SOUTHERN NEVADA GREEN BUILDING PARTNERSHIP

PROGRAM REQUIREMENTS

As of 09/12/06 Update

Resource Efficiency

1.1	**Reduce Quantity of Materials and Waste**
1.1.1	Create a detailed framing plan and detailed material takeoffs. Provide an onsite cut list for all framing and sheathing materials.
1.2	**Enhance Durability and Reduce Maintenance**
1.2.1	Provide a covered primary entry (e.g., awning, covered porch) to prevent water intrusion and subsequent rotting of joists, sills and finishes.
1.2.2	Install drip edge at eave and gable roof edges.
1.2.3	Install gutter and downspout system to divert water a minimum of 2' away from foundation and from there into the overall onsite drainage area. (In expansive soils conditions, refer to International Residential Code and Southern Nevada Regional Interpretation dated November 10, 2004 for additional requirements.)
1.2.4	Divert surface water from all sides of building.
1.2.5	Provide a water-resistive barrier (WRB) or a drainage plane system behind the exterior veneer system or the exterior siding.
1.3	**Use Recycled Content Materials**
1.3.1	Use recycled-content building materials (i.e., OSB, MDF, etc.)
1.4	**Use Renewable Materials**
1.4.1	Use materials manufactured from renewable resources (e.g., agricultural byproduct based products such as soy-based insulation; bamboo; wood-based products).
1.4.2	Use certified wood for wood and wood-based materials and products from all credible third party certified sources, including SFI, ATFS, CAN/CSA, FSC or other programs approved by Program Administrator.
1.5	**Recycle Waste Materials During Construction**
1.5.1	Develop and implement a construction and demolition (C&D) waste management plan that is posted at jobsite.

Energy Efficiency

2.1	**Energy Efficiency**
2.1.1	Home is equivalent to or greater than 15% above the current International Energy Conservation Code or local energy code, whichever is more stringent. Conformance to this threshold shall be based on plan analysis using software such as MICROPAS or other as approved by Program Administrator.
2.1.2	If offered by builder, install Energy Star-labeled appliances (refrigerator, dishwasher, washing machine). Refer to Water Efficiency section for specific appliance requirements.
2.1.3	Provide a stamped HVAC design by a Nevada Licensed Mechanical Engineer using the latest ACCA Manual J, S & D calculation methods or other approved methods by Program Administrator.

Water Efficiency

3.1	**Landscape Design**
3.1.1	All landscapes and irrigation work performed by the homebuilder or their subcontractor is guaranteed to comply with applicable laws and codes in effect at the time of installation.
3.1.2	No turf will be used in front yards. Front yards have water-smart landscaping, including trees, flowers and groundcover.
3.1.3	If the builder offers backyard landscaping, turf will not exceed 50 percent of the total landscapable area of the back yard, or 1,000 square feet whichever is less. If a pool and/or spa are installed prior to owner occupancy, the water surface area will be deducted from the turf allowance. Homebuyers will have an option to select turf varieties with greater water efficiency, such as improved varieties of Bermuda, Zoysia, Buffalo and other warm-season grasses. Ryegrass, Bluegrass, Bentgrass and Dichondra lawns are prohibited.
3.1.4	Builders will not install or facilitate installation of ornamental water features except as allowable components of a swimming pool or spa.
3.2	**Irrigation System Standards**
3.2.1	Contractor guarantees that all irrigation systems, if properly operated and maintained, can sustain the landscape without creating flow or spray that leaves the property. (See attached compliance criteria)
3.2.2	On all new landscape installations, separate control zones (valves) will be used for each type of watering device. For example, drip emitters will operate separately from sprinkler heads.
3.2.3	Sprinkler heads will be used only to water turfgrass (where allowed) and will have a 4 inch or greater pop-up height and matched precipitation nozzles.
3.2.4	Drip irrigation systems will be equipped with a pressure regulator, filter, and flush end assembly and other appropriate components. Components will be accessible for maintenance.
3.2.5	Contractor-provided irrigation controllers will have the following minimum features: - Two or more programs - Three or more start times per program - One-minute incremental watering time - Even/odd day scheduling - Day interval scheduling - Day of week scheduling

