

# Green Construction for Residential and Commercial Buildings

Matt Robert, MS, PE

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## What is Green Construction?



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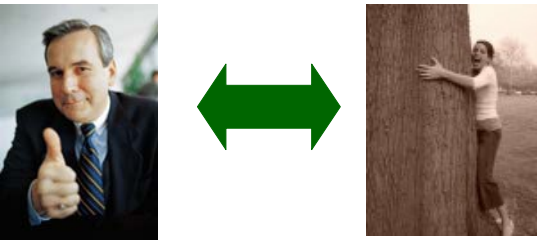
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## How Green Are You?



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## Background Information

- Predicts more than 2/3 of builders building green homes for at least 15% of total projects
- More builders are using green principles in all construction projects

McGraw Hill Construction, 2006. Residential Green Building SmartMarket Report

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## What is Green Construction?

- What does it mean to use Green Construction Practices?
- What is the difference between regular construction practices and green construction practices?
- Why is Green construction becoming more popular?

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## Green Construction Information

- Since 2007, the number of professionals certified by USGBC has doubled to 60,000
- Wall Street Journal reported a shortage of skilled workers since the increase for green construction

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## Definitions

- Green Building
  - The practice of creating structures and using processes that are environmentally responsible and resource efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction. This practice expands and complements the classical building design concerns of economy, utility, durability, and comfort. Green building is also known as a sustainable or high performance building.

From Environmental Protection Agency

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## Definitions

- Sustainability
  - capable of being **sustained**
  - **a:** of, relating to, or being a method of harvesting or using a resource so that the resource is not depleted or permanently damaged **<sustainable techniques>** **<sustainable agriculture>** **b:** of or relating to a lifestyle involving the use of sustainable methods

From Merriam-Webster dictionary

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## What Organizations Promotes Green Practices?

- US Green Building Council



- National Association of Home Builders



- Forest Stewardship Council



- EnergyStar



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### What Organizations Promotes Green Practices?

- Green Seal
- BuildingGreen
- Environmental Protection Agency
- Green Building Initiative



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### What Do These Organizations Do?

- New Building Designs
- Environmentally Safe Products
- Products made with environmental processes
- Energy & Water Conservation

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### What are the Design Criteria for Green Construction

- Lot Design and Surrounding Environment
- Resource Efficiency
- Energy Efficiency
- Water Efficiency
- Indoor Environmental Quality
- Operation, Maintenance & Education

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## Lot Design and Surrounding Environment

- Reducing Soil Erosion
- Increasing Water Infiltration
- Increasing Wildlife Habitat
- Developing Brownfields/Greyfields – Preserving Greenfields

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## Lot Design and Surrounding Environment



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## Resource Efficiency

- Limiting Materials in Landfill
- Using Renewable Materials
- Recycling/Salvaging Materials
- Using Regional Materials

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## Resource Efficiency



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## Energy Efficiency

- Tightening Building Envelope
- Increased Insulation
- Proper Sizing of systems
- Using Renewable Energy

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## Energy Efficiency



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## Water Efficiency

- Water Reduction
- Efficient Landscaping Irrigation
- Reuse of Greywater

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## Water Efficiency



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## Indoor Environmental Quality

- Reducing Noxious Gas Contamination
- Controlling Moisture
- Protecting Materials During Construction

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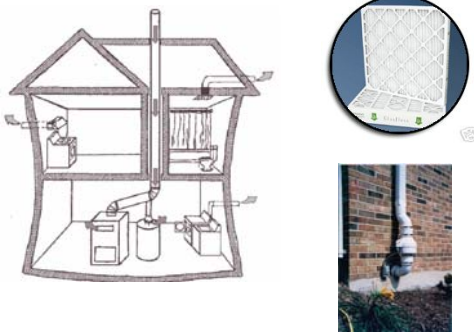
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## Indoor Environmental Quality



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## Operation, Maintenance & Education

- Giving Owner all warranty & O&M material for all systems
- Walk thru with owner
- List of all Green Features in Home

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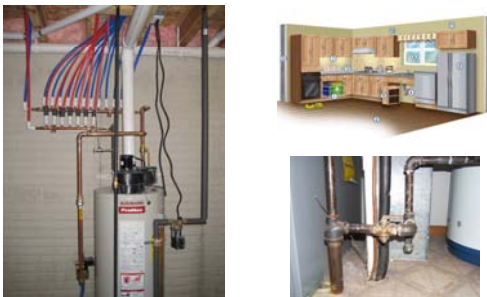
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## Operation, Maintenance & Education



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