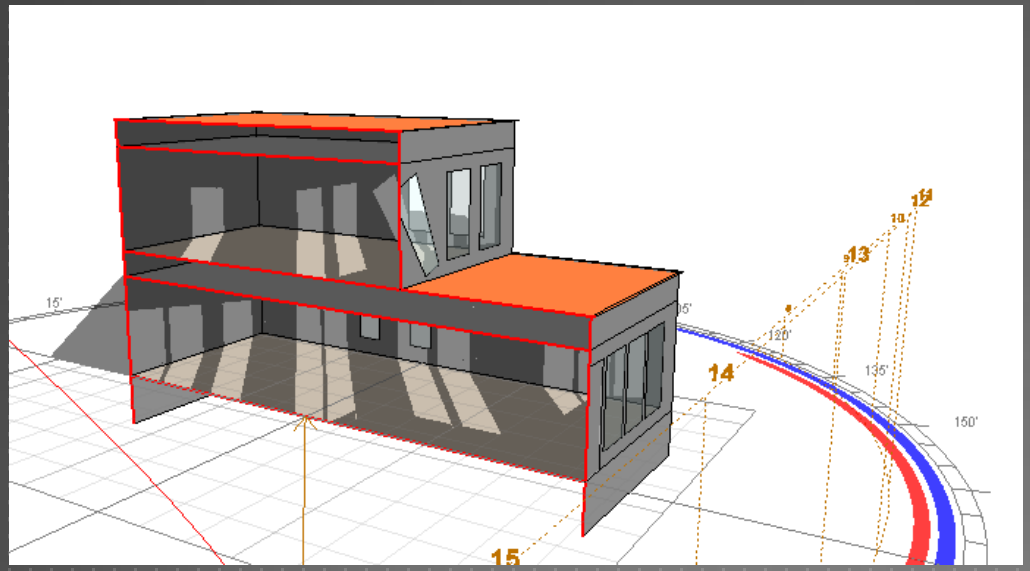
BUILDING ENVELOPE

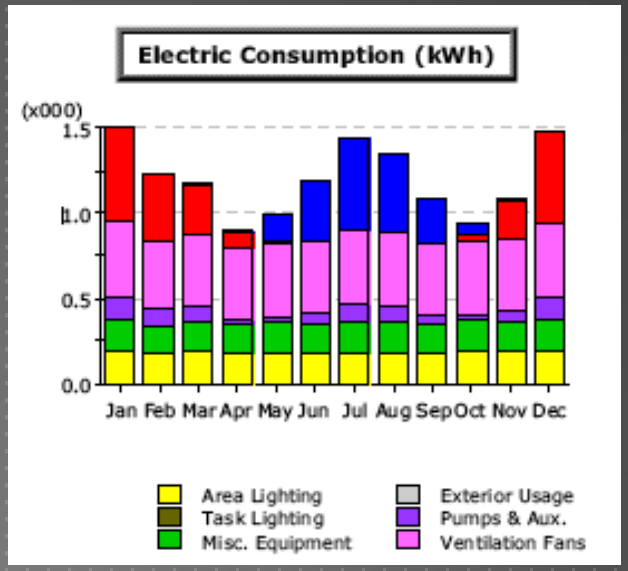
- Advanced Framing Techniques
  - Less wood, more insulation
  - Enhances performance
- Build-Up
  - Thermal bridging
  - Brick façade
- Best envelope for the money

Structure Type	R Value	Cost
Traditional Stick Framing	R	$
Advanced Framing	RR	$
Structurally Insulated Panels	RRR	$$
Insulated Concrete Forms	RRR	$$$$



