Highlights of the Forthcoming
ICC/NAHB National Green Building Standard

General Overview of the ICC/NAHB National Green Building Standard (NGBS)

- Produced by the National Association of Home Builders (NAHB) in association with the International Code Council (ICC).
- Rates residential buildings with respect to their potential environmental impact.
- Is not simply a minimum standard, it also contains threshold levels (Bronze, Silver, Gold and Emerald) which promote higher performing green buildings.
- Is expected to be released between May and July of 2008.
- Will be the very first ANSI certified green building standard in the United States.
- Will be applicable to all residential structures, from single-family dwelling to high rise multi-family structures, as well as the residential portions of mixed occupancy buildings.
- In addition to regulating new residential green buildings, the standard will also rate green renovations and additions to existing buildings, as well as green residential subdivisions and sites.

How Buildings Affect the Environment

- Buildings and their construction account for nearly 40 percent of annual energy use in the United States.
- Building construction waste accounts for 20 to 30 percent of landfill deposits.

The Paradigm Shift

- Traditionally, building codes and standards have addressed how the environment affects buildings (i.e., they address the effects of wind, snow, water, earthquakes, gravity, etc.)
- Green and Sustainable Building addresses the other half of the equation: how buildings affect the environment.

Green Building is building with a conscious effort to:

- Reduce negative environmental impacts and
- Encourage positive environmental impacts

The NGBS addresses environmental concerns through consideration of the following general criteria:

1) Land Conservation
2) Water Conservation
3) Material Resource Conservation
4) Energy Conservation
5) Indoor and Outdoor Air Quality

In addition, the standard promotes Owner Education regarding Green Building Maintenance and Operation.

The NGBS will be a true ANSI Standard, the very first Green Building Standard to be certified by the American National Standards Institute.

- Consensus based (2/3 majority vote by the consensus committee is required for every provision in the standard)
- The Consensus Committee for the National Green Building Standard (NGBS) consists of 42 members which were selected by ICC and NAHB
- The ANSI process requires Consensus Committee with balanced input from
  - Producers/Manufacturers
  - Users (Builders, Designers, Owners)
  - General Interests (Public comment periods allow input by any interested parties, including the general public.)
- Actual members of the committee include building officials, builders and manufacturers, as well as members or employees of the Department of Energy, the Environmental Protection Agency, the Green Building Initiative and the United States Green Building Council.
- The standard is a living document which will continue to develop and evolve in response to new technologies, all in accordance with ANSI guidelines.

Giving building officials and builders a significant voice in the standard development process has helped to ensure that Affordability, Enforceability and Ease of Implementation have been considered.

- Affordable and easily implemented green features are more likely to be maintained over the life of the structure.
- If green buildings can be affordable structures, more buildings in the marketplace will become green buildings.
- Both initial and long term costs were considered.
- Written in enforceable language which is coordinated with the requirements of existing codes produces by ICC.

The NGBS contains provisions which encourage:

- Erosion and sedimentation control and storm water management.
- Development of brownfield and greyfield sites.
- Building in close proximity to public and alternative transportation.
- Avoidance of environmentally sensitive areas (wetlands, etc.).
- Landscape design which limits long term water and energy use and preserves the natural environment.
- The reduction of heat island effects through green or light colored roofs and light colored, shaded and/or reduced paved areas.
- The implementation of rainwater collection and gray water recycling systems.
- Limited use of irrigation systems or, where utilized, irrigation systems designed to reduce environmental impact.
- The use of waterless urinals and low-flow/consumption water closets (toilets), faucets and shower heads.
- Building smaller structures (reduced site impact, material resources and energy use)
- Building up instead of out (smaller footprint on the land, less foundation and roof area per square foot, ceiling and floor systems share common elements, more efficient to heat and cool).

- The utilization of durable, affordable and low maintenance materials, and material efficient structural systems.
- The utilization of materials which are easily returned to the earth in their original form, are recycleable, or are renewable.
- Construction and post construction waste recycling programs.
- High performance/energy efficient building envelopes.
- Net-zero capable energy systems (such as geothermal systems, active and passive solar systems, wind generators and hydroelectric generators).
- Energy efficient luminaries, appliances and heating and cooling systems.
- Duct sealing, building envelope sealing, weatherstripping and added insulation.
- Whole house ventilation and ceiling fans.
- The use of low VOC (volatile organic compound) emitting materials (adhesives, sealants, paints, coatings, carpeting)
- The installation of MERV air filters.

Energy Efficiency is often considered the number one consideration in Green Building Programs and Standards

- Energy costs accumulate and fossil fuel usage continuously over the life of the structure
- Fossil fuel based energy systems contribute significant amounts of pollutants to the environment.

Putting the NGBS Energy Criteria in perspective.

The NGBS allows many energy system design options, both prescriptive and performance based.

Energy analysis software can be utilized to verify that the structure is more efficient than the minimum or baseline requirements of the 2006 IECC, achieving the following threshold levels:

- Where 15% more efficient: 30 points, which is the minimum required in the Energy category for **Bronze** Classification
- Where 30% more efficient: 60 points, which is the minimum required in the Energy category for **Silver** Classification
- Where 50% more efficient: 100 points, which is the minimum required in the Energy category for **Gold** Classification
- Where 60% more efficient: 120 points, which is the minimum required in the Energy category for **Emerald** Classification

Green Building does *not* inherently mean alternative construction materials and methods.

In practice**,** Green Building is more typically characterized by more efficient and higher performance versions of traditional building materials, assemblies, systems and strategies.

For additional information on the current status of the ICC/NAHB National Green Building Standard, visit www.nahbrc.org/technical/standards/greenbuilding.aspx