What Contractors Should Know About the International Green Construction Code (IgCC)

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Introduction

What is "Green" Building?

- "Green Building" is a "holistic approach to design, construction, and demolition that minimizes the building's impact on the environment, the occupants and the community."

2010 California Green Building Standards, California Code of Regulations, Title 24, Part 11;
Section 202, Definitions, http://www.documents.dgs.ca.gov/bsc/CALGreen/2010_CA_Green_Bldg.pdf (last visited May 6, 2013).

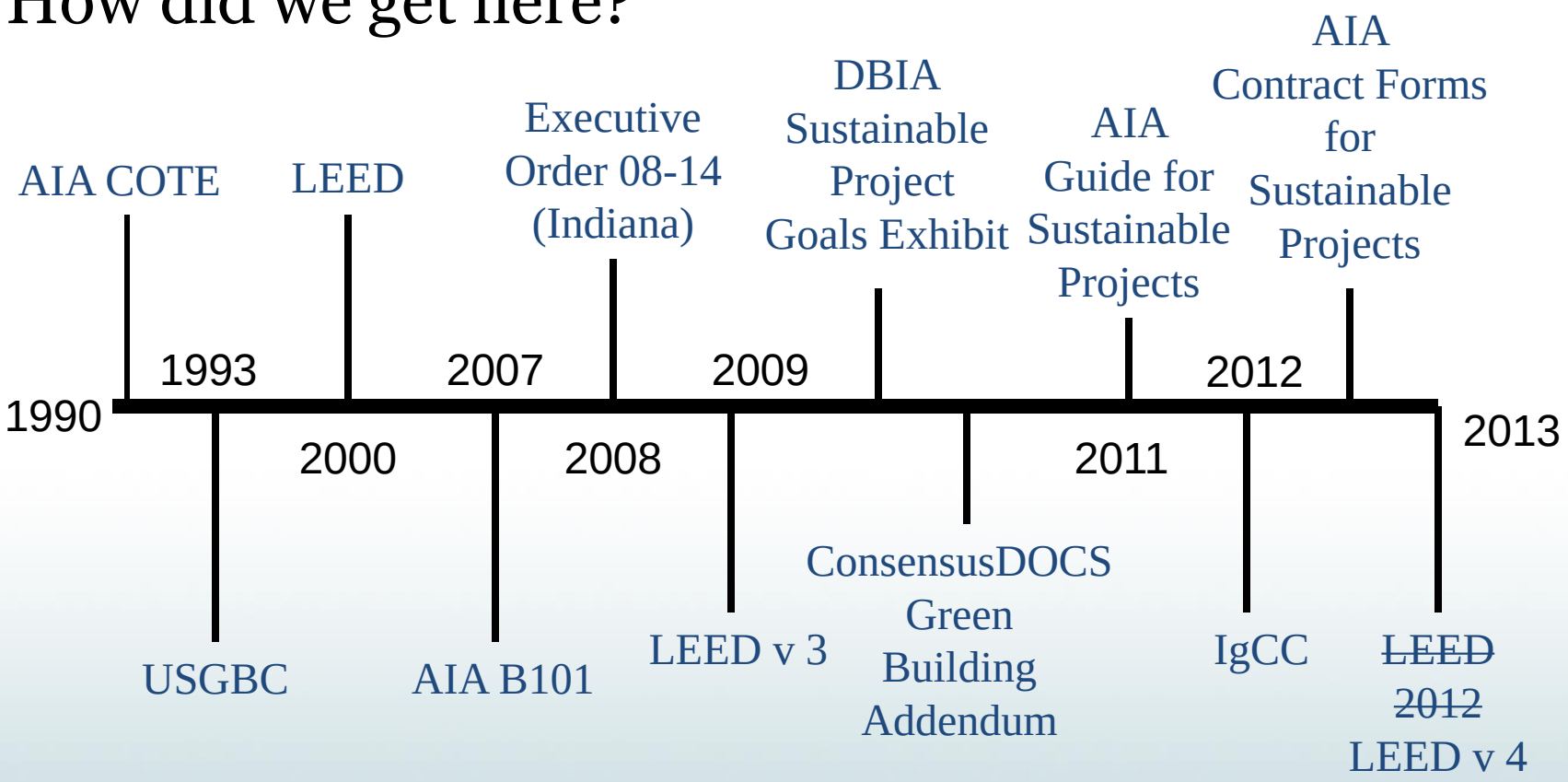
What is "Green" Building?

