

SUSCON Ecodesign matrix and checklist

Energy

SITE DESIGN & ORIENTATION

- 1 Construction designed for passive solar heating
- 2 Roof area
- 3 Construction orientation

RENEWABLE ENERGY

- 1 Active solar thermal heating system installed
- 2 Solar electric system or other onsite renewable energy source installed
- 3 Solar water heating system for the construction's hot water heating needs
- 4 Renewable outdoor lighting
- 5 Renewable/clean fuels used

FOUNDATION SYSTEMS

- 1 Reinforced structural concrete slab with rigid insulation below concrete slab
- 2 permanent insulation to the foundation
- 3 Frost-protected shallow foundation
- 4 Insulated foundation with non-toxic spray foam insulation from footer to top of wall

THERMAL ENVELOPE

- 1 Insulated exterior windows and doors
- 2 Full-height insulation over top wall plate.
- 3 Advanced Rim Joist Insulation.
- 4 Seal at all mechanical penetrations
- 5 Seal all attic penetrations
- 6 Design and install a whole building ventilation system

WINDOWS & DOORS

- 1 Low-E glass (windows, doors) used
- 2 Exterior doors Insulated

LOW-ENERGY COOLING STRATEGIES

- 1 Overhangs and/or fixed shading elements designed to provide seasonal shading
- 2 Reduce heat gain and/or heat loss on south, east or west facades

MECHANICAL HEATING & COOLING SYSTEMS

- 1 HVAC equipment sized on room heat load calculation.
- 2 Electronically commutated motor (ECM) on air handler
- 3 In-floor heating system installed per requirements
- 4 Ground-source heat pump system for space heating with a coefficient of performance (COP)
- 5 Central air conditioner or ground source heat pump
- 6 Zoning utilizing two or more thermostats controlling separate heating and/or cooling zones from a single system
- 7 programmable thermostat

HVAC DISTRIBUTION SYSTEMS

- 1 Ducts sized and installed in accordance with room-by-room loads calculations for sizing ductwork
- 2 ductwork joints and penetrations sealed

- 3 Any ducts outside conditioned space are sealed with mastic
- 4 Seal off all ducts during construction or clean HVAC ducts and coils before occupancy

WATER HEATING

- 1 Ground-source (desuperheater) and/or waste heat recovery water heating
- 2 Tankless water heater with .80 EF or greater
- 3 Insulate all hot water lines to all locations with standard flexible pipe insulation
- 4 Drain wastewater heat recovery system installed

LIGHTING

- 1 qualified self-ballasted compact fluorescent screw-based bulbs (CFLs)
- 2 Advanced Lighting and Automation Control System capable of unified automation control of lighting loads.
- 3 Tubular skylights are installed in interior areas such as bathrooms, hallways, and kitchens that receive limited daylight.

Health and Safety

IMPROVED INDOOR AIR QUALITY

- 1 Design and install a whole building ventilation system that complies with ASHRAE standard 62.2 – 2003
- 2 Heat recovery ventilator (HRV) or air-to-air heat exchanger
- 3 Install an integrated whole house High Efficiency Particulate Air Filters
- 4 Active or passive radon mitigation installed
- 5 Exhaust fan in garage for continuous operation
- 6 Garage detached from all living areas
- 7 Install hardwired carbon monoxide detector outside main sleeping areas
- 8 Only low toxicity, solvent-free adhesives used
- 9 Cabinet finish coat done with water based finishes containing VOC content of less than 250 grams per liter
- 10 Water-based urethane finishes on wood floors
- 11 Insulation used throughout house contains no formaldehyde binders
- 12 All wall, ceiling and trim paints have zero to minimal VOC content

MOISTURE MANAGEMENT

- 1 Implementation of proper roof flashing and moisture management techniques
- 2 Downspouts discharge at least 5 feet away from foundation

Material Resource Efficiency

FOUNDATION

- 1 Non-solvent based damp proofing
- 2 Aluminum foundation forms used
- 3 Foundation form release agents are non-toxic, contain no VOCs, and are biodegradable
- 4 Recycled-content expansion joint filler

FRAMING

- 1 Reinforced cementitious foam-formed above grade walls
- 2 Structural insulated panels (walls, roof)
- 3 Advanced framing techniques employed to reduce/conserves structural framing and lumber
- 4 All decking materials made from third-party certified sustainably-harvested lumber

ROOFING

- 1 Minimum 40-year roofing material, including concrete, slate, clay or metal
- 2 Minimum 40-year asphalt composition shingle (organic or fiberglass based) roofing material

INSULATION

- 1 HCFC-free foam insulation used for spray foam

WINDOWS & DOORS

- 1 Window frames made from third-party certified sustainably harvested wood
- 2 Tropical hardwoods, if used anywhere in the home, are from third party certified sustainably harvested wood
- 3 Doors in home must use non-urea formaldehyde based binders

EXTERIOR WALL FINISHES

- 1 Wall finish material comprises 50% or more of the exterior wall area
- 2 Locally produced brick
- 3 Indigenous stone
- 4 Fiber cement siding on 50% or more of exterior wall area with proper drainage plane installation
- 5 Recycled and/or recovered-content siding

INTERIOR FINISH FLOOR

- 1 Natural fiber carpet
- 2 Domestic wood flooring from reused/recovered sources
- 3 Bamboo in place of hardwood

CABINETRY AND TRIM

- 1 Cabinets&drawer boxes are made from materials that contain no added urea-formaldehyde resins
- 2 Cabinet frames, doors and drawer fronts with low-VOC finishes

MATERIALS REDUCTION & RE-USE

- 1 Salvaged, reclaimed or refurbished materials for 5% of structural materials
- 2 Salvaged, reclaimed or refurbished materials for 5% of finish materials, not including flooring
- 3 Paints or finishes with low recycled-content and VOC content

CONSTRUCTION WASTE REDUCTION & RECYCLING

- 1 Jobsite waste (sending to the landfill NO MORE than 2.0 lbs per square foot of conditioned floor area)
- 2 Use an onsite recycling and/or reuse program

Resource Conservation

WATER

- 1 Install a hot water demand controlled recirculation pump.
- 2 Clothes washer meets the Consortium for Energy Efficiency (CEE) requirements
- 3 Bathroom faucets fitted with aerator restricting flow
- 4 Kitchen faucet fitted with aerator restricting flow
- 5 Showerheads installed are low-flow
- 6 Dual-flush gravity, pressure or vacuum assist toilet
- 7 Installed irrigation system for the efficient distribution of water
- 8 Irrigation system equipped with a master valve preventing the zone valves from being pressurized
- 9 Install practical turf areas
- 10 Rainwater directed toward landscaping where practical
- 11 Pipe insulation