

Home Remodeling Green Building Checklist

The green building practices listed below are described in the Home Remodeling Green Building Guidelines, available at www.BuildItGreen.org

A. SITE

1. Protect Existing Soil and Minimize Disruption of Existing Plants & Trees

- ☐ a. Protect Existing Topsoil from Erosion and Reuse after Construction
- ☐ b. Limit and Delineate Construction Footprint for Maximum Protection

2. Deconstruct Instead of Demolish

3. Recycle Construction and Demolition Waste

- ☐ a. Recycle or Reuse All Cardboard, Asphalt & Concrete (Required)
- ☐ b. Recycle 50% of Remaining C&D Waste

B. FOUNDATION

1. Replace Portland Cement in Concrete with Recycled Flyash or Slag

- ☐ a. Minimum 30% Flyash or Slag
- ☐ b. Minimum 40% Flyash or Slag

2. Retrofit Crawl Space to Control Moisture

- ☐ a. Control Ground Moisture with Vapor Barrier
- ☐ b. Condition the Crawl Space

3. Design & Build Structural Pest Control

- ☐ a. Install Termite Shields and Separate All Exterior Wood-to-Concrete Connections by Metal or Plastic Fasteners/Dividers
- ☐ b. All New Plants Have Trunk, Base, or Stem Located At Least 36 Inches from Foundation

C. LANDSCAPE

1. Construct Resource-Efficient Landscapes

- ☐ a. No Invasive Species Listed by Cal-IPC Are Planted
- ☐ b. No Plant Species Will Require Shearing
- ☐ c. 75% of Plants Are Drought-Tolerant California Natives, Mediterranean, or Other Appropriate Species

2. Use Fire-Safe Landscaping Techniques

3. Minimize Turf Areas

- ☐ a. All Turf Will Have a Water Requirement Less than or Equal to Tall Fescue
- ☐ b. Turf Shall Not Be Installed on Slopes Exceeding 10% or in Areas Less than 8 Feet Wide
- ☐ c. Turf is <33% of Landscaped Area
- ☐ d. Turf is <10% of Landscaped Area

4. Plant Shade Trees

5. Group Plants by Water Needs (Hydrozoning)

6. Install High-Efficiency Irrigation Systems

- ☐ a. System Uses Only Drip, Bubblers, or Low-Flow Sprinklers
- ☐ b. System Has Smart Controllers

7. Incorporate Two Inches of Compost into the Top 6 to 12 Inches of Soil

8. Mulch All Planting Beds to the Greater of 2 Inches or Local Water Ordinance Requirement

9. Use 50% Salvaged or Recycled-Content Materials for 50% of Non-Plant Landscape Elements

10. Reduce Light Pollution by Shielding Fixtures and/or Directing Light Downward

11. Collect and Retain Rainwater for Irrigation

D. STRUCTURAL FRAME & BUILDING ENVELOPE

1. Apply Optimal Value Engineering

- ☐ a. Place Rafters and Studs at 24-Inch On Center Framing
- ☐ b. Use Only Jack and Cripple Studs Required for Load
- ☐ c. Use Only Jack and Cripple Studs Required for Load

2. Use Engineered Lumber

- ☐ a. Beams and Headers
- ☐ b. Insulated Engineered Headers
- ☐ c. Wood I-Joists or Web Trusses for Floors
- ☐ d. Wood I-Joists for Roof Rafters
- ☐ e. Engineered or Finger-Jointed Studs for Vertical Applications
- ☐ f. Oriented Strand Board for Subfloor
- ☐ g. Oriented Strand Board Wall and Roof Sheathing

3. Use FSC Certified Wood

- ☐ a. Dimensional Lumber and Timbers: Minimum 40%
- ☐ b. Dimensional Lumber and Timbers: Minimum 70%
- ☐ c. Panel Products: Minimum 40%
- ☐ d. Panel Products: Minimum 70%

4. Use Solid Wall Systems (includes SIPs, ICFs, & any Non-Stick Frame Assembly)

- ☐ a. Floors
- ☐ b. Walls
- ☐ c. Roofs

5. Reduce Pollution Entering the Home from the Garage

- ☐ a. Tightly Seal the Air Barrier between Garage and Living Area
- ☐ b. Install Garage Exhaust Fan OR Build a Detached Garage