ENERGY MODELING





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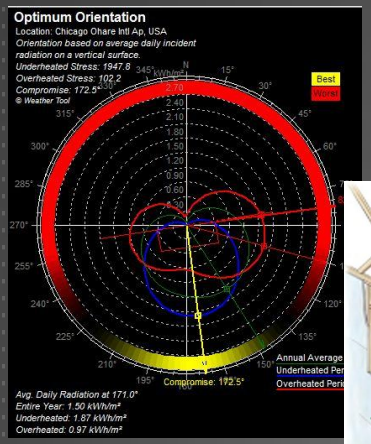
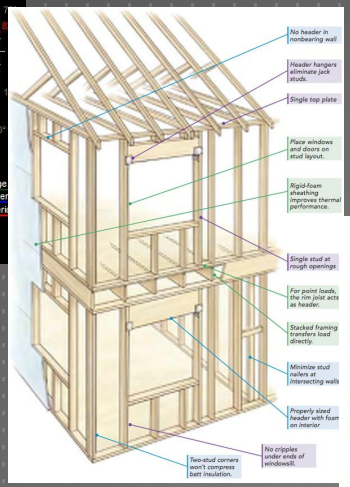
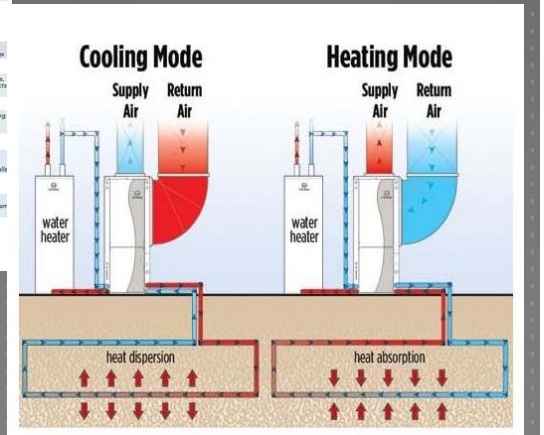
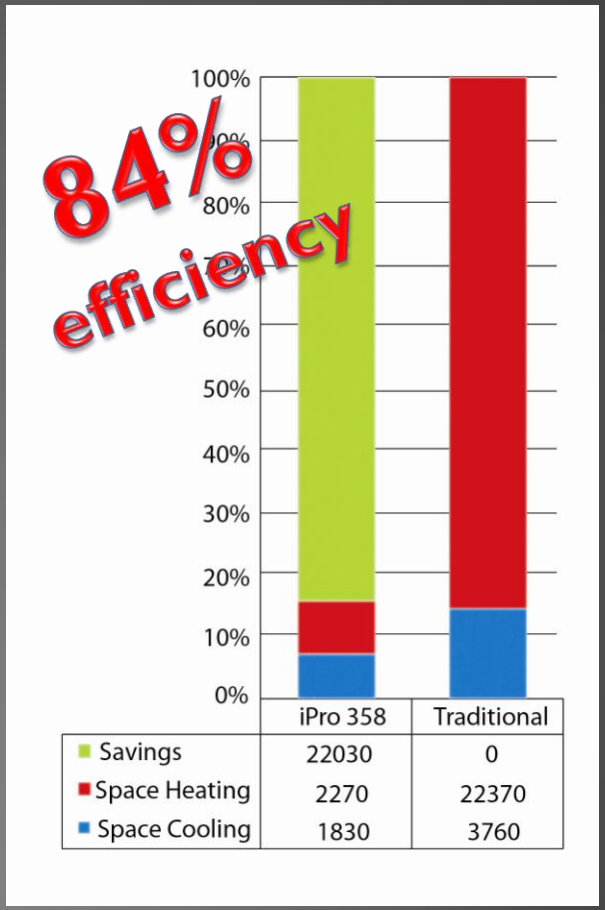
eQUEST

