

1. **Keep It Dry**
2. **Keep It Clean**
3. **Keep It Ventilated**
4. **Keep It Safe**
5. **Keep It Free of Contaminants**
6. **Keep It Pest Free**
7. **Keep It Maintained**

The Ecohealth Criteria was created based on the 7 Principles of Healthy Housing developed by the National Center for Healthy Housing.



| | | | | | | | | | |
|-----------------|--|--|--|--|--|--|--|--|--|
| Criteria | | | | | | | | | |
|-----------------|--|--|--|--|--|--|--|--|--|

KEEP IT DRY

| No wall to wall carpet, Vinyl Flooring, Vinyl Siding and Trim. No Vinyl Windows. | | | | | | | | | |
|--|--|--|--|---|--|--|--|--|--|
| | | | | For conventional hot water heaters and equipment that condense water (e.g., air conditioner, dehumidifier) install drains or catch pans that capture overflow or leaks. | | | | | |
| | | | | FOLLOW THE NAHB National Green Building Program www.nahbgreen.org | | | | | |
| | | | | Do not install mold-susceptible materials such as vinyl wallpaper, paper-faced gypsum board, and unsealed grout in wet areas. Use highly durable, moisture-resistant materials in tub/shower enclosures (cement board, fiberglass-reinforced board). | | | | | |
| | | | | Basements and Concrete Slabs: Provide proper drainage to the lowest level of concrete. Waterproof exterior of below grade foundation walls. Provide continuous crushed stone under footings or provide pipe through footing for drainage of any accumulated water under slab to drainage. Install a capillary break of 4 inches of clean or washed gravel (0.5-inch or greater), placed over soil. Cover with a 6-millimeter (mil) polyethylene sheeting moisture barrier, with joints lapped one foot or more to prevent moisture from migrating from the soil through the slab to a living or storage area. On interior below-grade walls, avoid using separate vapor barrier or a below-grade vertical insulation that can trap moisture inside wall systems (e.g., polyethylene sheeting, vinyl wallpaper or foil faced). | | | | | |
| | | | | Crawlspaces: Do not vent crawl spaces. Cover floor with continuous sealed vapor retarder sealed to walls and insulate walls. | | | | | |

| | | | | | | | | |
|--|--|--|---|--|--|--|--|--|
| | | | Insulate cold water pipes in climates and building conditions susceptible to moisture condensation. Avoid putting plumbing in exterior walls. | | | | | |
| | | | Surface Water Drainage: Divert water drainage away from the building by directing gutters and downspouts to flow onto splash blocks or a proper drainage system. Slope new and rebuilt walkways, stairs, patios and thresholds away from the buildings. Best practices include a grade of 0.5 inch per foot, or approximately a 4 percent pitch. EPA recommends a 2 percent pitch (0.25 inch per foot) for hard surfaces such as patio slabs, walks and driveways. Provide drain tile at footings, level or sloped to discharge to outside grade (daylight) or to accessible sump pump. Top of drain tile pipe must always be below the level of where bottom of concrete slab or crawl space floor will occur. Pipe shall be surrounded with minimum of 6 inches of 3/4 inch washed or clean gravel that is fully wrapped with fabric cloth. Use a sealed sump pump system. Drainage system not required in pure sand. | | | | | |
| | | | Minimize and properly flash all roof penetrations and construct effective eaves. Where feasible, extend eaves (ideally 18 inches to 2 feet, climate conditions permitting) to keep water away from the building. Provide step flashing at intersections of roof and walls with the exception of continuous flashing at metal and rubber membrane roofs. Use metal "kick-out" flashing at the end of roof/wall intersections to direct water away from wall. | | | | | |
| | | | Install continuous drainage plane fully sealed at all penetrations that directs water away from wall assemblies. | | | | | |
| | | | Install effective flashing on all rough openings, including membrane flashing on bottom of all rough openings for windows (pan flashing) and doors, using adhesives compatible with drainage plane materials and window and door head casing flashing. Ensure proper installation of windows and doors to protect moisture-sensitive materials from rainwater intrusion. | | | | | |
| | | | Reduce moisture problems caused by unnecessary heat loss into and out of the unconditioned space. No non-airtight recessed light fixtures in insulated ceilings. | | | | | |
| | | | Plan landscaping so that mature plantings will be at least 24" from house. Avoid planting trees where root systems can penetrate the foundation and plumbing. | | | | | |
| | | | No wall to wall carpet or vinyl flooring | | | | | |
| | | | Use Whole Building System Construction to keep home as dry as possible during the construction process. Modular and/or SIPS Panels. | | | | | |
| | | | Back prime all wood siding. Pre-Treat all sides of wood with a coating of clear water repellent preservative. After the water repellent has dried, install the siding, prime and apply two top coats of 100% acrylic latex paint. Treat all ends, edges and backs of wood siding. | | | | | |
| | | | Use Whole Building System Construction and PATH Technologies to keep the home as dry as possible during the construction process: Modular and/or Structural Insulated Panel Construction Optional: Pre-Cast Foundations | | | | | |
| | | | Follow Guidance from "The Builder's Guide Series": A systems approach to designing and building homes that are safe, healthy, durable, comfortable, energy efficient and environmentally responsible. Building Science Corporation publishes the Builders Guides. * Cold (heating) * Hot Humid * Hot Dry-Mixed Dry (cooling) * Mixed Humid (heating and cooling) * SIPS | | | | | |
| | | | Back prime wood siding. Pre-treat all sides of the wood with a coating of clear water repellent preservative. After the water repellent has dried, install the siding, prime and apply 2 top coats of 100% acrylic latex paint. Treat the ends, edges and backs of wood siding. | | | | | |

