



Welcome

Congratulations on your decision to purchase a new home from Green Valley Builders, Inc.. We share your excitement about your new residence and look forward to working with you to build your home.

Green Valley Builders, Inc. designed this *Homeowner Manual* to assist you during and after the purchase of your home. The manual will answer many questions and prepare you for each step of the new home experience, and help make this exciting time easier and more rewarding.

In addition to guiding you through the process of purchasing and building, this manual provides you with maintenance guidelines and a description of our limited warranty program, component by component.

Please take time to review this material thoroughly. Note the amount of detail we have provided. Your new home will receive the same attention to detail during its construction.

PLEASE BRING THIS MANUAL TO ALL FUTURE MEETINGS WITH GREEN VALLEY BUILDERS INC.

The manual will be a valuable tool as you move through the process of construction and maintenance, and as you add items to it. When complete, your manual will provide a useful record of information about your new home.

If you need clarification or additional details about any topic discussed, please give us a call. We are delighted to welcome you as part of the Green Valley Builders, Inc. family and are always ready to serve you.

Sincerely,

Two handwritten signatures in black ink. The first signature is on the left and the second is on the right.

Jason and Justin Boyle
Green Valley Builders, Inc.

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Green Valley Builders, Inc.

- Green Valley Builders, Inc. was originally incorporated in 1997 as Ventnor Contractors, Inc. The founders and co-owners were Jason Boyle of Blacksburg, Va and John Morgan of Oakton, Va. They met while earning bachelor's degrees at Virginia Tech in the College of Engineering. The company's initial focus was the framing and building of both log and traditional homes. Over the next few years, Ventnor Contractors grew in response to the increasing number of personnel and successful bids. In 2000, Jason Boyle became the sole owner of the company as John Morgan changed his career focus and moved out of the New River Valley. By this time Ventnor Contractors had changed quite a bit, and its home base had moved to Eggleston, Va, in a section known as "green valley", thus the new name of Green Valley Builders.
- Since that time, Justin Boyle, a graduate of the College of Agriculture and Life Sciences at Virginia Tech, has joined the company as part owner. GreenValley Builders, Inc. continues to grow with a focus on building custom and speculative residences throughout the New River Valley.
- We at Green Valley Builders, Inc. know that building a home is a huge undertaking for everyone involved. For this reason, we concentrate on trying to make the process as smooth and comfortable as possible for the customer. We realize that we are building one of your most important and largest investments - the place you and your family will call home. It is our goal to ensure that this investment will stand the test of time and appreciate in value as the years go by. With this understanding and attitude, Green Valley Builders, Inc. aims to produce long lasting quality homes as well as a solid partnership with its customers.

What Happens Next?

An Overview of Your New Home Experience

Purchasing a new home is an exciting experience. The process is also complex as many details need to be decided and arranged. While Green Valley Builders, Inc. is building your new home, you participate by taking care of several important aspects of your purchase.

Building a new home is an investment of your money, emotions and time. Many of the tasks will require your attention during regular business hours, Monday through Friday, usually between 8:00 a.m. and 5:00 p.m.

The chronological list that follows outlines the events that typically take place in the purchase of a new home and provides an overview of the events that will require your time and attention. Where time frames are specified, you need to observe them in order for us to deliver your home on schedule.

Purchasing Your Home

The purchase agreement and various addenda constitute the legal understanding regarding the purchase of your new home. Please read the purchase agreement and all attachments carefully. As with any legal agreement, you may wish to have your attorney review them. Once all the paperwork is signed, we suggest you insert those documents in Section 2 of this manual, Purchasing Your Home.

Arranging for Your Loan

Once you have signed the purchase agreement, finalizing the details for financing is next. To assist you, we may suggest lenders appropriate for your specific financial situation. Section 3, Arranging for Your Loan, contains hints and information on the loan process.

New Home Selections

New Home Selections, Section 4 of this manual, will assist you in the exciting process of personalizing your new home with your selections.

Construction of Your Home

Several tasks need to be completed prior to the start of construction. Some of these are our job; some are yours. They are described in Section 5, Construction of Your Home. Near the beginning of construction, we will offer to meet with you at a Preconstruction Conference to review plans and specifications one final time. Next we will invite you to tour your new home with us when your home reaches the mechanical stage, just before insulation is installed. Please bring this manual to both of these meetings.

We also expect and welcome your casual visits to the site. Please read Section 5, Construction of Your Home, for guidelines on safety, security, and work in progress.

