Green Building Program
ORIENTATION
Outline

• Purpose
• Background
• Requirements
• Procedures and Processes
Purpose

- To conserve our natural resources

<table>
<thead>
<tr>
<th>Conventional</th>
<th>Green</th>
</tr>
</thead>
<tbody>
<tr>
<td>39% primary energy use</td>
<td>26% energy use reduction</td>
</tr>
<tr>
<td>72% electricity consumption</td>
<td>40% water use reduction</td>
</tr>
<tr>
<td>38% CO2 emissions</td>
<td>70% solid waste reduction</td>
</tr>
<tr>
<td>14% potable water</td>
<td>13% reduction in</td>
</tr>
<tr>
<td>consumption</td>
<td>maintenance costs</td>
</tr>
</tbody>
</table>
As of October 1, 2009, all new structures and additions are required to meet Green building requirements in **Ordinance #27131, found in Chapter 52, Subchapter 10, of the Dallas City Code - “Green Building Program”**
What is Green Building?

• Green Building means structures and their surrounding landscapes;
• designed, constructed, and maintained to decrease energy and water usage and costs;
• to improve the efficiency and longevity of building systems,
• and to decrease the burdens imposed on the environment and public health.
Environmental Benefits

• Enhance and protect ecosystems and biodiversity
• Improve air and water quality
• Reduce solid waste
• Conserve natural resources
Economic Benefits

• Reduce operating costs
• Enhance asset value and profits
• Improve employee productivity and satisfaction
• Optimize life-cycle economic performance
Health and Community Benefits

- Improve air, thermal, and acoustic environments
- Enhance occupant comfort and health
- Minimize strain on local infrastructure
- Contribute to overall quality of life
Requirements

REGISTRATION PROCESS

• Contractor number

• PIN number ($30 Charge to reset PIN)

• E-mail
Permitting

- **Master Permit** (All permit fees are paid)
  - Validate as a Third Party Green Provider / Responsible Party

- **Trade Permit** (Permit fee due)
  - Third Party Green Provider
Plan Review

- Single Family Dwelling
- Commercial < 50K
- Commercial > 50K
Inspections
(Beginning September 01, 2011)

• Third Party Provider

• Submittals
   (Copy of Affidavit)

• Results
Registration

Fees = $120

Contractor Number

PIN Number

Don’t forget your E-mail

NOTE
Fees = $100

Permit Number?

Contractor Number?
How to Validate on a Master Permit

- Permit Validation Number (10 Digit)
  - Permit Number
  - Contractor Number
  - PIN Number
What to Submit for Permit

Third Party Information

www.dallascityhall.com

City Departments

Building Inspection

Green Buildings
www.dallascityhall.com
Plan Review Compliance Affidavit

Dallas Green Building Program
Plan Review Compliance Affidavit

1. Address of construction: __________________________ Permit #: ____________
   
2. Provider name: __________________________________________________________
   
3. Provider registration #: __________________________________________________

Registered as (check all that apply):

☐ Residential provider
☐ Commercial under 50K provider
☐ Commercial over 50K provider

I, __________________________, have reviewed the plans for this project and confirm that it meets or exceeds the green building requirements of the Dallas Building Code or the Dallas One- and Two-Family Dwelling Code, as applicable.

________________________________________
Provider’s Signature

STATE OF TEXAS
COUNTY OF __________________________

This affidavit was acknowledged before me on ______________________ by ______________________

NOTARY PUBLIC

[NOTARY PUBLIC STAMP]
Dallas Green Building Program Application Checklist 1 & 2 Family Dwelling Projects

### Water Efficiency

**Install high efficiency, low flow fixtures or fittings which meet at least 4 of the 6 options (listed on the right).**

<table>
<thead>
<tr>
<th>Required Submittal Documents To Be Reviewed:</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ This section does not apply.</td>
</tr>
<tr>
<td>☐ 1. Average flow rate for all lavatory faucets must be 2.0 gpm</td>
</tr>
<tr>
<td>☐ 2. Average flow rate for all showerheads must be 2.5 gpm</td>
</tr>
<tr>
<td>☐ 3. Average flow rate for all toilets must be:</td>
</tr>
<tr>
<td>☐ 3.1 1.3 gallons per flush or</td>
</tr>
<tr>
<td>☐ 3.2 Dual flush and meet requirements of ASME A112.19.14, or</td>
</tr>
<tr>
<td>☐ Meet the United States EPA WaterSense specifications and be certified and labeled accordingly.</td>
</tr>
<tr>
<td>☐ 4. Utilize ENERGY STAR labeled dishwashers that use 6.6 gallons or less per cycle.</td>
</tr>
<tr>
<td>☐ 5. Utilize ENERGY STAR labeled clothes washer with modified energy x 2.0 and water factor x 5.5</td>
</tr>
<tr>
<td>☐ 6. Note: Must utilize drip irrigation emitters for all bedding areas of the landscape plan (Sec: 326.2.1.2.2).</td>
</tr>
<tr>
<td>☐ Meet a 20% water use reduction design strategy using calculations based on the Dallas Plumbing Code plumbing fixture baseline.</td>
</tr>
<tr>
<td>☐ 1). Green Built Texas efficiency requirements</td>
</tr>
<tr>
<td>☐ 2). LEED for Homes - minimum 6 points</td>
</tr>
</tbody>
</table>