KEEP IT CLEAN

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | Install permanent walk-off mats, provide track off system, or design to accommodate track off mats. Provide sufficient storage area for shoes and boots to encourage removal when entering building. | | | | | |
| | | | | No Wall to Wall Carpet- only area rugs or runners | | | | | |
| | | | | If possible, install central vacuum system with exhaust to the outdoors. | | | | | |
| | | | | Make sure builders and contractors clean the interior of your renovation or new construction at the end of the working day. (Dispose of food, food bags, cups, and any hazardous materials) | | | | | |

KEEP IT WELL VENTILATED

| | | | | | | | | | |
|--|--|--|--|---|--|--|--|--|--|
| | | | | Except for exhaust fans ducted to multiple bathrooms, install Energy Star-labeled local exhaust bathroom fans per ASHRAE 62.2 that exhaust to the outdoors, are equipped with a humidistat sensor or timer, and have rates of at least 20 cfm continuous (50 cfm intermittent). For kitchens with gas cooktops and/or gas ovens, install power-vented Energy-Star labelled fans or range hoods per ASHRAE 62.2 that exhaust to the exterior and have rates of 5 air changes per hour or 100 cfm intermittent. | | | | | |
| | | | | Adequately ventilate all living areas by following ASHRAE 62.2 or as a rough rule of thumb providing 15 cubic feet per minute of fresh air, per occupant, either via the HVAC system or through natural ventilation. | | | | | |
| | | | | Size HVAC systems to prevent short-cycling of heating or air conditioning and ensure adequate dehumidification (ACCA Manual J and S). | | | | | |
| | | | | Do not install air handlers or duct work in garage. Exhaust ducts allowed if leakage is limited to <5%. | | | | | |
| | | | | Install air filters rated at MERV 8 or higher, and ensure that air handlers can maintain adequate pressure and air flow, OR install ductless space conditioning system | | | | | |
| | | | | Avoid use of HVAC equipment during construction, mask HVAC outlets during construction, and clean HVAC ducts and coils before occupancy. | | | | | |
| | | | | ENERGY STAR Qualified Modular Home and IAQ Inspection Checklists | | | | | |
| | | | | Ventilate before occupancy. For the period between finishing and occupancy, ventilate the building at the highest rate the ventilation system can produce for a period of three days. | | | | | |