ENERGY MODELING: TRADITIONAL HOUSE COMPARISON

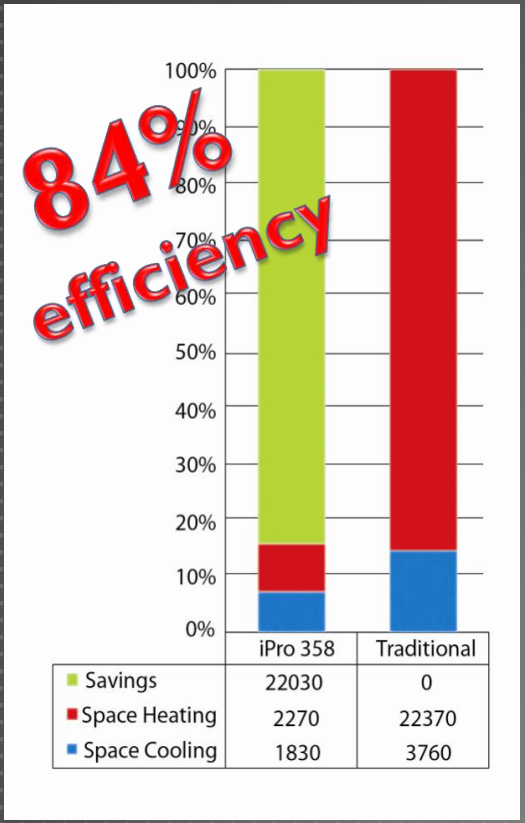








ENERGY MODELING: TRADITIONAL HOUSE COMPARISON

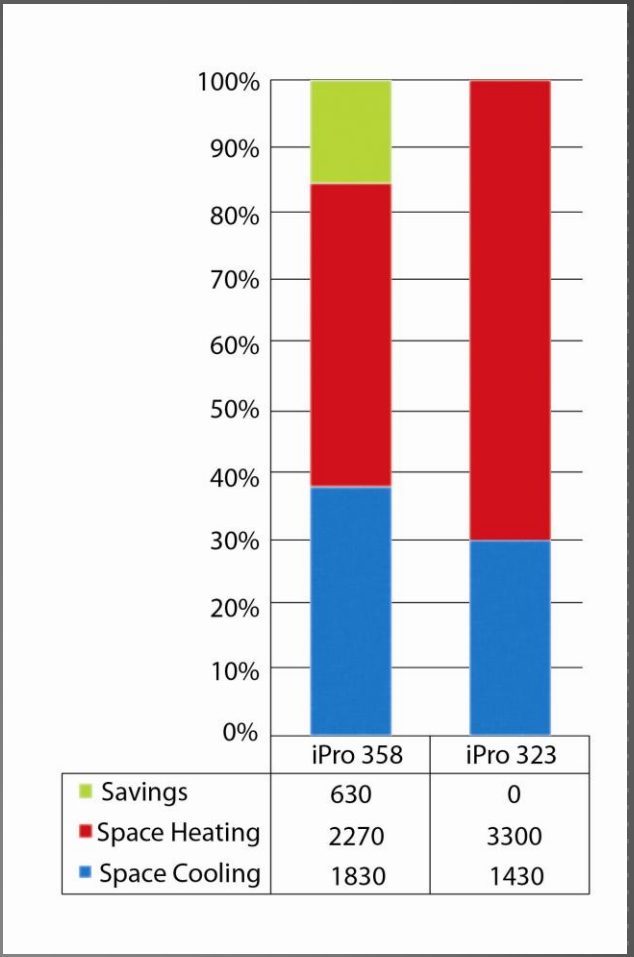


	Energy Consumption	Annual Cost
Traditional House	26130 kWh	$2900
Our Model	4000 kWh	$280

