

# City of Boulder

## Green Building and Green Points Program

### Building Science and Compliance Requirements



Presented by  
Paul Kriescher-Lightly  
Treading



## The 2008 Green Points Program Update

- The Green Points program encourages cost-effective and sustainable residential building methods, conservation of fossil fuels, water and other natural resources, recycling of construction materials, reduction of solid waste, and improvement of indoor air quality.
- The intent of this revision is to ensure and verify that this program is indeed creating more sustainably designed and built houses in our community.
- Legislative Intent and Purpose  
“The purpose of the Green Points program is to protect the public health safety and welfare by regulating residential construction with the intent to conserve energy, water and other natural resources, while preserving the health of our environment through optional and mandatory requirements related to design, construction, operations, recycling and deconstruction”.

## **Green Building and Green Points Program**

- Compliance with the program must be met on two levels:
  - HERS Index (Home Energy Rating System).
    - A computer modeling of the energy use of the home, done prior to the construction, and again prior to issuance of a CO.
  - Accrual of a mandatory number of Green Points.
- Required HERS indexes and Green Point levels are dependant upon the size of the home.

## **Green Building and Green Points Program**

- The average home in the United States produces 36,000 pounds of CO<sub>2</sub> in one year.
- The average automobile in the United States produces 18,000 pounds of CO<sub>2</sub> in one year (based on 22 mpg, 14,000 miles/year)
- Each kWh not purchased from Xcel equals a reduction of 2.2 lbs of CO<sub>2</sub>.

## HERS Compliance Levels

Type of Project	Square Footage	Required HERS Index
New Construction	Up to 3,000	70
	3,001-5,000	60
	5,001 and up	35
Multi-Unit Dwellings	Applies to all	70

\* The City of Boulder has adopted the 2006 IECC Code.

## What is a HERS Index?

- The HERS Index is a scoring system established by the Residential Energy Services Network (RESNET) in which a home built to the specifications of the HERS Reference Home (based on the 2004 International Energy Conservation Code) scores a HERS Index of 100, while a net zero energy home scores a HERS Index of 0.
- The lower a home's HERS Index, the more energy efficient it is in comparison to the HERS Reference Home.

## Green Points Requirement Levels

Project Description	Square Footage	Green Point Requirements
<b>New Dwelling Unit – Single Family</b>	1,501-3,000	20
	3,001-5,000	40
	5,001 and up	60
<b>New Dwelling Unit – Multi-Family</b>	1,001-2000	10
	2,001-3000	20
	3,001 and up	30
<b>Addition to a Dwelling Unit</b>	500-1,000	15
	1,001-2,000	20
	2,001-3,000	30
	3,001 and up	45
<b>Remodel of a Dwelling Unit</b>	500-1,000	10
	1,001-2,000	15
	2,001-3,000	20
	3,001 and up	30

## The HERS Process

- There are several steps to the HERS Rating process:
  - A HERS Rater must be employed to assist the designer and/or builder on meeting the mandated HERS requirement. A preliminary HERS Certificate must be submitted with building permit plans for new construction.
  - For new construction, the HERS rater will also need to perform a pre-drywall inspection (field visit) and final inspection.
    - The TBC and duct blasting are done at this step.
  - The final HERS Certificate must be submitted to the city before issuance of a Certificate of Occupancy.
    - The Blower Door test and any other information is gathered at this time.

## HERS Ratings & Green Points

### IMPORTANT!!!

- A HERS index encompasses the building envelope and equipment components of a house; therefore an applicant cannot take green points for these features as it will be accounted for in the rating score.
  - HERS Rated homes must acquire Green Points by other methods
    - Construction Waste Recycling
    - Demolition Management
    - Landscaping
    - Etc...