

I. BASIC ENERGY REQUIREMENT

(All of the following must be included)

- Home Energy Rating of Five Stars (86 pts) with a maximum blower door test of .35 ACHNat certified by Energy Rated Homes of Utah.
- Refrigerator and dishwasher and all appliances provided by builder meet Energy Star guides or perform in the top 50% of Energy Guide Ratings.
- HVAC equipment right-sized for home using Manual J or equal calculations with a minimum of 90% furnace efficiency and 13 SEER air conditioning efficiency.
- Ducting for HVAC equipment sealed using low toxic mastic with no ducts running in outside walls.
- Sealed or power vented combustion equipment installed, including water heater. No unvented combustion appliances, including gas fireplaces.
- Present Green Built Handbook to homeowner.

II. SITE DESIGN

(Choose a minimum of 3)

- Use of reflective surfaces in areas with non permeable materials (cement vs asphalt)
- Garage sited between house and prevailing winter winds as buffer (north or west of house).
- Home orientation encourages solar heating and reduces overheating of west facing glass
- Home oriented such that the long dimension faces within 30° of south (Within 15° of south- 2 points).

III. SITE WASTE MANAGEMENT

(Choose a minimum of 3)

- Posted job site recycling plan.
- Subcontractors required to participate in waste reduction and recycling efforts.
- Use suppliers who reuse or recycle packaging or take back their packaging.
- Dispose of non-recyclable waste at legally permitted facility.
- Recycle job site waste (>50%).
- Take measures to avoid air pollution or IAQ problems due to construction dust.
- Built in kitchen recycling center.
- Provide kitchen scrap compost bin.

IV. LANDSCAPE AND OUTDOOR STRUCTURES *(Choose a minimum of 4)*

- Trees and natural features on site protected during construction.
- Save and reuse all site topsoil.
- Chip and reuse site-cleared wood and brush as mulch.
- Outdoor structures, decking, and landscaping materials made from pressure treated engineered lumber or non-CCA dimensional lumber.
- Outdoor structures, decking, and landscaping materials made from recycled materials.
- Outdoor structures, decking, and landscaping materials made from 3rd party certified sustainably harvested lumber.

V. BUILDING ENVELOPE

(Choose a minimum of 6)

- South glass area is between 5-7% of total finished floor area.
- >60% of all glass is located on south with two foot roof overhang between one and two feet above windows.
- West facing glass does not exceed 5% of total finished floor area and has NFRC label SHGC of less than 0.40.
- Advanced sealing package (top and bottom plates, attic penetrations, corners, between cavities) in addition to basic sealing practices.

- Provide south roof area for future solar collector use (20° of south).
- Home designed for passive solar heating (>20%)
- Energy heels at least 6" on trusses.
- Insulated headers, min. R-10.
- Sill plate sealed with foam gasket.
- House wrapped with an exterior air infiltration barrier to manufacturer's specifications.

VI. MECHANICAL SYSTEMS

(Choose a minimum of 5)

- Furnace centrally located, duct runs reduced as much as possible.
- Duct work in attic sealed with mastic and insulated to an R-6 or more.
- 87% or higher efficiency boiler.
- Thermostat with fan only switch for furnace fan to circulate air.
- Two properly supported ceiling fans.
- Set-back programmable thermostat.
- High efficiency whole house purge fan installed with R-38 minimum insulated cover.
- Spot ventilation in high moisture areas vented to exterior of house with a 1.5 sone fan or better.
- Return air registers in each bedroom.
- Active solar heating system (at least 25% of heating load)
- Two or more thermostats controlling separate heating and/or cooling zones from a single system.
- Geothermal heating and cooling system.
- In-floor heating system with insulated slab (under and edge).

VII. INDOOR AIR QUALITY

(Choose 5 or ALA Health House Standards)

- House meets American Lung Association Health House Standards.
- Exhaust fan in garage on timer or wired to garage opener to reduce CO.
- Heat recovery ventilator or air-to-air heat exchanger.
- Mechanical room enclosed and installed to minimum R-11.
- Range hood vented to outside.
- Furnace and/or duct mounted electronic air cleaner or HEPA filter.
- Central vacuum system vented to outside (garage excluded).
- Locked and vented chemical storage cabinet outside of living space.