- "Green building is the practice of creating structures and using processes that are environmentally responsible and resource-efficient throughout a building's life-cycle from siting to design, construction, operation, maintenance, renovation and deconstruction…"

- http://www.epa.gov/greenbuilding/pubs/about.htm (Last visited 12/11/13)

What is “Green” Building?

- How did we get here?



How Green Is Your Project?

How Green Is Your Project?

- **Question:**
  - How do you measure how "green" or "sustainable" your project is?
- **Answer:**
  - Measurable, verifiable, uniformly accepted standards.

How Green Is Your Project?

- **Standards**
- **Codes**
- **Rating Systems**

How Green Is Your Project?

- **Standards:**
  - ASHRAE Standard 90.1, Energy Standard for Buildings Except Low-Rise Residential Buildings
  - ASHRAE Standard 189.1, Standard for the Design of High-Performance, Green Buildings Except Low-Rise Residential Buildings

How Green Is Your Project?

- **Codes:**
- International Energy Conservation Code (IECC)
- International Building Code
- International Plumbing Code
- International Green Construction Code (IgCC)

How Green Is Your Project?

- **Rating Systems:**
- Leadership in Energy and Environmental Design (LEED) (U.S. Green Building Council)
- Green Globes (Green Building Initiative)
- ENERGY STAR (U.S. EPA)

How Green Is Your Project?

- **Question:**
  - How have states and local jurisdictions used standards, codes and rating systems to legislate green building initiatives?
- **Answer:**
  - Primarily through mandates and incentives.

How Green Is Your Project?

Rating Systems:

- The Green Buildings Act (Rhode Island):
  - All major facility projects of public agencies shall be designed and constructed to at least the LEED certified or an equivalent high performance green building standard. http://www.rilin.state.ri.us/Statutes/TITLE37/37-24/37-24-4.HTM
- High Performance Public Buildings (Washington):
  - All major facility projects of public agencies receiving any funds in a state capital budget, or projects financed through a financing contract must be designed, constructed and certified to at least the LEED silver standard. http://apps.leg.wa.gov/RCW/default.aspx?cite=39.35D.030

How Green Is Your Project?

- Green Building Incentive Program (Indianapolis):
  - Qualifying projects can receive a rebate of up to 50% on all permit fees associated with the project, tied to certain green building criteria based on the LEED rating system (although LEED certification is not required).
    http://www.indy.gov/eGov/City/DPW/SustainIndy/Green/Pages/GreenBuildingIncentiveProgram.aspx
- Green Buildings Program (Bloomington, Indiana):
  - All new construction an major renovations of city buildings shall be built to achieve LEED Silver certification. Existing stock of city buildings subject to two-phase evaluation; only those buildings whose cost-benefit analysis and pay-back period of 10 years or less will be considered.
    http://bloomington.in.gov/sections/viewSection.php?section_id=449

How Green Is Your Project?

- "Anti-LEED Legislation"
  - Several states have proposed legislation that would limit use of LEED on public projects.
  - Proposed bills often contain language that require that public projects to use a rating system that:
    - does not disadvantage local products or materials, or
    - that gives certification credits equally to forest products grown, manufactured and certified under programs other than the Forest Stewardship Council.

How Green Is Your Project?

- Examples:
  - North Carolina:
    - **Proposed bill** would have only recognized "sustainable building standards" on public projects that gave certification credits equally to forest products under Sustainable Forestry Initiative, American Tree Farm System, and the Forest Stewardship Council; AND that was developed in accordance with ANSI procedures.
    - **Passed bill** eliminated those conditions, but stated a green building rating system must provide certification credits, give preference, not disadvantage, and promote building materials or furnishings manufactured or produced within the State.
    - N.C.G.S.A. § 143-135.37

How Green Is Your Project?

- Examples:
  - Ohio:
    - Proposed resolution that Ohio public projects only use rating systems that have been developed pursuant to ANSI procedures, and to further find that LEED v4 should no longer be used for Ohio public projects "until the USGBC conforms its system development to the ANSI voluntary consensus standard procedures…"
    - Ohio SRC 25
    - http://www.legislature.state.oh.us/res.cfm?ID=130_SCR_25

How Green Is Your Project?

