

# CITYWIDE GREEN BUILDING PROGRAM

## Summary of Task Force Recommendations and Ordinance Requirements

Adopted April 9, 2008



# Background and Overview

- Green buildings help lower greenhouse gas emissions, improve air quality, conserve energy and water, reduce stormwater impacts, minimize waste, preserve natural resources, and enhance human health.
- This briefing presents the recommendations proposed by the Green Building Task Force (GBTf) for creating and implementing the citywide green building program that will be incorporated into the Dallas City Code
- The Dallas City Council adopted a resolution for the implementation of the citywide green building program and an ordinance establishing the green building program on April 9, 2008

# Green Building Task Force



Established in **December of 2007**  
with members from the residential  
and commercial sectors:

- American Institute of Architects
- North Texas Homebuilder's Association
- The Real Estate Council
- QUOIN
- Hispanic Contractor's Association
- US Green Building Council - North Texas Chapter
- Dallas Independent School District
- Urban Forest Advisory Committee
- Other Industry & business leaders, and
- City Staff

**Developed recommendations for:**

- Components of the green building program
- Implementation steps
- Training and education programs for the building industry

# Green Building Task Force

## Summary

The Task Force recommends a two-phase implementation strategy for the Green Building program requirements for all private developments in Dallas

Phase 1, which will start on October 1, 2009, focuses on energy efficiency and water conservation requirements for all residential and commercial developments

Phase 2, which will start on October 1, 2011, focuses on expanding the initiatives for new buildings into a comprehensive green building standard requirement

Within each Phase, the Task Force outlines a proposed implementation plan for each

# Green Building Task Force Members

The Green Building Task Force met between December 11, 2007 and February 29, 2008

- Ron Green, Facilitator, Texzon Utilities, Ltd.
- David Marquis
- Catherine Horsey, Sustainable Places
- Alan Hoffmann, Hoffman Homes
- Betsy del Monte, AIA (Dallas AIA), Beck Group
- David Paul Patton, AIA, DISD
- Neal Sleeper, Cityplace Co.
- Macey Davis, The Real Estate Council
- Annemarie Marek, Marek & Company
- Christian Osorio, Hispanic Contractors Assoc.
- Barry Howard, Fairfield Residential
- Jack Baxley, QUOIN AGC
- Steve Burke, Hawkins Welwood Homes
- Paul Cauduro, Home Builders Association
- Michael Kawecki, O'Brien Architects
- Amanda Popken
- Annie Trinh, Benchmark Environmental Consultants
- Britton Church, JLB Partners
- Christian Chernock, Cherntex Construction
- Cindy Stanley, USGBC North Texas
- Joseph Harberg, Current Energy
- Alan Wood, The Staubach Company
- Trelaine Mapp, The Warrior Group
- François deKock, Halff Associates
- Marcia Ascanio, AIA, HKS, Inc.
- Kelly Parker, Guaranteed Watt Savers (GWSSI)
- Ron Hastings, GWSSI
- Alex Guthrie, L.A. Guthrie General Contractors, Inc.
- Rosa Orenstein, Looper, Reed & McGraw Attorneys
- Patricia Gorman, Pegasus Texas Construction
- Phil Jimerson, DISD
- Paul Johnson, Rogers-O'Brien Construction
- Sam Latona, Turner Construction
- Richard Necaise, ICF International
- Shadwick Fuller, TEI Construction Engineering, Inc.
- Steve Miller, Texzon Utilities, Ltd.
- Ana Chouteau, Hall Financial
- Marc Sullivan, Icon Partners
- Lisa Alonzo, Azteca-Omega Construction

## City Staff:

Zaida Basora, AIA, LEED AP, Task Force Lead, Asst. Director of Public Works

Kathleen Davis, Assistant Director of Building Inspection

Art Torres, Dallas Water Utilities

David Session, Building Inspection

Stefan Kesler, Equipment and Building Services

Raúl Martínez, AIA, Assistant Director of Building Inspection

Megna Tahre, Office of Environmental Quality

David Treviño, Public Works and Transportation

Casey Burgess, City Attorney's Office

# Envisioned Future

**“Dallas is Carbon Neutral by 2030 and is the Greenest City in the US”**

## **Program Goal**

**To improve air quality, reduce water use and improve transportation and land use through green building strategies**

## **First Milestone**

**From the US Mayors Climate Protection Agreement, achieve a 7% reduction in greenhouse gas emissions from 1990 levels by 2012**

