Dallas Case Study

Outline

- Dallas Green Program Background
- 2007 Task Force
- Structure of Ordinance and amendments
- Green Code Phase 1
- 2012 Task Force and findings
- Industry Position Statements
- Green Code Phase 2 Recommendations
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Take Aways

- Green Building Strategy Implementation is a process
  - Awareness
  - Education
  - Initiatives
  - Policy
  - Codes

- There must be a champion within the organization and in the community

- Champions must be the resources, lead by example, and garner support
Municipal Green Building Program

- Adopted on January 22, 2003
  All municipal projects over 10,000 s.f. to be LEED Silver Certified

- To date the City of Dallas has 25 LEED certified buildings, 1 platinum, 10 gold, 13 silver (includes 1 LEED EB) and 1 certified level

- Over 650 projects throughout the North Texas region are seeking LEED certification, 24 are City of Dallas Projects
Why LEED?

- Long-term operating cost savings
- Allows a way to measure and compare “green” facilities
- Prepared to pay initial higher cost in exchange for higher return on building maintenance and operation costs
- To practice leadership by example
LEED City Facility Examples

City Performance Hall

Fire Station #50
Clockwise: South Central Police Station; The Bridge; Dallas Convention Center; Prairie Creek Branch Library
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Municipal Green Building Program

- Over 40 new sustainable city facilities and a sustainable approach to existing building retrofits
- Implementation of the city’s green building and energy management policies
- Update of green building policy in 2006 to require a minimum compliance of LEED Gold and incorporation of carbon neutrality goals
- Implementation of training programs on sustainability for city employees
- Require training of contractors on sustainable practices
Adoption of Green Code
Opportunities & Challenges

• In 2007 - 4 year old municipal green building program

• Top priority for then Mayor Thomas Leppert and the Dallas City Council

• Region’s air quality

• Economic Development
2007-2008 Green Building Task Force stakeholders:

- American Institute of Architects
- Dallas Builders
- The Real Estate Council
- BOMA
- TEXO
- Hispanic Contractor’s Association
- USGBC - North Texas Chapter
- Dallas Independent School District
- Other Industry & business leaders

Developed recommendations for:

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

- **Two-phase** implementation strategy for the Green Building program
- Solution **must** be market-based
- **April 9, 2008** Program adopted **unanimously** by Dallas City Council
- **Phase 1** — **effective October 1, 2009** - Energy efficiency and water conservation requirements for all new **residential and commercial developments**
- **Phase 2** — **effective October 1, 2013** *originally effective October 1, 2011* - Comprehensive green building standard requirement for all **new construction**
Strategies for Implementation

Leadership in Energy & Environmental Design
The Task Force recommended a two-phase implementation strategy.

Solution must be market-based.

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Recommendations Summary

- Phase 1
  - effective October 1, 2009

- Phase 2
  - effective October 1, 2013
  - *originally effective October 1, 2011
Structure

• **Ordinance 27131; Resolution 08-1070- adopted April 9, 2008, established the Green Building Program**

  • **Ordinance** amends Chapters 52, 53 and 57 of the Dallas City Code;
  
  • **Ordinance 27759; Resolution 09-2986-adopted December 9, 2009 amends water provisions and includes green roofs;**
  
  • **Ordinance 28386; Resolution 11-2564- adopted September 28, 2011 amends water and energy provisions; delays phase 2 and adds third-party verification;**

• **Ordinance 28813; Resolution 12-2428- Adopted September 26, 2012 updates and delays Phase 2, and adds Chapter 61 “Dallas Green Construction Code”**
Three Different Programs

- Single Family and Duplex
- Commercial Buildings under 50,000 Sq. Ft.
- Commercial Buildings over 50,000 Sq. Ft.
Mandatory Measures Effective Oct. 1, 2011
(*as amended)

**Energy**

**Water**
- Reduce Water Usage by 20%
- Must utilize drip irrigation emitters for all bedding areas of the landscape plan
Mandatory Measures Effective Oct. 1, 2011 (*as amended)