Homeowner Orientation

The homeowner orientation has two purposes. The first is to demonstrate the features of your home and discuss maintenance and our limited warranty program. Equally important, we want to confirm that we have delivered your new home at the quality level described in our documents and shown in our model homes and with all your selections correctly installed. For detailed information, please review Section 6, Homeowner Orientation.

Closing on Your Home

Closing on Your Home, Section 7 of this manual, describes the documents you will sign and other important details about the closing process. We have included guidelines to assist you in preparing for closing and move-in.

Caring for Your Home

Many of your responsibilities as an owner and Green Valley Builders, Inc.'s responsibilities under the terms of our limited warranty are discussed in Caring for Your Home, Section 8. Begin now to become familiar with the home maintenance you should provide and our warranty service commitment to you. Green Valley Builders, Inc. plans two standard contacts with you during the warranty period. These visits and procedures for service outside these standard contacts are described in Section 8.

Your Feedback and Suggestions

Our desire to maintain open communication with you extends through the buying process and after your move-in. In an effort to improve the product and service we provide, we welcome your comments on how we've performed. Our goal is to build the best home and the best customer relationship possible. Your feedback helps us reach that goal.

As time passes, if your housing needs change, we are ready at any time to build you another home. We also appreciate your referrals. Our office is always happy to provide you with information about where we are currently building and the products we offer.

Who's Who?

Some Names You Should Know

Builder

Green Valley Builders, Inc.

P.O. Box 10246
Blacksburg Va
Phone: 540-552-1004
Fax: 540-552-1021
info@greenvalleybuildersinc.com

Selections Coordinator

Lori Hager
902 Mount Tabor Road
Blacksburg, Va
Phone: 540-552-1099
Fax: 540-552-1021
Lori@greenvalleybuildersinc.com

Project Manager

Jason Boyle
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Blacksburg, Va
Phone: 540-320-9705
Fax: 540-552-1021
jason@greenvalleybuildersinc.com

Interior Designer

Beverly Teske
1520 North Main St.
Phone: 540-951-4027
Phone: 540-392-0226
Fax: 540-951-2995
BlueHint@msn.com

Real Estate Agent

Steve Bodtke
Long & Foster Realtors
Phone: 540-239-1657
Fax: 540-526-9131
sbodtke@comcast.net

CFO/Client Relations

Justin Boyle
P.O. Box 10246
Phone: 540-230-5470
Fax: 540-552-1021
Justin@greenvalleybuildersinc.com

Purchasing Your Home

You will use several standard forms when you buy your new home. These include the purchase agreement and several addenda. The purchase agreement becomes binding only when all parties have signed all forms and attachments.

If you are new to the United States, Green Valley Builders, Inc. welcomes you and understands that you may be unfamiliar with our business procedures and traditions. We will gladly discuss any questions you may have about the U.S. business practices we will be following.

Purchase Agreement

The purchase agreement is the legal document that represents your decision to purchase a home. It describes your home (both a legal description and the street address), financing information, homeowner association information, if applicable, and additional legal provisions. We recommend that you read these documents carefully.

Several exhibits are typically attached to the purchase agreement, the list below are typical items you might find attached.

Addenda

Exhibit A

Selection Sheets outline details of your finish material choices, such as color, brand, model, and so on. Please plan to complete these within 30 days of signing your contract. See Section 4, New Home Selections, for more information.

Exhibit B

Green Valley Builders, Inc. Limited Warranty, a specimen copy for your study, with the actual warranty executed at closing.

Exhibit C

Homeowner Association Documents, where applicable.

Homeowner Manual

This book is your Homeowner Manual. It will guide you through the building process and serve as a useful reference after your move in.

Note to Purchaser:

Insert the completed purchase agreement and addenda here.

Green Valley Builders, Inc.
Mt. Tabor Meadows
One-Year Limited Warranty Agreement

Green Valley Builders, Inc. whose office address is 206 Washington Street,
Blacksburg, Virginia 24060 extends the following one year limited warranty to
_____, Buyer(s), Lot _____, Mt. Tabor Estates.

THE COMMENCEMENT DATE OF THE WARRANTY IS THE DATE OF THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY AND EXTENDS FOR A PERIOD OF ONE YEAR FOLLOWING THAT DATE. YOU AND WE AGREE THAT THIS LIMITED WARRANTY ON THE HOME IS IN LIEU OF ALL WARRANTIES OF HABITABILITY OR WORKMANLIKE CONSTRUCTION OR ANY OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO THE WARRANTY UNDER VIRGINIA CODE SECTIONS 55-70.1(A), 55-70.1(B), 55-70.1(C), 55-70.1(D), AND 55-70.1(E), EXPRESS OR IMPLIED, TO WHICH OWNER MIGHT BE ENTITLED, EXCEPT AS TO CONSUMER PRODUCTS. NO EMPLOYEE, TRADE CONTRACTOR, OR AGENT OF THE COMPANY HAS THE AUTHORITY TO CHANGE THE TERMS OF THIS ONE-YEAR LIMITED WARRANTY.