# Greenest City in the US

- Means that best practice green building strategies are standard in all design and construction projects in Dallas.
- Existing building stock is systematically improved
- Dallas and the north Texas region enjoy good air quality and have met the 8-hour standard for ozone
- Dallas green building program serves as a model for other communities

# Carbon Neutral by 2030

- Will require City to measure all energy usage

## Carbon Neutral by 2030 means:

- Reducing current **building** energy use in Dallas City limits by **50%**
    - Can be accomplished by new building design efficiency, and
    - Existing building systematic retrofit and improvement
  - Encouraging fuel switching and renewable fuels- **40%**
  - Sequestration, trading and (REC's) – **10%**
- Data collection will be critically important in the next few years

# Ordinance Requirements



# Phase 1 Requirements

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**Adopted:** April 9, 2008

**Effective Date:** October 1, 2009

Divided into:

- All New Residential Construction
- All New Commercial Construction

# New Residential

## Mandatory Measures Effective Oct. 1, 2009

- **15%** better than the 2006 International Energy Conservation Code (IECC) as shown by:
  - IC3 – Energy Systems Lab, Inc. certificate
  - HERS index of **85**, or
  - Alternatively, to prove that the **15%** requirement has been met, builders can use the following standards for compliance:
    - ENERGY STAR
    - Green Built North Texas
    - LEED H ,or
    - Approved equivalent standard

# New Residential- Cont.

- Meet at least **four** of the following water reduction requirements:
  1. The average flow rate for all lavatory faucets must be **2.0** gallons per minute
  2. The average flow rate for all showerheads must be **2.0** gallons per minute
  3. The average flow rate for all toilets must:
    - 3.1. be **1.3** gallons per flush;
    - 3.2. be dual-flush and meet the requirements of ASME A112.19.14; or
    - 3.3. meet the United States Environmental Protection Agency WaterSense specification and be certified and labeled accordingly.
  4. ENERGY STAR labeled dishwasher that uses **6.0** gallons or less per cycle
  5. ENERGY STAR labeled clothes washers with modified energy factor (MEF)  $\geq$  **2.0** and water factor (WF)  $<$  **5.5**
  6. Utilize drip irrigation emitters for all bedding areas of the landscape plan

# New Residential- Cont.

- Cool roofs for slopes **2:12** or less
- Requires submittal of checklist from one of the following:
  - Green Point, Green Communities, Green Built North Texas, LEED H , or approved equivalent standard

# New Commercial

## Mandatory Measures Effective Oct. 1, 2009

- For all commercial buildings < 50,000 sf:
  - 15% better than Energy Code (2006 IECC)
  - Water fixtures 20% better than EPA Act 1992
  - Cool Roofs for slopes 2:12 or less
  - Outdoor Lighting restriction

# New Commercial- Cont.

- Compliance standards to prove that the **15%** better than code has been achieved:
  - Energy modeling:
    - Use IRS approved software, such as Trane Trace 700, Energy Plus, Carrier HAP, or equivalent
    - Equest or equivalent
    - COMcheck
  - or
  - Systems that may be considered:
    - ENERGY STAR
    - LEED NC, CS, or approved equivalent standard
- Require building owners to agree to utility companies releasing annual consumption data to City

# New Commercial- Cont.

- **For buildings 50,000 sf and larger:**
  - **85%** LEED certified level compliance under any of the applicable LEED rating systems or equivalent (ex. must achieve at least 22 LEED NC v2.2 points)
  - Points required must include:
    - **1** point under the water efficiency credit titled “Water Use Reduction (**20%** Reduction)”
    - A minimum of **2** points (**14%** better than ASHRAE 90.1-2004) under the energy and atmosphere credit titled “Optimize Energy Performance”
  - Require building owners to agree to utility companies releasing annual consumption data to City

# Phase 2 Requirements

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**Proposed for adoption April 9, 2008**  
**Effective Date: October 1, 2011**

Divided into:

- All New Residential Construction
- All New Commercial Construction

# Phase 2 New Construction

## Mandatory Measures Effective Oct. 1, 2011

- **All New Residential Construction**

- All proposed projects must be LEED-certifiable under the LEED for homes standard, Green Built North Texas-certifiable, or meet an equivalent minimum green building standard certified level although formal certification by the USGBC, Green Built North Texas or an equivalent entity is not required
- **Points required for LEED certifiable must include:**
  - **1** point under the water efficiency credit titled “Indoor Water Use”
  - A minimum of **4** points (performance of ENERGY STAR for homes with a HERS rating of **83** or less) under the energy and atmosphere credit titled “Optimize Energy Performance”