**Energy**

**Water**
- Water use **20%** reduction over EPAct 1992 baseline

**Heat Island**
- Roofs:
  - Cool Roofs for slopes **2:12** or less to meet EPA ENERGY STAR, or
  - Install a green/vegetated roof that covers at least **50%** of the roof area

**Light Pollution**
- Outdoor Lighting restriction
Mandatory Measures Effective Oct. 1, 2011
(*as amended)

85% points for certified level

- certification by USGBC not required

Water

- 20% Water Use Reduction
The 2008 Ordinance Resolution adopting Green Building required the City Manager to

- Reconvene Green Building Task Force to review progress of the Green Building Code
- Report to Council before implementation of Phase 2 of the Ordinance

Green Building Task Force convened in 2010 and on September 12, 2011 recommended:

- Delay of Phase 2 until October 1, 2012; and
- Reconvening the Task Force in 2012 to review progress and report to Council before implementation of Phase 2
Green Building Task Force

- Reconvened from **June 6 to September 11, 2012** to review:
  - City’s ability to implement Phase 2, as adopted, without creating potential delays in the building permit process
  - Progress in the development and applicability of the new IgCC Code relevant to the implementation of Phase 2, as adopted
  - Third-party provider process
  - Recommend, if needed, modifications to Phase 2
Comprised of:

- Industry stakeholders that participated in the development of the original ordinance or expressed an interest subsequently (approx. 190 in distribution list—15 to 35 participants twice weekly), and
- Registered City of Dallas third-party providers
- No one was turned away from membership

Task Force divided into two groups- Commercial and Residential
GOALS-Commercial Task Force

- **Update Phase 2 program adopted in 2008**
  - Review applicability of and proposed changes to LEED

- **Address current changes in Development of Building Codes**
  - International Green Construction Code (IgCC)
  - ASHRAE Standard 189.1
  - 2012 ICC Codes

- **Review Building Inspection’s resources for implementation**
  - Allow transition period to educate and train staff and industry members
  - Review existing third-party program for plan reviews and inspections
  - Streamline and provide online resources/access to schedule inspections online/online technical support

- **Address existing commercial building projects**
GOALS-Residential Task Force

- Update Phase 2 program adopted in 2008
- Address key environmental issues such as:
  - Water efficiency
  - Storm water management
  - Energy efficiency
  - Heat island mitigation through roofs and pavement
  - Indoor air quality
- Review Building Inspection’s resources for implementation
  - Allow transition period to educate and train the industry
  - Review existing third-party process
  - Streamline and provide online resources
- Address existing homes:
  - Roof replacement and Landscaping requirements
- Resolve confusion between single-family and multi-family requirements
September 24, 2012

Dear Mayor Rawlings and Dallas City Council Members,

On behalf of the residential construction industry, the Dallas Builders Association (formerly the Home Builders Association of Greater Dallas) supports the Green Building Task Force (GBTF) proposal to extend Phase 1 through October 2013 and provide additional paths to compliance when Phase 2 is enacted. However, we share the commercial industry’s concerns regarding the City’s ability to leverage sufficient Building Inspections staff and other resources to enforce an increasingly-complex ordinance.

In 2007, the GBTF was charged with identifying resource-efficient and sustainable construction solutions for the city, because these standards were not available in the building codes that existed at the time. The last five years have brought immense change to the construction industry and the City’s Building Inspections Department; each is being asked to do much more with much less in available resources.

Changes to construction codes and building standards nationwide have been just as enormous. For example, the state recently increased its standards for energy efficiency, and new International Code Council (ICC) codes require levels of efficiency and sustainability that go well beyond anything the GBTF contemplated five years ago. These codes are currently being reviewed for regional consistency by the North Central Texas Council of Governments (COG).

The Dallas BA believes that these ICC codes now accomplish the original intent of the Dallas green building ordinance. This belief comes from our experience in working with our Green Built Texas (GBT) program. GBT is the most commonly-used residential above-code green building standard in our region. This standard was recently updated by a stakeholder group in our association and is a path of compliance for Phase 2 of this ordinance. The stakeholder group struggled to update the standard in a manner that provided performance beyond the base building codes without an undue impact on housing affordability.
We anticipate that the City of Dallas will have a similar struggle in the years ahead. At some point, the City's leaders will need to weigh the necessity of additional green requirements against Dallas' ability to be a regional leader in the adoption of new ICC codes that the COG develops. This is the prudent thing to do, particularly when it comes to competing for business with other municipalities and to ensuring that we do not impede development and growth in Southern Dallas.