You save $2620 annually

ENERGY MODELING: IPRO 323 COMPARISON

- Similar Systems
- 13% more efficient
- 80% of the cost



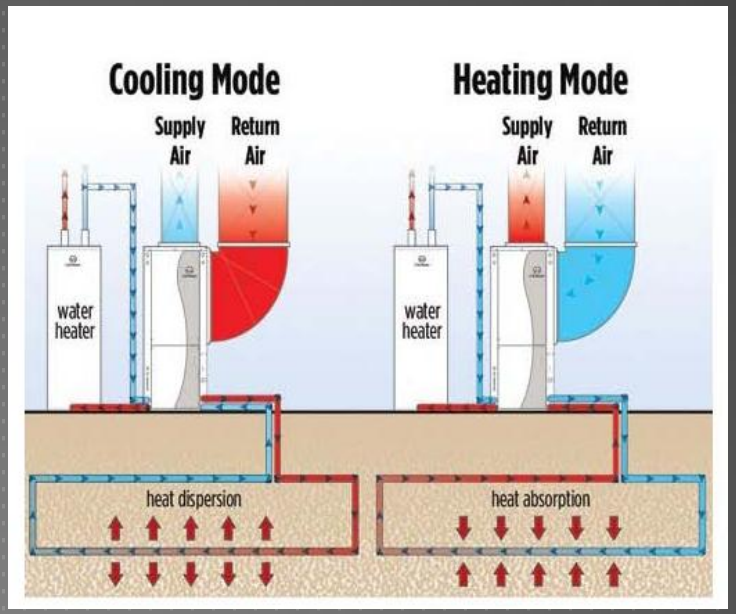
	iPro 358	iPro 323
Savings	630	0
Space Heating	2270	3300
Space Cooling	1830	1430

ACTIVE SYSTEMS

- Geothermal Furnace
- Energy Recovery Ventilator
- Instantaneous Water Heater
- Life Ware System

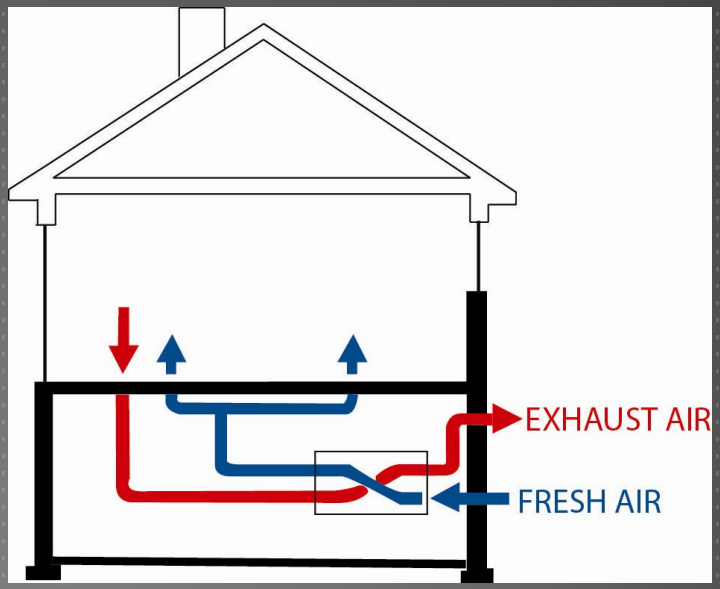
ACTIVE SYSTEMS: GEOTHERMAL FURNACE

- Uses the ground as a heat sink
- Forced air system
- Uses electricity only
- Energy consumption reduced by 21%
- Pay back in 7 years



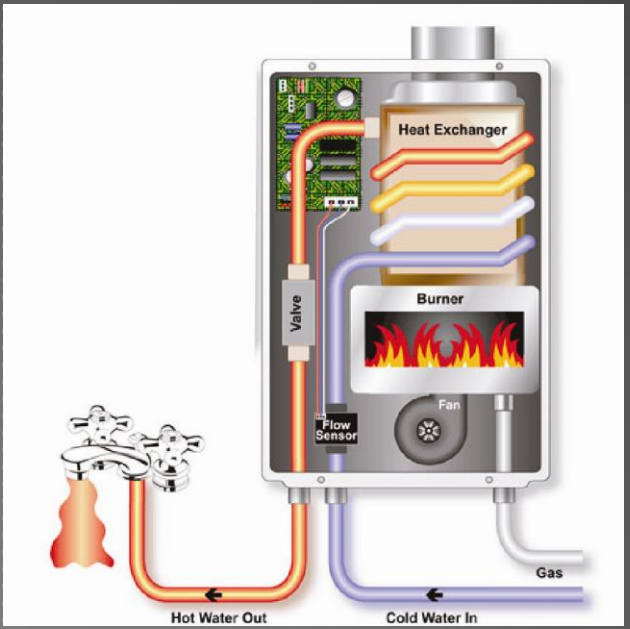
ACTIVE SYSTEMS: ENERGY RECOVERY VENTILATOR