Codes:

- Washington State Energy Code for Buildings
  - State-developed energy code that is more stringent than the 2009 IECC; applies to residential and commercial projects. http://bcap-ocean.org/state-country/washington
- Green Building Standards Code (CALGreen) (California Building Standards Commission)
  - State-wide green building code applying to both residential and non-residential projects. http://www.bsc.ca.gov/Home/CALGreen.aspx

How Green Is Your Project?

- Dallas, Texas
  - 2008—Adopted Green Building Ordinance
    - Phase 1: Focus on energy efficiency, water conservation & reduction of heat island effect through cool roofs; and
    - Phase 2: Develop & implement comprehensive green building standard for all new construction.
  - 2012—Adopted Dallas Green Construction Code
    - As part of Phase 2, adopted Dallas Green Construction Code, a version of the 2012 IgCC with Dallas-specific amendments;
    - Went into effect on October 1, 2013.

http://www.dallascityhall.com/building_inspection/greenBuilding.html

What is the IgCC?

What is the IgCC?

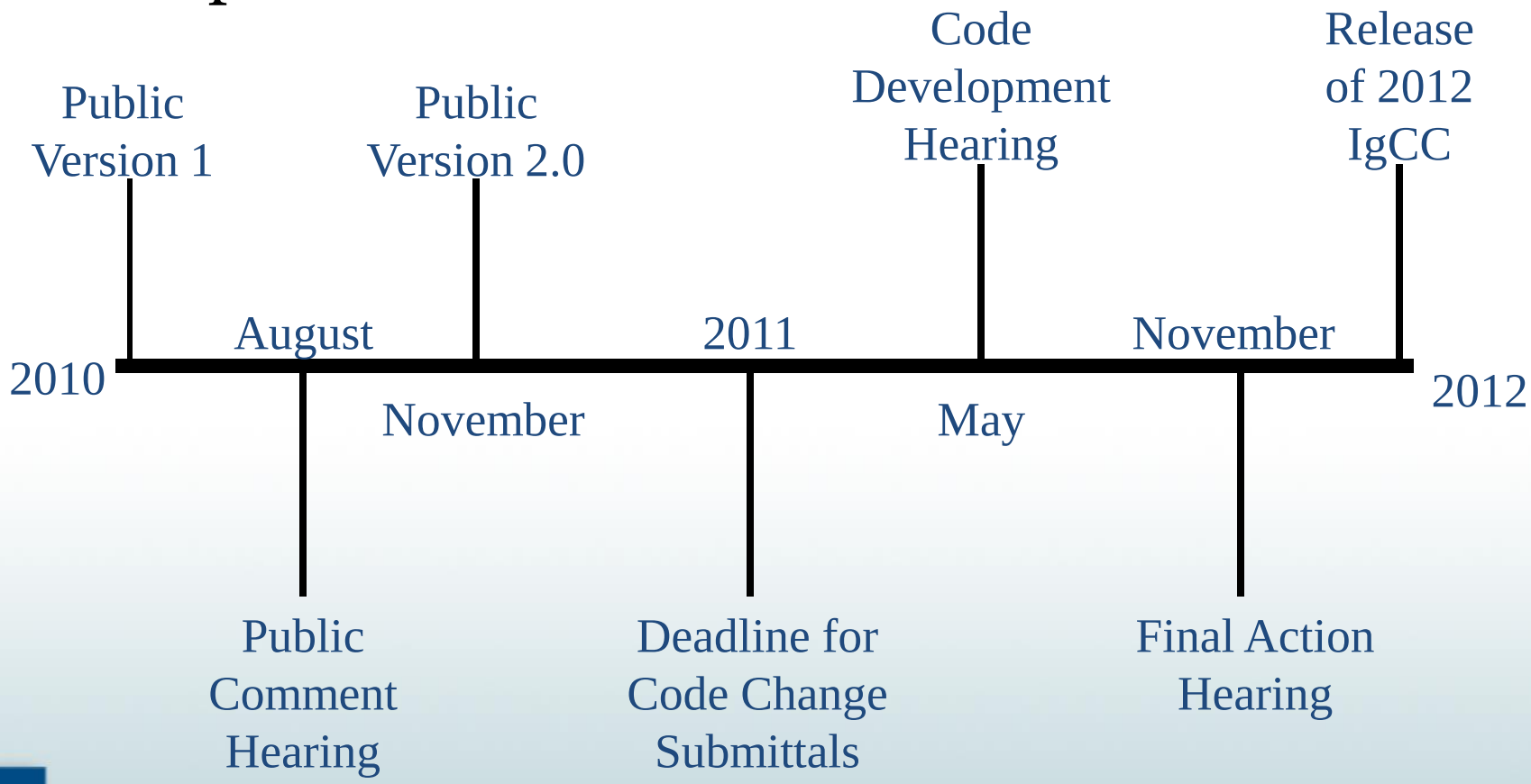
- The IgCC is…
  - A “**model**” code
  - An “**overlay**” code
  - An “**adaptable**” code