6. Design Energy Heels on Roof Trusses

7. Install Overhangs and Gutters

8. Install Reflective Roof and Radiant Barrier

9. Replace Single-Pane Windows with High Performance Windows (U-factor ≤ 0.40 & SHGC ≤ 0.40)

10. Retrofit with Storm Windows

11. Install Low-SHGC Window Film on Single-Pane Windows

12. Retrofit Structure for Earthquakes

E. EXTERIOR FINISH

1. Use Recycled-Content (No Virgin Plastic) or FSC-Certified Decking

2. Install Rain Screen Wall System

3. Use Durable and Noncombustible Siding Materials

4. Use Durable and Noncombustible Roofing Materials

F. INSULATION

1. Install Insulation with 75% Recycled Content

- ☐ a. Walls and/or Floors
- ☐ b. Ceilings

2. Install Insulation that is Low-Emitting (Certified Section 01350)

- ☐ a. Walls and Floors
- ☐ b. Ceilings

3. Upgrade Insulation To Exceed Current Title 24 Standards

- ☐ a. Attics and Roofs
- ☐ b. Walls
- ☐ c. Floors

<input type="checkbox"/>	4. Inspect Quality of Insulation Installation before Applying Drywall
<input type="checkbox"/>	5. Apply Caulking & Weatherstripping
G. PLUMBING	
1. Distribute Domestic Hot Water Efficiently	
<input type="checkbox"/>	a. Insulate Hot Water Pipes from Water Heater to Kitchen
<input type="checkbox"/>	b. Insulate All Hot Water Pipes
<input type="checkbox"/>	c. Use Engineered Parallel Piping
<input type="checkbox"/>	d. Use Engineered Parallel Piping with Demand Controlled Circulation Loop
<input type="checkbox"/>	e. Use Structured Plumbing with Demand Controlled Circulation Loop
<input type="checkbox"/>	f. Use Central Core Plumbing
<input type="checkbox"/>	2. Replace Toilets with High-Efficiency Toilets (Dual-Flush or ≤ 1.3 gpf)
<input type="checkbox"/>	3. Upgrade to High-Efficiency Water Heater
4. Install Water Efficient Fixtures	
<input type="checkbox"/>	a. Showerheads or Shower Towers Use < 2.0 Gallons per Minute Total
<input type="checkbox"/>	b. Faucets - Bathrooms < 1.5 gpm
<input type="checkbox"/>	c. Faucets - Kitchen & Utility < 2.0 gpm
H. HEATING, VENTILATION & AIR CONDITIONING	
<input type="checkbox"/>	1. Design and Install HVAC System to ACCA Recommendations
2. Install High Efficiency Sealed Combustion Units	
<input type="checkbox"/>	a. Furnace and Boilers
<input type="checkbox"/>	b. Heat Pumps
<input type="checkbox"/>	3. Install Zoned, Hydronic Radiant Heating with Slab Edge Insulation
<input type="checkbox"/>	4. Install High Efficiency Air Conditioning with Environmentally Responsible Refrigerants
5. Design and Install Effective Ductwork	
<input type="checkbox"/>	a. Install New Ductwork Within Conditioned Space
<input type="checkbox"/>	b. Use Duct Mastic on All Ducts and Joints Seams
<input type="checkbox"/>	c. Install Ductwork under Attic Insulation (Buried Ducts)
<input type="checkbox"/>	d. Pressure Balance the Ductwork System
<input type="checkbox"/>	e. Protect Ducts During Remodeling & Clean All Ducts before Occupancy
<input type="checkbox"/>	f. Insulate Existing Ductwork
<input type="checkbox"/>	6. Install High Efficiency HVAC Filter (MERV 6+)
7. Install Gas Fireplace with Efficiency Rating Not Less Than 60% Using CSA Standard	
<input type="checkbox"/>	a. No Fireplace
<input type="checkbox"/>	b. Install Gas Fireplace with Efficiency Rating Not Less Than 60% Using CSA Standard
<input type="checkbox"/>	c. Retrofit Wood Burning Fireplaces With EPA-Certified Wood or Pellet Stove
8. Install Effective Exhaust Systems in Bathrooms and Kitchens	
<input type="checkbox"/>	a. Install ENERGY STAR Bathroom Fans Vented to the Outside
<input type="checkbox"/>	b. All Bathroom Fans are on Time or Humidstat
<input type="checkbox"/>	c. Install Kitchen Range Hood Vented to the Outside
9. Install Mechanical Ventilation System for Cooling	
<input type="checkbox"/>	a. Install ENERGY STAR Ceiling Fans & Light Kits in Living Areas & Bedrooms
<input type="checkbox"/>	b. Install Whole House Fan with Variable Speeds
10. Install Mechanical Ventilation for Fresh Air	
<input type="checkbox"/>	a. Install Air-to-Air Heat Exchanger (Heat or Energy Recovery Ventilator)
<input type="checkbox"/>	11. Install Carbon Monoxide Alarm(s)
I. RENEWABLE ENERGY	
<input type="checkbox"/>	1. Install Solar Water Heating System