- Recovers energy from exhaust air
- Can recover up to 80%
- Helps balance thermal field



ACTIVE SYSTEMS: INSTANTANEOUS WATER HEATER

- On demand energy consumption
- Energy consumption reduced by 24%
- Pay back in 4 years



ENERGY CONSCIOUSNESS

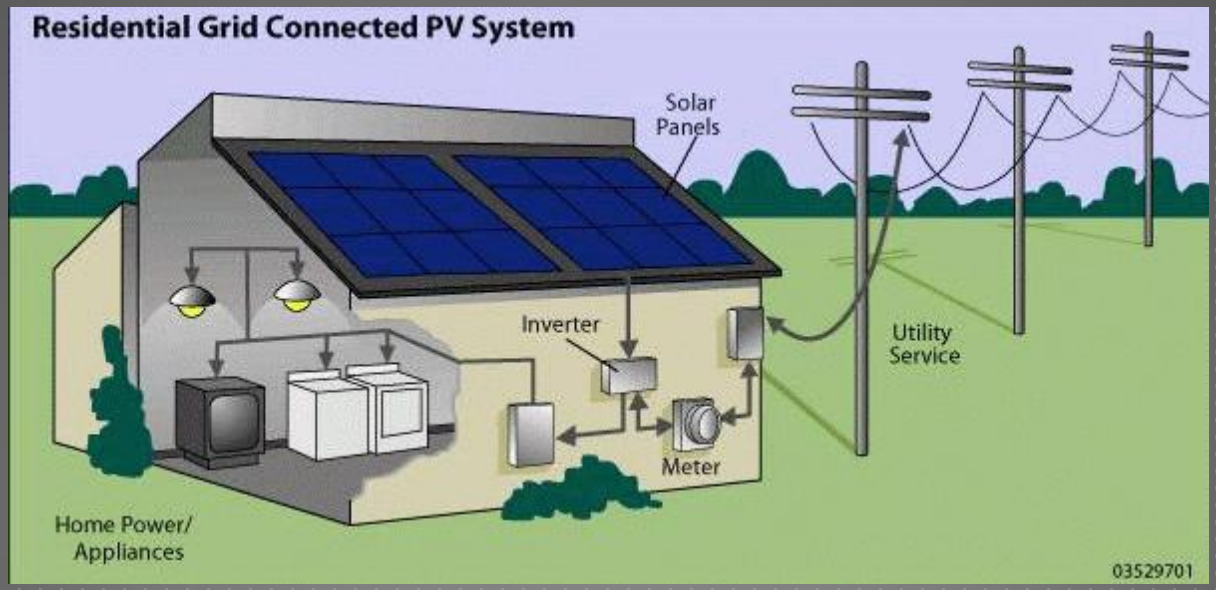
- Complete home Automation
- Can save up to 20%

OPTIONAL SYSTEMS

- Photovoltaic Cells
- Solar Thermal Collectors
- Electrical Radiant Under Floor Heating