What is the IgCC?

- The IgCC is not…
  - A green building rating system
  - A certification system
  - A standalone code

What is the IgCC?

- Development Process



What is the IgCC?

- How it is organized:
  - Chapter 1: Administration
  - Chapter 2: Definitions
  - Chapter 3: Jurisdictional Requirements & Life Cycle Assessment
  - Chapter 4: Site Development & Land Use
  - Chapter 5: Material Resource Conservation & Efficiency
  - Chapter 6: Energy Conservation, Efficiency and CO_2e Emission Reduction
  - Chapter 7: Water Resource Conservation, Quality & Efficiency
  - Chapter 8: Indoor Environmental Quality & Comfort
  - Chapter 9: Commissioning, Operation & Maintenance
  - Chapter 10: Existing Buildings
  - Chapter 11: Existing Building Site Development
  - Chapter 12: Referenced Standards
  - Appendix A: Project Electives
  - Appendix B: Radon Mitigation
  - Appendix C: Optional Ordinance
  - Appendix D: Enforcement Procedures

What is the IgCC?

- 2012 IgCC
  - Site Development & Land Use
  - Material Resource Conservation & Efficiency
  - Energy Conservation, Efficiency & CO_2e Emission Reduction
  - Water Resource Conservation, Quality & Efficiency
  - Indoor Environmental Quality & Comfort
  - Commissioning, Operation & Maintenance

- LEED 2009
  - Sustainable Sites
  - Water Efficiency
  - Energy & Atmosphere
  - Materials & Resources
  - Indoor Environmental Quality
  - Innovation & Design Process

What is the IgCC?

- 2012 IgCC
  - Site Development & Land Use
  - Material Resource Conservation & Efficiency
  - Energy Conservation, Efficiency & CO_2e Emission Reduction
  - Water Resource Conservation, Quality & Efficiency
  - Indoor Environmental Quality & Comfort
  - Commissioning, Operation & Maintenance

- LEED v4*
  - Integrative Process
  - Location & Transportation
  - Sustainable Sites
  - Water Efficiency
  - Energy & Atmosphere
  - Materials & Resources
  - Indoor Environmental Quality
  - Innovation
  - Regional Priority

*LEED v4 was adopted in July 2013, and was launched at Greenbuild in November 2013.

What is the IgCC?

- Adopting Jurisdictions*:

STATES
Rhode Island
Maryland
Florida
North Carolina
Oregon

LOCAL JURISDICTIONS
Richland, Washington
Scottsdale, Arizona
Kayenta Township, Arizona
Phoenix, Arizona
Boynton Beach, Florida
Boulder, Colorado
Boulder County, Colorado
Fort Collins, Colorado
Keene, New Hampshire
Dallas, Texas
Washoe County, Nevada

*According to ICC as of December 2013: http://www.iccsafe.org/gr/Documents/jurisdictionadoptions.pdf

How Does the IgCC Work?

How Does the IgCC Work?

The Basics:

- Who can adopt the IgCC?
- Does a jurisdiction have to adopt all of the provisions of the IgCC?
- How does a local jurisdiction adopt the IgCC?
- After adopted, is the IgCC mandatory or voluntary?
- What types of projects does the IgCC apply to?

How Does the IgCC Work?

- **Four Types of Code Provisions:**
  1. **Jurisdictional Choices (Table 302.1)**
  2. **Alternate Compliance Options**
  3. **Project Electives (Appendix A)**
  4. **All Other Sections**

How Does the IgCC Work?

Jurisdictional Choices (Table 302.1):

Jurisdictions must elect whether specific provisions are mandatory for all buildings regulated by the code, and the level of compliance required.