**Note:** The use of GBT or LEED for Homes compliance paths must provide the supplemental checklist.

### Energy & Atmosphere

**Install the minimum provisions of Chapter 4 of the Dallas Energy Conservation Code or Chapter 11 of the IRC.**

<table>
<thead>
<tr>
<th>Required Submittal Documents To Be Reviewed:</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ 1). Use of IC3 Software by Energy Systems Laboratory, or</td>
</tr>
<tr>
<td>☐ 2). Use of accredited energy code compliance software and the results of a MERS index of 25 or less, or</td>
</tr>
<tr>
<td>☐ 3). Installing systems that have been certified by a national, state or located accredited energy efficiency program and approved by Energy Systems Laboratory, EPA’s ENERGY STAR Program certification of energy code equivalency shall be considered an approved program.</td>
</tr>
</tbody>
</table>

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[Image of a checklist page with the city of Dallas logo]
<table>
<thead>
<tr>
<th>Section</th>
<th>JURISDICTIONAL REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>4303.3.2 ENERGY USE</td>
<td></td>
</tr>
<tr>
<td>Energy use for proposed projects must meet the minimum provisions of Chapter 5 of the Dallas Energy Code as shown by:</td>
<td></td>
</tr>
<tr>
<td>1. Energy code compliance modeling through Energy Systems Laboratory approved software or COMcheck, or</td>
<td></td>
</tr>
<tr>
<td>2. Installing systems that have been certified by a national, state or local accredited energy program and approved by the Energy Systems Laboratory. The United States Environmental Protection Agency's ENERGY STAR Program certification of energy code equivalency shall be considered an approved program</td>
<td></td>
</tr>
<tr>
<td>4303.3.3 WATER USE</td>
<td></td>
</tr>
<tr>
<td>Proposed projects must use 20 percent less water than the water use baseline calculated for the building's total interior water fixture use as required by the Dallas Plumbing Code. Water efficiency requirements of LEED shall be considered as approved strategy for compliance with this section.</td>
<td></td>
</tr>
</tbody>
</table>
SRI (_____________) is calculated using a materials ____________ and _______________.

Black paint has SRI of ?
SRI (Solar Reflective Index) is calculated using a materials Reflectivity and Emittance.

Black paint has SRI of ? 0
<table>
<thead>
<tr>
<th>Responsible Party</th>
<th>DESCRIPTION AND REQUIRED DOCUMENTS TO BE REVIEWED</th>
<th>Enter points for each option selected</th>
<th>Allowable Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner or Design Professional</td>
<td><strong>SITE DEVELOPMENT AND LAND USE 15 POINTS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owner</td>
<td><strong>Site Selection</strong></td>
<td>Confirmation letter from the owner that the project has met these requirements. Not on prime farmland. Not on previous undeveloped land that is below 5 feet above the 100 year flood elevation per FEMA. Not on a habitat for any endangered or critical species. Not within 100 feet of any wetlands. Not within 50 feet of water body (lakes or rivers) per Clean Water Act or not on public parkland.</td>
<td>1</td>
</tr>
<tr>
<td>Owner or Design Professional</td>
<td><strong>Development Density &amp; Community Connectivity</strong></td>
<td>OPTION 1: Development Density - provide a site plan showing the site and adjacent buildings. Include density.</td>
<td>1</td>
</tr>
<tr>
<td>Owner or Design Professional</td>
<td><strong>Brownfield Redevelopment</strong></td>
<td>Letter from EPA or City verifying the site was a Brownfield</td>
<td>1</td>
</tr>
</tbody>
</table>
An office project has 250 people working a total of 640 hours each day. What is the total number of FTE for the project?
Answer

An office project has 250 people working a total of 640 hours each day. What is the total number of FTE for the project?