The delayed implementation of Phase 2 combined with the continued usage of recognized residential standards such as Green Built Texas and LEED makes compliance with this ordinance feasible for the industry. We appreciate the dedication and professionalism of City staff and other members of the GBTF.

The Dallas BA will continue to be a stakeholder in efforts dedicated to addressing the enforcement and administration of this ordinance. Specifically, we will work with Theresa O'Donnell and the new Building Official to ensure that Building Inspections is not unduly encumbered in the implementation of this ordinance.

We appreciate your time and consideration of the association as a resource for providing safe, affordable and quality housing for all residents in the City of Dallas.

Sincerely,

Phil Crone, Executive Director, Dallas Builders Association

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1 The International Code Council publishes “I-Codes” that are comprehensive building codes designed to support the industry's need for one set of building codes without regional limitations. All fifty states and many municipalities (including Dallas) regularly adopt these I-Codes, which are updated every three years. In North Texas, these I-Codes are always vetted and adopted by the North Central Texas Council of Governments with regional amendments. Once approved by the COG, area municipalities may adopt these codes with local amendments.
September 24, 2012

Dear Mayor Rawlings and Councilmembers:

On behalf of the commercial real estate industry, The Real Estate Council supports the Green Building Task Force’s (GBTF) proposal to extend Phase I through October of 2013 followed by the implementation of Phase II, which includes the original LEED-based green building ordinance and an alternative option to comply with the International Green Construction Code (IgCC), as modified.

However, our support is conditional on the following actions by the City of Dallas: (1) ensure sufficient staff to oversee, enforce and provide technical assistance during Phase II; (2) give strong consideration to the findings from the North Central Texas Council of Governments (COG) regarding the IgCC, and (3) by 2015, determine whether a separate Green Building Ordinance is necessary as the base codes become greener and more stringent.

Building inspections staff is and will continue to be challenged by increasing workloads as the economy continues to recover. As such, it will be essential to hire additional staff to oversee a more complex and comprehensive green building code. The City of Dallas should not just rely on third parties to implement and enforce this program. We need expert staff who understand this modified green code and can provide critical oversight and technical assistance as needed.
The GBTF has spent countless hours over the past year reviewing the IgCC and recommending modifications that are more palatable for the commercial developer community. While we could not support a mandatory compliance with the IgCC by itself at this time, we can support flexible options that allow the developer to choose which code they prefer to use – the current LEED-based code or the IgCC. The GBTF’s proposal does just that. We also believe that this proposal will give the region more time to review the IgCC through the lens of the North Central Texas Council of Governments (COG) to determine if the IgCC is a good fit for the North Texas region as a whole. We believe that this process with COG is important in order to keep the City of Dallas competitive with its surrounding municipalities.

As the City of Dallas transitions to Phase II, we strongly encourage the City Council to continually review the underlying building codes (i.e., Energy, Plumbing, Electricity, etc.) to determine whether a separate Green Building Ordinance is necessary for the City of Dallas over the long haul. These underlying codes are updated every three years and already they have become greener and more stringent since 2009.
Findings

- Adoption of Phase 2 should be delayed until October of 2013
  - Building Inspection staff in 2012 was just being increased to meet capacity demands
  - Third-party program is working for Phase 1
  - In-house reviews and inspections would be preferable for the commercial component of Phase 2
  - Phase 2 should be streamlined to eliminate redundant requirements (base codes vs. green code)
Task force should review the 2012 IgCC as an alternative for Phase 2

- Allows greater integration with all areas of building inspection
- Dallas would be an early adopter
- Dallas would continue to lead and meet the long-term vision of being “greenest city in the US”
- City and some task force members had been appointed to the new NCTCOG Energy and Green Advisory Board that will review the IgCC
Commercial Recommendations