TABLE 302.1
REQUIREMENTS DETERMINED BY THE JURISDICTION

Section	Section Title or Description and Directives	Jurisdictional Requirements	
	CHAPTER 1. SCOPE		
101.3 Exception 1.1	Detached one- and two-family dwellings and multiple single-family dwellings (town-houses) not more than three stories in height above grade plane with a separate means of egress, their accessory structures, and the site or lot upon which these buildings are located, shall comply with ICC 700.	☐ Yes	☐ No
101.3 Exception 1.2	Group R-3 residential buildings, their accessory structures, and the site or lot upon which these buildings are located, shall comply with ICC 700.	☐ Yes	☐ No
101.3 Exception 1.3	Group R-2 and R-4 residential buildings four stories or less in height above grade plane, their accessory structures, and the site or lot upon which these buildings are located, shall comply with ICC 700.	☐ Yes	☐ No
	CHAPTER 4. SITE DEVELOPMENT AND LAND USE		
402.2.1	Flood hazard area preservation, general	☐ Yes	☐ No
402.2.2	Flood hazard area preservation, specific	☐ Yes	☐ No
402.3	Surface water protection	☐ Yes	☐ No
402.5	Conservation area	☐ Yes	☐ No
402.7	Agricultural land	☐ Yes	☐ No
402.8	Greenfield sites	☐ Yes	☐ No
407.4.1	High-occupancy vehicle parking	☐ Yes	☐ No
407.4.2	Low-emission, hybrid and electric vehicle parking	☐ Yes	☐ No
409.1	Light pollution control	☐ Yes	☐ No
	CHAPTER 5. MATERIAL RESOURCE CONSERVATION AND EFFICIENCY		
503.1	Minimum percentage of waste material diverted from landfills	☐ 50% ☐ 65% ☐ 75%	

How Does the IgCC Work?

- **Alternate Compliance Options:**
  - ASHRAE 189.1 Standard for the Design of High-Performance Green Buildings
  - Whole Building Life Cycle Assessment
  - ICC 700 National Green Building Standard
  - Performance-Based and Prescriptive Based Compliance Paths

How Does the IgCC Work?

- 2012 IgCC
  - Site Development & Land Use
  - Material Resource Conservation & Efficiency
  - Energy Conservation, Efficiency & CO_2e Emission Reduction
  - Water Resource Conservation, Quality & Efficiency
  - Indoor Environmental Quality & Comfort
  - Commissioning, Operation & Maintenance

- ASHRAE 189.1
  - Site Sustainability
  - Water Use Efficiency
  - Energy Efficiency
  - The Building's Impact on the Atmosphere, Materials & Resources
  - Indoor Environmental Quality
  - Construction & Plans for Operation

How Does the IgCC Work?

- 2012 IgCC
  - Site Development & Land Use
  - Material Resource Conservation & Efficiency
  - Energy Conservation, Efficiency & CO_2e Emission Reduction
  - Water Resource Conservation, Quality & Efficiency
  - Indoor Environmental Quality & Comfort
  - Commissioning, Operation & Maintenance
- ICC 700
  - Lot Design, Preparation, and Development
  - Resource Efficiency
  - Energy Efficiency
  - Water Efficiency
  - Indoor Environmental Quality
  - Operation, Maintenance and Building Owner Education

How Does the IgCC Work?

Project Electives (Appendix A):
Jurisdictions can elect whether or not to require Project Electives.
Project Electives become mandatory only as selected and indicated by an owner for a specific project.
Jurisdictions determine number of electives required in each section.

TABLE A104
SITE PROJECT ELECTIVES

SECTION	DESCRIPTION	MINIMUM NUMBER OF ELECTIVES REQUIRED AND ELECTIVES SELECTED	
A102.2	The jurisdiction shall indicate a number between and including 0 and up to and including 6 to establish the minimum total number of project electives that must be satisfied.	—	
A104.1.1	Flood hazard area preservation	☐ Yes	☐ No
A101.1.2	Flood hazard area minimization	☐ Yes	☐ No
A101.1.3	Flood hazard area, existing building	☐ Yes	☐ No
A104.2	Wildlife corridor	☐ Yes	☐ No
A104.3	Infill site	☐ Yes	☐ No
A104.4	Brownfield site	☐ Yes	☐ No
A104.5	Site restoration	☐ Yes	☐ No
A104.6	Mixed use development	☐ Yes	☐ No
A104.7	Changing and shower facilities	☐ Yes	☐ No
A104.8	Long-term bicycle parking and storage	☐ Yes	☐ No
A104.9	Heat island	☐ Yes	☐ No
A104.9.1	Site hardscape project elective 1	☐ Yes	☐ No
A104.9.2	Site hardscape project elective 2	☐ Yes	☐ No
A104.9.3	Site hardscape project elective 3	☐ Yes	☐ No
A104.9.4	Roof covering project elective	☐ Yes	☐ No

How Does the IgCC Work?

