

Land Use in a Building Code??? Meet the International Green Construction Code



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International Green Construction Code

“The purpose of this code is to safeguard the environment, public health, safety and general welfare through the establishment of requirements to reduce the negative potential impacts and increase the positive potential impacts of the built environment on the natural environment and *building* occupants, by means of minimum requirements related to: conservation of natural resources, materials and energy; the employment of renewable energy technologies, indoor and outdoor air quality; and *building* operations and maintenance.”

- Section 101.3. Intent.



IgCC Development

- Developer: International Code Council (ICC)
- Publish date: March 2012
- Scope
 - What projects must comply?
 - Overlay to other ICC codes
 - Designed to maximize adoptability



Advantages of the IgCC

- Tool for Jurisdictions seeking “green”
- Relationship with benchmarking programs
- Public evaluation process
- Uniformity across jurisdictions



Development Progression



Priority #1:

Review this code not from the perspective of what Seattle needs, but to help ensure the following:

- Sound, enforceable language
- Conflicts with other I-Codes or referenced standards are reduced
- Provide input on appropriate high performance levels



Your Participation

What **YOU** bring to the public comment process:

- Expertise
- Perspective of scale and infrastructure
- Knowledge of regional needs
- Expansion of Smart Growth concepts

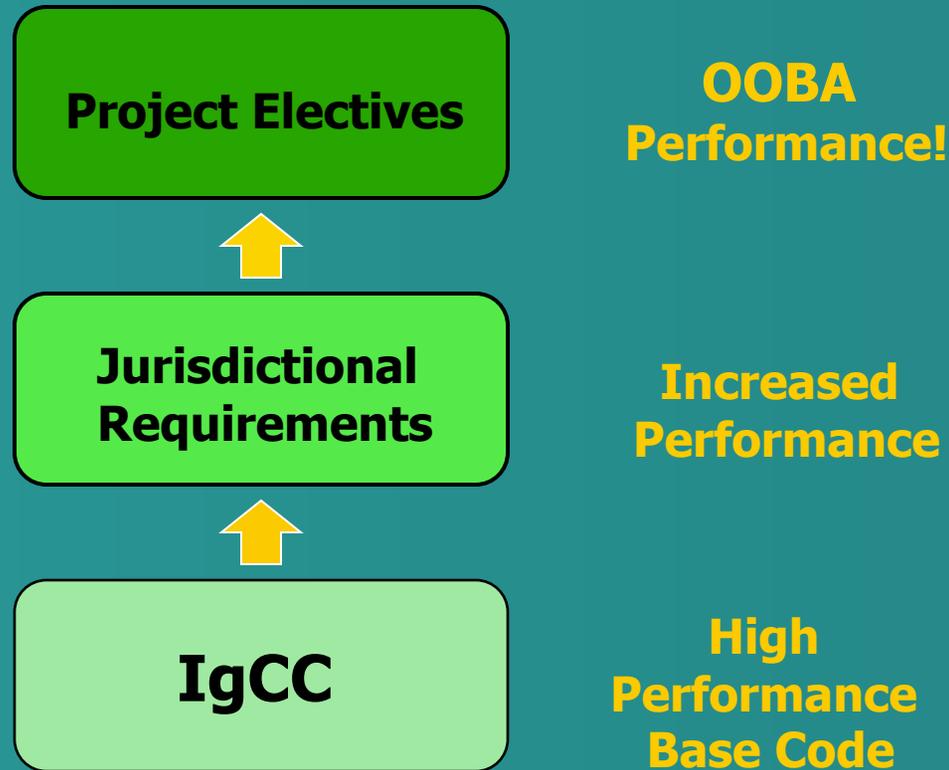


Chapter Content

- Ch 3: Jurisdictional Requirements
- Ch 4: Site Development and Land Use
- Ch 5: Material Resource Conservation and Efficiency
- Ch 6: Energy Conservation, Efficiency and Atmospheric Quality
- Ch 7: Water Resource Conservation and Efficiency
- Ch 8: Indoor Environmental Quality and Comfort
- Ch 9: Commissioning, Operation and Maintenance
- Ch 10: Existing Buildings
- Ch 11: Existing Building Site Development
- Appendix: Project Electives