2. Install Photovoltaic (PV) System That Offsets Electric Energy Use By:

- ☐ a. 30% of Electric Needs OR 1.2 kw
- ☐ b. 60% of Electric Needs OR 2.4 kw
- ☐ c. 90% of Electric Needs OR 3.6 kw

J. BUILDING PERFORMANCE

1. Whole House Inspection/Diagnostic Testing & Improvements Made

- ☐ a. Duct Testing and Improvements Made so that Leakage is < 15%
- ☐ b. Blower Door Testing and Improvements Made so that Air Change per hour is < 0.35
- ☐ c. House Passes Combustion Safety Backdraft Test

K. FINISHES

1. Design Entryways to Reduce Tracked in Contaminants

2. Use Low/No-VOC Paint

- ☐ a. Low-VOC Interior Wall/Ceiling Paints (Flat <50 g/L VOC; Non-Flat <150 g/L VOC)
- ☐ b. Zero-VOC Interior Wall/Ceiling Paints (<5 g/L VOC)

3. Use Low-VOC, Water-Based Wood Finishes (<250 g/L VOC)

4. Use Low-VOC Caulks & Construction Adhesives (<70 g/L VOC for All Adhesives)

5. Use Recycled-Content Paint

6. Use Environmentally Preferable Materials for Interior Finish: A) FSC Certified Wood, B) Reclaimed Materials, C) Rapidly Renewable, D) Recycled-Content or E) Finger-Jointed

- ☐ a. Cabinets (50% Minimum)
- ☐ b. Interior Trim (50% Minimum)
- ☐ c. Shelving (50% Minimum)
- ☐ d. Doors (50% Minimum)
- ☐ e. Countertops (50% Minimum)

7. Reduce Formaldehyde in Interior Finish (CA Section 01350)

- ☐ a. Subfloor (50% Minimum)
- ☐ b. Cabinets (50% Minimum)
- ☐ c. Interior Trim (50% Minimum)
- ☐ d. Shelving (50% Minimum)

8. After Installation of Finishes, Test of Indoor Air Shows Formaldehyde Level <27 ppb

L. FLOORING

1. Use Environmentally Preferable Flooring: A) FSC Certified Wood, B) Reclaimed or Refinished, C) Rapidly Renewable, D) Recycled-Content, E) Exposed Concrete. *Flooring Adhesives Must Have <50 g/L VOCs.*

- ☐ a. 15% of Floor Area
- ☐ b. 30% of Floor Area
- ☐ c. 50% of Floor Area
- ☐ d. 75% of Floor Area

2. Use Thermal Mass Flooring

3. Flooring Meets CA Section 01350 or CRI Green Label Plus Requirements (50% Minimum)

M. APPLIANCES AND LIGHTING

1. Install Water and Energy Efficient Dishwasher

- ☐ a. ENERGY STAR
- ☐ b. Dishwasher Uses No More Than 6.5 Gallons/Cycle

2. Install Water and Energy-Efficient Clothes Washing Machine

- ☐ a. Meets CEE Tier 2 Requirements (Modified Energy Factor 2.0, Water Factor 6.0)
- ☐ b. Meets CEE Tier 3 Requirements (Modified Energy Factor 2.2, Water Factor 4.5)

3. Install ENERGY STAR Refrigerator

- ☐ a. ENERGY STAR Qualified & < 25 Cubic Feet Capacity
- ☐ b. ENERGY STAR Qualified & < 20 Cubic Feet Capacity

4. Install Built-In Recycling & Composting Center

- ☐ a. Built-In Recycling Center
- ☐ b. Built-In Composting Center

5. Upgrade to Energy-Efficient Lighting**6. Install Low-Mercury Fluorescent Lighting**

- ☐ a. Linear Tubes
- ☐ b. Compact Fluorescent Lamps

7. Install Lighting Controls

- ☐ a. Interiors (Dimmers or Occupancy Sensors)
- ☐ b. Exteriors (Photocells or Motion Sensors)

N. OTHER**1. Incorporate Remodeling Checklist in Blueprints****2. Develop Homeowner Manual of Green Features/Benefits****3. Innovation:** List innovative measures that meet the green building objectives of the Remodeling Checklist

- ☐ Innovation in **Community**: Enter description here
- ☐ Innovation in **Energy**: Enter description here
- ☐ Innovation in **IAQ/Health**: Enter description here
- ☐ Innovation in **Resources**: Enter description here
- ☐ Innovation in **Water**: Enter description here