80
## Inspection Checklist - SFD

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Specific documentation</th>
<th>Prepared and on-site?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lavatory faucets</td>
<td>Check aerator for gallons per minute (GPM); or check packing box for GPM</td>
<td>Yes</td>
</tr>
<tr>
<td>2. Showerheads</td>
<td>Check shower head for GPM; or check packing box for GPM; or check actual flow for GPM</td>
<td>Yes</td>
</tr>
<tr>
<td>3. Toilets</td>
<td>Verify fixture is drought tolerant; or Verify fixture is WaterSense; or Verify gallons per flush information on label inside tank; or Verify gallons per flush from checkout and verify that fixture meets IRC Code</td>
<td>Yes</td>
</tr>
<tr>
<td>4. Dishwasher</td>
<td>Verify that Energy Star seal; or Verify model number and verify gallons per cycle from website</td>
<td>Yes</td>
</tr>
<tr>
<td>5. Clothes washer</td>
<td>Verify Energy Star seal; or Verify model number and verify gallons per cycle from website</td>
<td>Yes</td>
</tr>
<tr>
<td>6. Drip irrigation</td>
<td>Verify that drip emitters are in all plant bedding areas</td>
<td>Yes</td>
</tr>
<tr>
<td>7. Energy</td>
<td>Verify the submitted documents for: NSC; or HERS; or EPA’s ENERGY STAR Program</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Note: Verify that post-construction certification has been provided

- A set of City-approved plans must be on-site at the time of the inspection
- All water-conserving labeled items must meet City standards
- The overall efficiency of the building is subject to the City of Dallas field inspector’s approval
- All items for certification must identify equivalencies to be above ordinance requirements
### Inspection Checklist < 50K

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Specific documentation</th>
<th>Prepared and on-site?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cool roof</td>
<td>Warranty for materials, including documentation of solar reflective index (SRi)</td>
<td>Yes</td>
</tr>
<tr>
<td>2. Light pollution reduction</td>
<td>Fixtures specification sheets should be on file from pre-review. Otherwise, provide specifications at time of inspection</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Verify that ballasted exterior lights match fixtures identified by specifications</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Verify that fixtures are aimed correctly</td>
<td>Yes</td>
</tr>
<tr>
<td>3. Water use reduction</td>
<td>Design professional (architect, engineer) certification</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Verify that fixtures match those identified on plans and listed on certification paperwork</td>
<td>Yes</td>
</tr>
<tr>
<td>4. Optimize energy performance</td>
<td>Verify the substantial documents for: Energy modeling using ES3 approved software or Energy Star Program</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Note: Verify that post-construction certification has been provided*

- A set of approved plans must be on site at the time of the inspection.
- The acceptability of each item is subject to the City of Dallas field inspector's approval.
- Alternatives to off-site certification must identify equivalencies to the above ordinance requirements.
The calculated water use reduction for a project is the difference between the calculated _________ case and a __________ case. The percentage is determined by dividing the _________ case use by the _______________ use. The ___________ case is determined by using the ____________ standard for plumbing fixtures.

What is the water use reduction percentage?
The calculated water use reduction for a project is the difference between the calculated baseline case and a design case. The percentage is determined by dividing the baseline case use by the design use. The baseline case is determined by using the Dallas Plumbing Code standard for plumbing fixtures.

What is the water use reduction percentage? 20%
Inspection Compliance Affidavit

Dallas Green Building Program
Inspection Compliance Affidavit

Type of construction:  □ Residential, □ Commercial under 50K □ Commercial over 50K

1. Address of construction: ______________________  Permit #: ________________

2. Provider name: _______________________________________________________

3. Provider registration #: ______________________________________________

Registered as: (check all that apply):
□ Residential provider
□ Commercial under 50K provider
□ Commercial over 50K provider

I, __________________________ have inspected this project and confirm that it is consistent with the approved plans and that it meets or exceeds the green building requirements of the Dallas Building Code or the Dallas One- and Two-Family Dwelling Code, as applicable.

________________________________________
Provider's Signature

STATE OF TEXAS
COUNTY OF __________________________

This affidavit was acknowledged before me on ____________________________ by ____________________________

________________________________________
NOTARY PUBLIC

[NOTARY PUBLIC STAMP]
There will be QC

Minimum of 25% Quality Control
City of Dallas Website

www.dallascityhall.com

City Departments

Building Inspections

Contractors / Designers

Online Services for Contractors
Online Services for Contractors

Online Services for Contractors
Which label on appliances indicates the product reduces energy use?
Which label on appliances indicates the product reduces energy use?

- Energy Star
Review / Questions

• Registration – Contractor #, PIN #, E-mail address
• Permitting – Master Permit, Trade Permit, Validation
• Plan Review – Affidavit, Checklist
• Inspection – Scheduling, Results
• Final / Completion - Affidavit, Checklist, Documents
Contact Information

The Green Building Program will be administered by Building Inspection of the Department of Sustainable Development and Construction.

Meenal Chauk 214.948.4091
meenal.chauk@dallascityhall.com

Or

Mark Daniel 214.948.4464
mark.daniel@dallascityhall.com
Questions