	- Capable of accepting external soil moisture and/or rain sensors - Non-volatile memory or self-charging battery circuit
3.2.6	An owner's manual will be provided for all irrigation controllers and other irrigation components.
3.2.7	A seasonal watering schedule for each zone will be posted at the controller.
3.2.8	Non-turf areas will include a minimum 2-inch layer of mulching material. If weed barrier fabric is used, it will be permeable to air and water. Permeable grade artificial turf may be used to meet the mulch requirements.
3.2.9	A one-year limited warranty will be offered on builder-installed landscaping. Terms of the warranty are at the discretion of the builder. The warranty must be provided to the homebuyer.
3.3	**Swimming Pools and Spas**
3.3.1	Even if no pool or spa is installed by the builder, all homes must be equipped to facilitate the draining of pool and spa water to the sanitary sewer.
3.3.2	Each dwelling shall have an exterior sewer cleanout downstream of all other sewer connections for the structure and located inside an enclosure. Enclosures must be adequately sized and shaped to allow reasonable access to use tools to remove the cap from the pipe. The enclosure lid must be clearly and permanently marked "SEWER". The words "POOL DRAIN" may be added at the Contractor's discretion.
3.3.3	If offered by Builder, pool and spa water surface area will be deducted from the maximum allowable turf area. The combined area of turf and open water may not exceed 1,000 square feet.
3.3.4	If offered by Builder, pools may not feature decorative water features that drop or propel water more than 24 inches above the main water surface.
3.4	**Plumbing and Equipment Standards**
3.4.1	Service pressure for all uses (indoor and outdoor) must be 60 psi or less. Compliance may be achieved by use of a pressure-regulating valve (PRV) downstream of the water meter. In the event static water pressure is at or below 60 psi, no PRV is necessary. All fixtures and irrigation system connections must be downstream of the pressure regulator.
3.4.2	All plumbing fixtures must be UPC approved.
3.4.3	Homes must include high-efficiency indoor plumbing fixtures: - Toilets 1.6 gallons maximum per flush

	- Kitchen faucets 2.2 gallons per minute (gpm) maximum - Bathroom faucets 1.5 gallons per minute (gpm) maximum - Shower fixtures – total water output for shower heads and similar devices may not exceed 2.5 gallons per minute (gpm) maximum. If the device has multiple nozzles (such as a body spray unit), the collective volume of all nozzles the user may operate simultaneously may not exceed 2.5 gallons per minute. If the contractor intends to design a shower facility for more than one person, the design and fixtures must be reviewed and approved. Under no circumstance will any facility be approved where water flow may exceed 2.5 gpm per user. - Hot water recirculating systems, point of use water heating devices or manifold systems are required to minimize water loss during hot water delivery.
3.4.4	All air conditioning systems must be non-evaporative systems with zero net consumptive water use.
3.4.5	If the following types of appliances are offered, finances, installed or sold as upgrades through the Contractor, they must meet these standards:
	Dishwasher – may not exceed 6.5 gallons or per normal cycle) **(JANUARY 1, 2007 REQUIREMENT)**
	Washing machines – Must be high-efficiency models with Energy Star Water Factor (WF) not to exceed 7.0 **(JANUARY 1, 2007 REQUIREMENT)**
	Water Softener – All devises must be certified to meet the NSF/ANSI 44 standard. All water softeners must be demand-initiated regeneration. Devices that use autoinitiated regeneration (fixed schedule) are prohibited. If the device uses an ion exchange technology, it must be capable of using potassium rather than sodium salt.
3.4.6	Drinking water treatment systems using distillation, adsorption, reverse osmosis or ultraviolet processes must be certified to meet applicable NSF/ANSI certifications. Such systems must have an efficiency rate of not less than 85 percent (minimum of 85 gallons of water available for beneficial use within the home for every 100 gallons of water input to the device). Discharge water diverted for another code-approved use within the home may be considered a beneficial use at the discretion of the Program Administrator.