- Delay Phase 2 implementation to October 1, 2013; and
- Implement Phase 2 with **two** options as alternative paths of compliance:
  - Building inspection to add staff to review and inspect Phase 2 in-house
  - Streamline and provide online resources/access to schedule inspections online/online technical support
- Train and educate industry and staff during FY13
- Reconvene Task Force in 2015 to review code updates for continuation of Phase 2
Mandatory Measures Effective Oct. 1, 2013
(*adopted September 26, 2012—Resolution 12-2428 Ordinance 28813)

Meet Min # points for certified level

Water

- certification by USGBC not required

- 20% Water Use Reduction
Meet All Min. requirements

Water

- 20% Water Use Reduction

Mandatory Measures Effective Oct. 1, 2013
(*adopted September 26, 2012—Resolution 12-2428 Ordinance 28813)

- Chapters 3, 4, 5, 7 & 8
- Deletes Chapters 2, 6, 9, 10 & 11
- New Chapter 61 of the Dallas City Code
Intent and Scope

- Will be enforced by Dallas Building Official or his designee
- Five jurisdictional requirements adopted
- Definition provisions deleted
- Applicable to the construction of
  - All **NEW** buildings, except:
    - IRC Buildings
    - R-3 Occupancies
    - R-2 and R-4 Occupancies 4 stories or less in height.
Proposed Jurisdictional Requirements - Table 302.1

- Chapter 1. **Scope** - recommend alternative path of compliance for new residential construction utilizing min. mandatory provisions of ICC 700.

- Chapter 4. **Site Development and Land Use** -
  - **Section 402.8** - Greenfield Sites-changed to provide for sites “specifically identified as greenfields and pursuant to the authority having jurisdiction.

- Chapter 5. **Material Resource Conservation and Efficiency** -
  - **Section 503.1** - Minimum percentage of waste material diverted from landfills – 50%

- Chapter 8. **Indoor Environmental Quality and Comfort** -
  - **Section 804.2** - Post Construction Pre-Occupancy Baseline AIQ Testing
Chapter 4: Site Development and Land Use - Chapter Amended

- Of Significance:
  - Site Management and Erosion Control - site waste management plan shall be developed and implemented to divert not less than 50% of the land-clearing debris and excavated soils.
  - Walkways and bike paths
  - Heat Island mitigation
  - Site lighting

- Deletes Provisions for:
  - Pre-design site inventory and assessment
  - Designated protection areas
  - Storm water
  - Shower and changing facilities
  - Bicycle parking and storage
  - Preferred vehicle parking
Chapter 5: Material Resource Conservation and Efficiency - Chapter Amended

- Of Significance:
  - Minimum percentage of waste material diverted from landfills – 50%
  - Waste Management and Recycling
  - Material Selection
    - 45% of materials must be:
      - Recycled,
      - Recyclable,
      - Bio-based, or
      - Indigenous (within 500 miles)
    - (Materials are permitted to have multiple attributes.)
  - Mercury limits for fluorescent lamps

- Deletes Provisions for:
  - Reference to Whole Building LCA
  - Building Envelope Moisture Control
Chapter 6: Energy Conservation, Efficiency & CO₂e Emission Reduction

- Deletes Chapter 6 and requires current IECC compliance
- Keeps green code requirements separate from energy code requirements
Chapter 7: Water Conservation and Efficiency – Amended Chapter

- Coordinated with Plumbing Code
- Of Significance:
  - Regulates Fixtures, Fittings, Equipment and Appliances
  - Condensate drainage recovery
  - Water collection tank types
  - Potable Water applications and test procedures for rainwater
  - Gray water systems for irrigation provisions
  - Rain water collection system provisions
- Metering—any source associated with the building or building site “MAY” be individually metered
Chapter 8: Indoor Environmental Quality and Comfort - Amended Chapter

- **Of Significance:**
  - Indoor Air Quality Management Plan - City to provide template
  - Air Handling system access to be unobstructed
  - HVAC Systems - MERV 11 Filters - exception for multi-family filtration—MERV 6 for ≤30k BTUs; MERV 8 for over

- **Deletes:**
  - Table 804.2 and requires total TVOC limits and not individual material /chemical VOC limits
  - Acoustic provisions
  - Daylighting provisions
Deleted Chapters