KEEP IT SAFE

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | Set water heater temperature at 120 degrees Fahrenheit. | | | | | |
| | | | | Install medicine storage cabinets with locks in homes that may be occupied by small children. | | | | | |
| | | | | Install grab bars inside and outside showers in housing units that may be occupied by persons over 55. | | | | | |
| | | | | Provide smoke detectors per code and hardwired with battery backup. | | | | | |
| | | | | Install one carbon monoxide (CO) alarm outside of each separate sleeping area in homes with combustion appliances. Install additional alarm on interior wall of attached garage. | | | | | |
| | | | | Absolutely NO smoking on jobsite. (interior or exterior) This is a construction site with many flammable materials. | | | | | |
| | | | | Kitchen Pantries and closets with built ins. These are affixed to the over shelving. walls so that children don't climb and tip | | | | | |
| | | | | Recessed Lighting: Fewer electrical cords and lamps to tip over. | | | | | |
| | | | | Double Hung Windows for second plus stories. Upper sash can be opened for ventilation instead of lower one, preventing fall hazards for children. | | | | | |
| | | | | Single hole-single lever faucets for less scalding | | | | | |

KEEP IT FREE OF CONTAMINANTS

| | | | | | | | | |
|--|--|--|---|--|--|--|--|--|
| | | | Use low-volatile organic compounds (VOC) paints and primers. Use low-VOC sealants and adhesives. | | | | | |
| | | | Ensure any composite wood used (including interior panel products, exposed particleboard, MDF) only if it is free of added urea formaldehyde, or sealed with a low-VOC, water-based sealant or laminate. Solid Wood Shelving. | | | | | |
| | | | Use lead safe work practices when sanding, cutting, scraping, drilling or in any other way disturbing painted surfaces in homes built before 1978, unless lead testing documents that the paint is not lead based. Follow Lead-Safe Work Practices. Follow 24 CFR 35 for federally owned or assisted properties. Follow the Lead Paint Field Safety Guide for all other properties. | | | | | |
| | | | Install detached garage OR tightly seal shared walls between garage and conditioned spaces with: continuous air barrier, tightly sealed door from living space to garage, air sealing of all penetrations, walls, ceilings and floors, and minimum 100 CFM exhaust fan rated for continuous exhaust with automatic timer control to run for a pre-set period of time when garage door opens and closes. | | | | | |
| | | | Use Hardwood , Stone or Tile Flooring (low-VOC emitting product). | | | | | |
| | | | Ensure all combustion -fueled equipment in conditioned spaces is vented to the outside and either sealed-combustion, direct vent, power-vented, induced draft, or aerodynamically de-coupled from the indoor air. No unvented fireplaces OR all fireplaces and solid fuel hearth in must have tight-fitting doors and dedicated outside combustion air. Non-closed combustion systems must be aerodynamically de-coupled from the indoor air. | | | | | |
| | | | If home is located in EPA Zone 1, or local data suggest that there is a radon risk, then design and install radon mitigation system, and perform short term radon test. Radon test all homes after completion and before occupancy. Radon mitigation systems are strongly recommended for EPA Zone 2. | | | | | |
| | | | No Vinyl Siding and trim. No Vinyl Windows. | | | | | |

KEEP IT PEST FREE

| | | | | | | | | |
|--|--|--|--|--|--|--|--|--|
| | | | Seal all wall, floor and joint penetrations with rodent proof materials and low VOC caulk if appropriate. Apply boric acid in holes and cracks likely to experience pest problems. | | | | | |
|--|--|--|--|--|--|--|--|--|

KEEP IT WELL MAINTAINED

| | | | | | | | | |
|--|--|--|--|--|--|--|--|--|
| | | | Provide a "User's Manual" for the house, including written operation instructions for the house, maintenance schedule, maintenance instructions, equipment literature, equipment warranties. | | | | | |
| | | | The builder shall provide the home buyer with a Homeowner's Manual / binder, that includes: - Healthy Housing Certificate; and - The completed checklist of Healthy features; and - The product manufacturer's manuals for all installed equipment, fixtures, and appliances. - A walkthrough of the home before closing, that is at least 60 minutes in duration. The walkthrough should include: - Identification of all installed equipment, and - How to use measures and operate the equipment in their Healthy Home appropriately; and - How to maintain the measures and equipment in their Healthy Home properly. | | | | | |

| | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| | | | | ECOHEALTH HOMES DESIGNED AND BUILT BY "LICENSED" ECOHEALTH BUILDERS AND MANUFACTUERERS. SIGNED LEGAL AGREEMENTS AND DOCUMENTS ON FILE. | | | | | |
| | | | | Encourage Real Estate Professionals, Architects, Designers, Developers, and Builders to attend the NCHH Essentials for Healthy Homes Practitioners Training Course | | | | | |