Indoor Environmental Quality

4.1	**Minimize Potential Sources of Pollutants**
4.1.1	Install direct-vent, sealed-combustion gas fireplace, sealed wood fireplace or sealed woodstove **OR** No fireplace or woodstove installed.
4.1.2	Ensure particleboard, medium density fiberboard (MDF) and hardwood plywood substrates are certified to low formaldehyde emission standards ANSI A208.1, ANSI A208.2 and ANSI/HPVA HP1, respectively. Composite wood/agrifiber panel products must either contain no added urea-formaldehyde resins or must be third party certified for low formaldehyde emissions. THIS WOULD BE VERFIED BY THE MANUFACTURERS SPEC AND CERTIFICATION FROM SUPPLIER
4.1.3	Install carpet and carpet pad that hold "Green Label" from Carpet and Rug Institute's indoor air quality testing program or meet equivalent thresholds verified by a third party. THIS WOULD BE VERFIED BY THE MANUFACTURERS SPEC AND CERTIFICATION FROM SUPPLIER
4.2	**Manage Potential Pollutants Generated in the Home**
4.2.1	Provide mechanical exhaust fan to the outside from kitchen range, bath and laundry.
4.2.2	Provide mechanical ventilation at a rate of 7.5 cfm per bedroom + 7.5 cfm and controlled automatically or continuous with manual override. The ventilation equipment may be: A. Exhaust or supply fan(s), or B. Balanced exhaust and supply fans, or C. Heat-recovery ventilator, or D. Energy-recovery ventilator
4.2.3	Design HVAC system to use minimum MERV 6 filters
4.3	**Moisture Management (Vapor, Rainwater, Plumbing, HVAC)**
4.3.1	Install moisture resistant backerboard – not paper-faced sheathing – under tiled surfaces in wet areas.
4.3.2	Install vapor retarder directly under slab (6-mil) or on crawl space floor (8-mil). In crawl spaces, extend poly up wall and affix with glue and furring strips or damp-proof wall below grade. Joints lapped 12 inches.

Operation, Maintenance and Homeowner Education

5.1	**Provide Home Manual to owners/occupants on the use and care of the home.**
	A. Narrative detailing the importance of maintenance and operation to keep a green build home green.
	B. Local Green Building Program certificate.
	C. Warranty, operation and maintenance instructions for equipment and appliances. INFORMATION PROVIDED BY MANUFACTURER
	D. Household recycling opportunities. INFORMATION PROVIDED BY LOCAL TRASH COLLECTION COMPANY
	E. Explanation of the benefits of using compact fluorescent light bulbs in high usage areas.
	F. A list of habits/actions to optimize water and energy use. INFORMATION PROVIDED BY LOCAL WATER UTILITY
	G. Local public transportation options (if applicable) INFORMATION PROVIDED BY LOCAL TRANSIT AUTHORITY
	H. Clearly labeled diagram showing safety valves and controls for major house systems. OWNER IS TYPICALLY SHOWN BY BUILDER DURING WALK THRU – COULD BE PUT ON DIAGRAM FOR FUTURE REFERENCE
	I. Use low VOC emitting wallpaper. POSSIBLY PROVIDE WEBSITE IF THERE IS SUCH A THING
5.2	**Optional information to include in the Home Manual**
	A. List of Green Home Building Guidelines items included in the home.
	B. User-friendly maintenance checklist.
	C. Information about native or low water landscape INFORMATION FROM LOCAL WATER UTILITY
5.3	**Solid Waste**
	A. Encourage homeowners/occupants to recycle by providing built-in space in the home's design (e.g., kitchen, garage covered outdoor space) for recycling containers. INFORMATION FROM LOCAL TRASH COLLECTION COMPANY

It is intended that material provided in this section be reference material provided by local utility providers, trash collection company, etc. on "How to Live Green".

Need to consider including some type of disclaimer regarding "implied warranty".

Global Impact

6.1	Products
6.1.1	Choose low- or no-VOC indoor paints. VOC concentrations (grams/liter) of interior paints should be equal to or less than those specified by the EPA's Environmentally Preferable Purchasing Program: • Interior latex coatings: Flat – 100 grams/liter Non-flat - 150 grams/liter • Interior oil-based paints: 380 grams/liter

Additional Requirements

	Home enrolled in the SNHBA endorsed Green Builder Program will require field verification by a Certified HERS rater and will follow the home inspection sampling guidelines endorsed by the DOE/EPA and RESNET.
	Certification and Verification of Approved HERS Raters
	SNHBA Program Administrator will create approved classroom and onsite training program for implementation of Green Builder program.
	Certified HERS inspection will be subject to random quality control inspections to ensure program guidelines are being met. Repeated failure by the HERS company can lead to program participation disqualification