VIII. WATER HEATING

(Choose a minimum of 4)

- Gas water heater with EF .60 or more.
- Hot water pipes insulated to R-6 in unconditioned areas.
- Insulate all hot water lines to all locations with standard flexible pipe insulation or better.
- Water heater within 20 pipe feet of dishwasher and clothes washer.
- Rough-in for solar water heater.
- Passive or on demand hot water delivery system installed at farthest location from water heater.
- Water heater blanket installed to manufacturer's specifications.
- Insulated hot and cold water pipes 3' from water heater.
- Solar water heating system.
- Side-arm water heater off boiler.
- Geothermal or waste heat recovery water heating.

IX. APPLIANCES

(Choose a minimum of 3)

- Provide rough-in for gas appliances not included.
- Gas clothes dryer.
- Gas range, cooktop and/or oven with electronic ignition.
- Solar electric system provides 20% or more of home's electricity.
- Provide interior or ext. clothes line.

X. LIGHTING

(Choose a minimum of 4)

- Light colored interior walls, ceiling, and light soffits.
- Light to mid tone color flooring (75%).
- Furnish six compact fluorescent light bulbs to owners.
- Fluorescent tubes upgraded to T-8 Lamps with electronic ballasts.
- Installed lighting dimmers, timers, or motion detectors on four fixtures- interior and exterior.
- Solar tubes or skylights for interior day lighting.
- Air tight, IC rated can lights used.
- Solar powered walkway or outdoor area lighting.
- Solar photovoltaic system installed.

XI. BELOW GRADE MATERIALS

(Choose a minimum of 3)

- Recycled flyash concrete (min.15%).
- Cast in place insulating concrete form work.
- Insulated pre-cast concrete foundation system.
- Cast in place footing form work with integral drainage features.
- Reusable foundation forms used to reduce waste.
- Low toxicity form release agents used on concrete form work.
- Non-asphalt based damp proofing.
- Frost protected shallow foundation and footing exceeding 2'0".
- Foam insulated reinforced structural concrete slab.
- Recycled content concrete or glass cullet for aggregate.
- Recycled content expansion joint filler.

XII. STRUCTURAL FRAME

(Choose a minimum of 5)

- Provide weather protection for stored materials during construction.
- Avoid use of 2x10 or greater dimension solid lumber in floor or roof systems.
- Use prefabricated insulated headers.
- Engineered wood "I" joists or truss joists used for floors.
- Trusses or "I" joists used for roofs.
- Engineered lumber products for beams, joists, or headers.
- Finger-jointed studs, engineered stud material, or plate material.
- Optimum Value Engineering framing package used as developed by EEBA and Building Sciences Corp. Choose from the following (1pt. per three):
 - Frame >16 ioc
 - Single top plate
 - Optimized header sizes

- __2'-0" framing module
- __Centralized cutting areas
- __Detailed job site framing plans
- __Two stud corners
- __Ladder backing/drywall clips
- __Reduced cripples/jacks
- __Optimized sheathing
- __Reduced waste factor
- Use of reused timber or framing lumber (min. 25% of lumber usage).
- Use of energy efficient 2x6 exterior wall system.
- Use of alternative building systems such as SIPS, Fasswall, Autoclaved Concrete, ICF, or Straw Bale.
- Recycled content gypsum board.

XIII. EXTERIOR WALLS

(Choose a minimum of 4)

- Overhangs used to extend life of siding - 24" projection min.
- Glazing or sash designs that allow for insulated glazing unit replacement without sash replacement.
- Fiber-cement board siding (min. 50%) in lieu of wood siding.
- Recycled content sheathing (min. 50% pre or post consumer recycled content) or OSB.
- Recycled content siding (min. 50% pre or post consumer).
- Recycled content fascia, soffit, or trim (min. 50% pre or post consumer).
- Metal siding with long-life finish.
- Natural cementitious stucco siding.
- Drainage plane behind wood siding.
- All brick regionally produced.
- All stone regionally produced.
- Salvaged or recycled content masonry.
- Salvaged or recycled content stone.
- Drywall with recycled content gypsum.
- Plywood sheathing from certified sustainably managed forests.
- R-3.5 or better insulated sheathing.