Green Layers



Jurisdictional Requirements

Table 302.1: Requirements Determined by the Jurisdiction

TABLE 302.1 REQUIREMENTS DETERMINED BY THE JURISDICTION			
Section	Section Title or Description and Directives	Jurisdictional Requirements	
CH 3. JURISDICTIONAL REQUIREMENTS AND PROJECT ELECTIVES			
302.1 (2)	Optional compliance path – ASHRAE 189.1	<input type="checkbox"/> Yes	<input type="checkbox"/> No
CH 4. SITE DEVELOPMENT AND LAND USE			
402.2.1.1	Flood hazard area preservation, general		
402.2.1.2	Flood hazard area preservation, specific	<input type="checkbox"/> Yes	<input type="checkbox"/> No
402.2.2	Surface water protection	<input type="checkbox"/> Yes	<input type="checkbox"/> No
402.2.3	Conservation area	<input type="checkbox"/> Yes	<input type="checkbox"/> No
402.2.5	Agricultural land	<input type="checkbox"/> Yes	<input type="checkbox"/> No
402.2.6	Greenfields	<input type="checkbox"/> Yes	<input type="checkbox"/> No
403.4.1	High occupancy vehicle parking	<input type="checkbox"/> Yes	<input type="checkbox"/> No
403.4.2	Low emission, hybrid and electric vehicle parking	<input type="checkbox"/> Yes	<input type="checkbox"/> No
405.1	Light pollution control	<input type="checkbox"/> Yes	<input type="checkbox"/> No
CH 5. MATERIAL RESOURCE CONSERVATION AND EFFICIENCY			
502.1	Minimum percentage of waste material diverted from landfills.	<input type="checkbox"/> 50% <input type="checkbox"/> 65% <input type="checkbox"/> 75%	



Project Electives

Appendix: Project Electives Checklist

PROJECT ELECTIVES CHECKLIST			
Section	Description	Check the corresponding box to indicate each project elective selected.	Not available as Project Elective
CH 3. JURISDICTIONAL REQUIREMENTS AND PROJECT ELECTIVES			
304.1	Whole Building Life Cycle Assessment (LCA)	<input type="checkbox"/> (5 Electives ^a)	<input type="checkbox"/>
CH 4. SITE DEVELOPMENT AND LAND USE			
407.2.1	Flood hazard avoidance	<input type="checkbox"/>	<input type="checkbox"/>
407.2.2	Agricultural land	<input type="checkbox"/>	<input type="checkbox"/>
407.2.3	Wildlife corridor	<input type="checkbox"/>	<input type="checkbox"/>
407.2.4	Infill site	<input type="checkbox"/>	<input type="checkbox"/>
407.2.5	Brownfield site	<input type="checkbox"/>	<input type="checkbox"/>
407.2.7	Greenfield development	<input type="checkbox"/>	<input type="checkbox"/>
407.2.8	Greenfield proximity to development	<input type="checkbox"/>	<input type="checkbox"/>
407.2.9	Greenfield proximity to diverse uses	<input type="checkbox"/>	<input type="checkbox"/>
407.2.11	Site restoration	<input type="checkbox"/>	<input type="checkbox"/>
407.3.1	Changing and shower facilities	<input type="checkbox"/>	<input type="checkbox"/>
407.3.2	Long term bicycle parking and storage	<input type="checkbox"/>	<input type="checkbox"/>
407.3.3	Preferred parking	<input type="checkbox"/>	<input type="checkbox"/>
407.4.1	Site hardscape 1	<input type="checkbox"/>	<input type="checkbox"/>
407.4.2	Site hardscape 2	<input type="checkbox"/>	<input type="checkbox"/>
407.4.3	Site hardscape 3	<input type="checkbox"/>	<input type="checkbox"/>
407.4.4	Roof covering	<input type="checkbox"/>	<input type="checkbox"/>
407.5	Light pollution	<input type="checkbox"/>	<input type="checkbox"/>