Chapter 9: Commissioning, Operations & Maintenance
Chapter 10: Existing Buildings
Chapter 11: Existing Building Site Development
Mandatory Measures Effective Oct. 1, 2013* 
(*adopted September 26, 2012—Resolution 12-2428 Ordinance 28813)

1. Meet **min. requirements of GreenBuilt TX; OR**
   - 20% Water Use Reduction - only pre-requisite

2. Meet **min. requirements of LEED for Homes; OR**
   - 20% Water Use Reduction - only pre-requisite

3. Meet **min. requirements of ICC700; OR**
   - 20% Water Use Reduction - only pre-requisite

4. Meet **ALL** of the following **prescriptive requirements:**
   - **Storm Water**
     - Permeable lot. Design the lot such that at least 70% of the built environment, not including area under roof, is permeable or designed to capture water runoff for infiltration onsite.
   - **Water efficiency**
     - Utilize drip irrigation emitters for all bedding areas of the landscape plan; and
Meet water reduction strategies that include installing high-efficiency (low-flow) fixtures or fittings which meet at least three of the following requirements:

- The average flow rate for all lavatory faucets must be \(< 2.0\) gallons per minute.
- The average flow rate for all showerheads must be \(< 2.0\) gallons per minute.
- The average flow rate for all toilets must be:
  - \(< 1.3\) gallons per flush;
  - Be dual-flush and meet the requirements of ASME A112.19.14; or
  - Meet the United States Environmental Protection Agency Water Sense specification and be certified and labeled accordingly.

Utilize ENERGY STAR labeled dishwashers that use 6.0 gallons or less per cycle.

For additions to existing homes, meet at least two of following the water reduction strategies:

- The average flow rate for all lavatory faucets must be \(< 2.0\) gallons per minute.
- The average flow rate for all showerheads must be \(< 2.0\) gallons per minute.
- The average flow rate for all toilets must be:
  - \(< 1.3\) gallons per flush;
  - Be dual-flush and meet the requirements of ASME A112.19.14; or
  - Meet the United States Environmental Protection Agency Water Sense specification and be certified and labeled accordingly.
Energy Efficiency
- Meet the performance requirements of ENERGY STAR for Homes to achieve a HERS rating of 75; or achieve 15% over IC3 calculator, over the 2009 IECC baseline.

Heat Island Mitigation
- Install an ENERGY STAR Qualified roof on all roofs with slopes of 2:12 or greater.
- The use of a vegetated roof may be an acceptable alternative subject to the review and approval of the building official.

Indoor Air Quality
- No HVAC equipment allowed in garage. Place all air-handling equipment and ductwork outside the fire-rated envelope of the garage.
- Minimize pollutants from Garage. If there is a garage, tightly seal shared surfaces between garage and conditioned spaces, including all of the following:
  - In conditioned spaces above the garage:
    - Seal penetrations;
    - Seal all connecting floor and ceiling joist bays; and
    - Paint walls and ceilings
  - In conditioned spaces next to the garage:
    - Weather-strip all doors;
    - Seal all penetrations; and
    - Seal all cracks at the base of the walls.
- Air filters. Install air filters with a minimum efficiency reporting value (MERV) > 8 and ensure that air handlers can maintain adequate pressure and air flow. Air filter housings must be airtight to prevent bypass or leakage.
Residential Recommendations

- Continue Third-Party program for residential plan reviews and inspections

- Rely on existing and established industry certified professionals
  - Dallas Builders
  - US Green Building Council- LEED AP with Specialty
  - Environmental Protection Agency (EPA)
  - Professional license

- Review city’s checklists to streamline green review and inspection processes
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Summary

- Dallas experience as a leader in municipal green building led to its success in establishing a green building policy for private development and implementing a green building code.

- Local Green Building Code buy-in was due to:
  - Mayor and Council support
  - City staff knowledge and experience
  - Task Force process and participant engagement
  - Industry champions
  - Program proposed in phases

- The Green Building Task Force is a successful tool to communicate, educate and reach consensus regarding components and implementation steps.
Questions

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