XIV. WINDOWS

(Choose a minimum of 2)

- Finger jointed wood windows.
- Low E windows NFRC rated at U-.36 or lower.
- Exterior environmental/insulated window coverings.
- No metal frame windows in house, including basements.

XV. INSULATION

(Choose a minimum of 2)

- Home has blown wall insulation.
- Recycled content insulation (min. 50%) such as cellulose.
- Formaldehyde free insulation.
- Non-toxic spray foam insulation.
- HCFC free rigid foam insulation.
- Walls insulated to at least an R-25, and all attics to R-40.

XVI. ROOFING

(Choose a minimum of 2)

- Recycled content roofing material- list and explain material content.
- Minimum 30 year roofing material including asphalt, concrete, slate, clay, composition, metal, rubber or fiberglass.
- Use of light colored roofing materials with reflectance of _____.

XVII. SUB-FLOOR

(Choose a minimum of 1)

- Urea formaldehyde free sub-floor and underlayment material.
- OSB or plywood made from fast growth material and/or certified sustainably managed forests.
- Recycled content (100%) underlayment.

XVIII. FINISH FLOOR

(Choose a minimum of 2)

- Hard surface floors such as wood, concrete, tile or linoleum (50% of floor area).
- Natural linoleum with low toxic adhesives or backing in place of all vinyl flooring.
- Flooring made from recycled wood (min. 50% of wood flooring).
- Domestic wood flooring made from certified sustainably managed forests.
- Recycled content ceramic tile (50% of tile used).
- Salvaged stone or masonry flooring.
- Low toxic mastic and grout used.
- Recycled content carpet pad (100% of pad used).
- Natural content carpet (domestic cotton, wool) tacked not glued.
- Recycled content carpet-tacked not glued (min. 50% of carpet used).
- Carpet and Rug Institute IAQ label on all carpet used.

XIX. DOORS, CABINETS, TRIM

(Choose a minimum of 2)

- Hardboard content doors with phenolic or non-toxic binders.
- Recycled content doors.
- Exterior doors insulated to R-5 or greater.
- All cabinets, shelves, and countertops made with formaldehyde free materials: solid wood, formaldehyde free particle board or MDF, metal with natural or baked enamel finish.
- All exposed particle board containing formaldehyde is sealed with water based sealant.
- Finger jointed trim (75% of trim).
- Recycled content countertops.
- Reused hardwood trim (min. 25%).
- Hardwood from certified sustainably managed forests.
- Finish grade plywood from certified sustainably managed forests.
- Use of recycled cabinets, cupboards, furnishings: list_____.

XX. FINISHES AND ADHESIVES

(Choose a minimum of 2)

- Low or zero VOC paints (<250 g/l for water based, <380 g/l for solvent based) used throughout.
- Water based, low VOC adhesives used throughout.
- Recycled content paints (min. 25%).
- Water based urethane finishes on wood floors.
- Water based finished on woodwork.

XXI. INDOOR AND OUTDOOR WATER USE *(Choose a minimum of 4)*

- Less than 50% of installed landscape is cool season turf grass, such as buffalo, or fescue: remainder in non-turf planting beds.
- Installed landscape is xeriscape for at least 50% of non-paved area.
- Permeable materials comprise 40% of areas for all walkways, patios and driveways.
- Rainwater harvested and directed toward landscaping needs.
- Landscape with drought-resistant plants and/or grasses.
- Recycled-content mulch or compost.
- Installed bedding areas are mulched.
- Installed irrigation system is zoned separately for turf and bedding areas.
- Installed irrigation system includes a soil moisture or rain sensor, or other irrigation efficiency device.
- Install three cubic yards of soil amendment material per 1000 square feet of installed landscaped area based on soil analysis.
- Bathroom faucets fitted with aerator restricting flow to at least 1.8 gpm or better.
- Kitchen faucet fitted with aerator restricting flow to 2.0 gpm.
- Shower heads fitted with aerator restricting flow to 2.4 gpm.