- Putting it all together…

CHAPTER 4. SITE DEVELOPMENT AND LAND USE			
402.2.1	Flood hazard area preservation, general	☐ Yes	☐ No
402.2.2	Flood hazard area preservation, specific	☐ Yes	☐ No
402.3	Surface water protection	☐ Yes	☐ No
402.5	Conservation area	☐ Yes	☐ No
[illegible]	Agricultural land	☐ Yes	☐ No
402.8	Greenfield sites	☐ Yes	☐ No
[illegible]	High-occupancy vehicle parking	☐ Yes	☐ No
407.4.2	Low-emission, hybrid and electric vehicle parking	☐ Yes	☐ No
409.1	Light pollution control	☐ Yes	☐ No

- **402.8 Greenfield sites.** Where this section is indicated to be applicable in Table 302.1, site disturbance or development shall not be permitted on *greenfield* sites.

How Does the IgCC Work?

- Putting it all together…

- **303.1 Whole building life cycle assessment.** Where a whole building life cycle assessment is performed in accordance with Section 303.1, compliance with Section 505 shall not be required.

How Does the IgCC Work?

- Putting it all together…

A104.2	Wildlife corridor	☐ Yes	☐ No
A104.3	[illegible]	☐ Yes	☐ No
A104.4	Brownfield site	☐ Yes	☐ No
A104.5	Site restoration	☐ Yes	☐ No
A104.6	Mixed use development	☐ Yes	☐ No
A104.7	Changing and shower facilities	☐ Yes	☐ No
A104.8	Long-term bicycle parking and storage	☐ Yes	☐ No

- **A104.4 Brownfield site project elective.** The development of a building site that is a *brownfield* site with a new building with associated site improvements shall be recognized as a project elective.

How Does the IgCC Work?

- **Existing Buildings & Sites**
  - Applies to alterations, repairs, additions, and changes of occupancy of existing buildings and structures
  - Exception for historic buildings
  - Other Provisions:
    - Demolition of existing buildings

How Does the IgCC Work?

- **Administration of the Code**
  - The Code Official is authorized to
    - enforce the Code,
    - render interpretations of the Code,
    - adopt policies and procedures to clarify application of the Code,
    - issue notices or orders to ensure compliance with the Code, and
    - make inspections.

How Does the IgCC Work?

- **Administration of the Code**
  - The Code Official may also
    - accept reports of inspection by “approved agencies” or individuals; and
    - engage expert opinions as deemed necessary to report upon “unusual technical issues that arise”.

How Does the IgCC Work?

- **Enforcement of the Code**
  - Exhibit D: Enforcement Provisions
  - Not mandatory unless adopted by the jurisdiction.
  - "**D105.3 Prosecution of violation.** Any person failing to comply with a notice of violation… shall be deemed guilty of a misdemeanor or civil infraction as determined by the *jurisdiction*, and the violation shall be deemed a strict liability offense…"
  - Bonds, Incentives & the Green Building Fund

How Does the IgCC Work?

- **Example: Dallas Green Construction Code**
  - Does not adopt Appendix D (Enforcement Provisions) of the 2012 IgCC;
  - Provides that:
    - "a person violating a provision of this ordinance, upon conviction, is punishable by a fine not to exceed $2,000."

Legal Aspects of Green Building Codes

Legal Aspects of Green Building Codes

- **Legal Challenges:**
  - *Air Conditioning Heating & Refrigeration Institute (AHRI), et al. v. City of Albuquerque* (New Mexico)
  - *Building Industry Association of Washington (BIAW), et al. v. Washington State Building Code Council* (Washington)
  - *Gifford v. USGBC* (New York)

Legal Aspects of Green Building Codes

- Contractual Issues
- Standard of Care
- Who Can Be Held Liable?
- What Are The Damages?

Questions?

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