# Phase 2 New Construction

- For **Green Built Certifiable** requirements must include:
  - **17.5%** better than the 2006 International Energy Conservation Code (IECC) as shown by:
    - IC3 – Energy Systems Lab, Inc. certificate
    - HERS index of **83**, or
    - Alternatively, to prove that the **17.5%** requirement has been met, builders can use the following standards for compliance:
      - ENERGY STAR
      - Green Built North Texas
      - LEED H ,or
      - Approved equivalent standard

# Phase 2 New Construction

- Meet at least **four** of the following water reduction requirements:
  1. The average flow rate for all lavatory faucets must be **2.0** gallons per minute
  2. The average flow rate for all showerheads must be **2.0** gallons per minute
  3. The average flow rate for all toilets must:
    - 3.1. be **1.3** gallons per flush;
    - 3.2. be dual-flush and meet the requirements of ASME A112.19.14; or
    - 3.3. meet the United States Environmental Protection Agency WaterSense specification and be certified and labeled accordingly
  4. ENERGY STAR labeled dishwasher that uses **6.0** gallons or less per cycle
  5. ENERGY STAR labeled clothes washers with modified energy factor (MEF)  $\geq$  **2.0** and water factor (WF)  $<$  **5.5**
  6. Utilize drip irrigation emitters for all bedding areas of the landscape plan

# Phase 2 New Construction

- **All New Commercial Construction**

- All proposed projects must be LEED-certifiable, Green Built North Texas-certifiable or certifiable under an equivalent green building standard at the minimum certification level, although formal certification by the USGBC, Green Built North Texas or an equivalent entity is not required
- **Points required for LEED certifiable must include:**
  - **1** point under the water efficiency credit titled “Water Use Reduction (20% Reduction)”
  - A minimum of **3** points (**17.5%** better than ASHRAE 90.1-2004) under the energy and atmosphere credit titled “Optimize Energy Performance”
- Multifamily developments have the option of using LEED NC, LEED for homes, Green Built North Texas or an equivalent green building standard

# Program Implementation



# Implementation Strategy

- **Greening** of City Staff
- Establish “Green Office” in FY08/09 in OEQ
  - Add two trained green building professionals- 2 FTEs
- Establish green building plan review teams in Building Inspection
  - Two trained professionals in FY09/10 and two in FY10/11 from existing staff

# Program Implementation

- Provide Tool Information-
  - EPA water sense
  - HERS index
  - LEED
  - Green Built North Texas
- Develop a point system/checklist and review process for adopted standard
- Create a reference guide for the new program
  - Available technical resources
  - Step by step information to comply
  - FAQ...
  - Contact information

# Program Implementation

- Ongoing measurement and verification
  - Use robust data and metrics
  - Easy to measure, report and track progress
- Integrate with existing management system
  - EMS - ISO 14001 Environmental management system
- Process of continuous improvement
  - Drive cultural change toward sustainability
  - Achieve Vision “Dallas Greenest City in the US”

# Training and Awareness

- Use of local USGBC chapter and partners to train
  - City Staff “Green Office” and Building Inspection
    - In turn train industry and public
    - Industry groups
  - Public
- Ongoing taskforce groups
  - Monitoring program & continuous improvement

# Communication: Public Awareness

- Existing communication channels
  - Websites, radio, TV, print media
- Industry partners
  - TREC, QUOIN, NAHB, Rotary Clubs, HOAs
  - Chambers, AIA, USGBC, EPA
- Public venues
  - State Fair
    - Build a “Green Home” in partnership with AIA, Habitat, Oncor, EPA DSSI

# Other Task Force Recommendations

- Task Force recommended **incentives** to encourage the use of green building strategies and the use of full systems during Phase 1
  - Fast track building permits for certifiable LEED projects, certifiable Green Built North Texas projects or certifiable projects under an equivalent system
  - Incentives/rebates provided by private organizations or through grant funding
- Programs recommended would sunset at start of Phase 2

# Summary

- The adoption of the proposed green building program puts Dallas at the forefront of leading cities in green building strategies

*“We’re at the lead of the major cities in this country. We had industry come in and really embrace it. We crafted it to make sense for everybody”* Dallas Mayor Tom Leppert