IgCC Provisions

- **Chapter 4 Base Provisions:**

- Heat Island Mitigation – Roof Coverings: A minimum of 75% of roof surfaces shall comply with one or a combination of the following:

- Roof surface with a minimum Solar Reflectance Index of 0.30
- Green roof



- Heat Island Mitigation – Site Hardscape: A minimum of 50% of the site hardscape shall comply with one or a combination of the following:

- Site hardscape material with a minimum SRI Value of 0.30
- Shading structures
- Shade by trees
- Pervious and permeable paving



IgCC Provisions

- **Chapter 4 Base provision:**
 - **Stormwater Management:** Provide a stormwater management system addressing the increase in runoff by one of the following:
 - System to retain the volume of a substantial rainfall event and all smaller storms, and maintain the predevelopment natural runoff temperature
 - Hydrologic analysis: Ensure the runoff rate, volume, duration, and temperature do not exceed predevelopment rates



IgCC Provisions

- **Chapter 4 Base Provisions:**
 - Wetland Protection: Buildings and site improvements may not be located in a wetland or buffer
 - Flood hazard areas: Structure development must comply with the IBC; Lowest floors are elevated or impermeable to water not less than 1 foot above a determined elevation
- **Chapter 4 Jurisdictional Requirements:**
 - Flood hazard area preservation, general: Development prohibited within all flood hazard areas
 - Flood hazard area preservation, specific: Development prohibited within identified flood hazard areas



IgCC Provisions

- **Chapter 4 Jurisdictional Requirements:**
 - Surface water protection: Buildings and site improvements may not be located over or within a buffer, around or adjacent to bodies of water that could support fish, recreation or industrial use
 - Conservation area: Site disturbance or development of land is not permitted in or within 50 ft of a designated conservation area
 - Agricultural land: Buildings and associated site improvements are not allowed to be located on land zoned for agricultural purposes



IgCC Provisions

- **Chapter 4 Jurisdictional Requirement:**

- Greenfield Preservation:

- Site disturbance or development is not permitted

- Exception:

- Density: 1/4 mile of developed land with an average density of 8+ units/acre

- Uses: Within 1/4 mile of 5+ diverse uses and 1/2 mile of 7+ diverse uses

- Transit: Within 1/4 mile of bus or streetcar stops or 1/2 mile of rapid transit stops, light or heavy passenger rail stations, ferry terminals, or tram terminals

- Connectivity: Adjacent to areas of existing development that have a minimum of 90 intersections per square mile

- Permitted development is restricted



IgCC Provisions

- **Chapter 4 Base Provision:**
 - Bicycle Parking and Storage:
 - Provide long and short term bicycle parking spaces

- **Chapter 4 Jurisdictional Requirement:**

- Low Emission, Hybrid, and Electric Vehicle Parking:
 - 5% of parking spaces designated as preferred parking:
 - Buildings >10,000 sf
 - Occupant load > 100



IgCC Provisions

- **Chapter 4 Project Electives:**

- **Mixed Use Development:** New development must contain the following elements:
 - 2+ stories
 - 8+ residential dwelling units above the 1st story
 - Nonresidential first floor occupancies

- **Infill Site:**

- Develop a building site that is considered an infill site with a new building and associated site improvements



IgCC Provisions

- **Chapter 5 Project Electives:**
 - Existing Building Reuse:
 - Preserve 75% of the existing core and shell of the portion of structure proposed for redevelopment
 - Historic Building Reuse:
 - Preserve 75% of the existing core and shell of a structure designated as a landmark



Challenges Specific to Seattle Adoption

- **Not all content is applicable**
- **Some Seattle Codes or building practices currently exceed IgCC requirements**
- **I-Code relationship**
- **Potential conflicts with existing local and state requirements**
- **Some portions resource intensive**





“We must be the change we wish to see in the world”

- Mahatma Gandhi