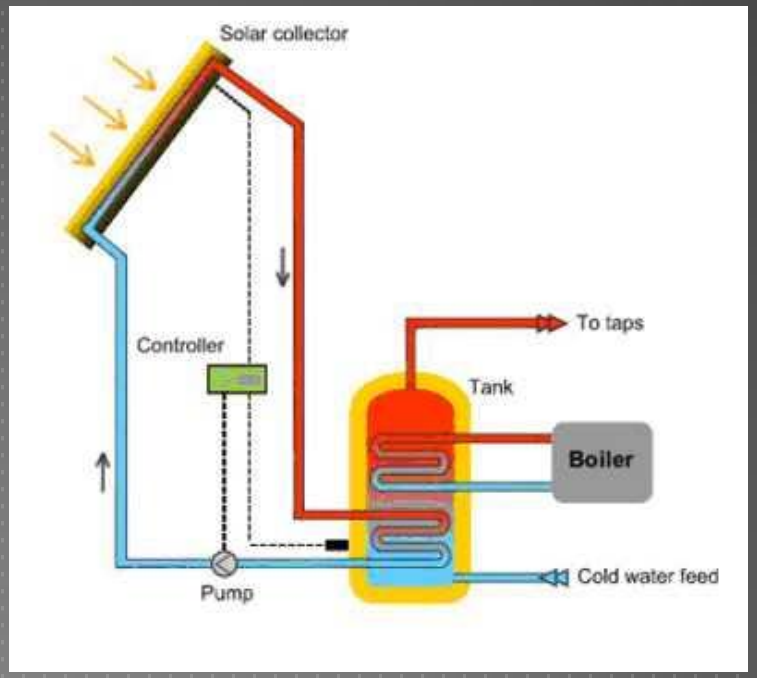
OPTIONAL SYSTEMS: PHOTOVOLTAIC CELLS

- Transforms solar radiation into DC power
- Requires inverter and connection to grid



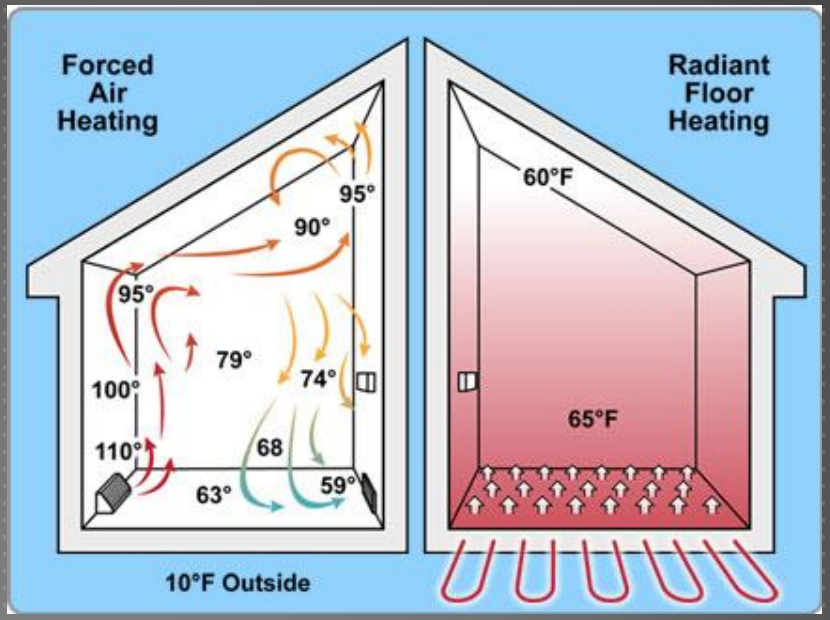
OPTIONAL SYSTEMS: SOLAR THERMAL COLLECTORS

- Uses solar radiation to heat liquid medium
- Reduces fuel needed for domestic hot water



OPTIONAL SYSTEMS: ELECTRICAL RADIANT FLOOR HEATING

- Electrical resistance radiates up through the floor
- More efficient than forced air
- Exclusive use in bathrooms



PAYMENT MODEL

- Rent To Own
- Attract Investors – Consistent Return
- Attract Tenants – Try before you buy.
- Monthly Payment – 80% Rent, 20% Down Payment
- 3 Years – Option to buy
- Mutually Beneficial

FINANCIALS

- Sell Price = $300,000/Unit
- Projections (Total)
  - Expenses = $3, 447,191
  - Revenue = $3, 720,000
  - Profit = $272, 809
  - Rate of Return = 26%

CONCLUSION

- Sustainable yet affordable
- Systems pay for themselves over time and considerable reduction in energy usage
- Sell Price lower than comparable market price
- Attractive sell even in the midst of a housing slump
- Attractive buy for Customers who want to go green
- Go Green and Save Green


Questions?
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