1. Coverage on Home Except Consumer Products

We expressly warrant to You and to subsequent Owner of the home that the home will be free from defects in materials and workmanship due to noncompliance with the standards set forth in the Limited Warranty Guidelines in effect on the date of this limited warranty, included in Our Homeowner Manual and which are part of this warranty.

2. Coverage on Consumer Products

For purposes of this Limited Warranty Agreement, the term "consumer products" means all appliances, equipment, and other items that are consumer products for the purposes of the Magnuson-Moss Warranty Act (15 U.S.C., sections 2301–2312) and which are located in the home on the commencement date of the warranty. We expressly warrant that all consumer products will, for a period of one year after the commencement date of this warranty, be free from defects due to noncompliance with generally accepted standards in the state in which the home is located, which assure quality of materials and workmanship. **Any implied warranties for merchantability, workmanship, or fitness for intended use on any such consumer products shall terminate on the same date as the express warranty stated above.** Some states do not allow limitations on how long an implied warranty lasts, so this limitation may not apply to you. We hereby assign to You all rights under manufacturers' warranties covering consumer products. Defects in items covered by manufacturers' warranties are excluded from coverage of this limited warranty, and You should follow the procedures in the manufacturers' warranties if defects appear in these items. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

3. Company's Obligations

If a covered defect occurs during the one-year warranty period, we agree to repair, replace, or pay You the reasonable cost of repairing or replacing the defective item. Our total liability under this warranty is limited to the purchase price of the home stated above. The choice among repair, replacement, or payment is Our's. Any steps taken by Us to correct defects shall not act to extend the term of this warranty. All repairs by us shall be at no charge to You and shall be performed within a reasonable length of time.

4. Owner's Obligation

You must provide normal maintenance and proper care of the home according to this warranty, the warranties of manufacturers of consumer products, and generally accepted standards of the state in which the home is located. We must be notified in writing, by You, of the existence of any defect before we are responsible for the correction of that defect. Written notice of a defect must be received by us prior to the expiration of the warranty on that defect and no action at law or in equity may be brought by You against Us for failure to remedy or repair any defect about which We have not received timely notice in writing. You must provide access to Us during our normal business hours, Monday through Friday, 8 a.m. to 5 p.m., to inspect the defect reported and, if necessary, to take corrective action.

**Green Valley Builders, Inc.
Mt. Tabor Meadows**

5. Insurance

In the event We repair or replace or pay the cost of repairing or replacing any defect covered by this warranty for which You are covered by insurance or a warranty provided by another party, You must, upon Our request, assign the proceeds of such insurance or other warranty to Us to the extent of the cost to Us of such repair or replacement.

6. Consequential or Incidental Damages Excluded

Consequential or incidental damages are not covered by this warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

7. Other Exclusions

The following additional items are excluded from limited warranty:

- a. Defects in any item that was not part of the original home as constructed by the Us.
- b. Any defect caused by or worsened by negligence, improper maintenance, lack of maintenance, improper action or inaction, or willful or malicious acts by any party other than Us, our employees, agents, or trade contractors.
- c. Normal wear and tear of the home or consumer products in the home.
- d. Loss or damage caused by Acts of God, including but not limited to fire, explosion, smoke, water escape, changes that are not reasonably foreseeable in the level of underground water table, glass breakage, windstorm, hail, lightning, falling trees, aircraft, vehicles, flood, and earthquakes.
- e. Any defect or damage caused by changes in the grading or drainage patterns or by excessive watering of the ground of Your property or adjacent property by any party other than Us, our employees, agents, or trade contractors.
- f. Any loss or damage that arises while the home is being used primarily for nonresidential purposes.
- g. Any damage to the extent it is caused or made worse by the failure of anyone other than us or our employees, agents, or trade contractors to comply with the requirements of this warranty or the requirements of warranties of manufacturers of appliances, equipment, or fixtures.
- h. Any defect or damage that is covered by a manufacturer's warranty that has been assigned to You under paragraph 2 of this Limited Warranty.
- i. Failure of You to take timely action to minimize loss or damage or failure of You to give the Company timely notice of the defect.
- j. Insect or animal damage.

8. Arbitration of Dispute

The Owner shall promptly contact the Company's warranty department regarding any disputes involving this Agreement. If discussions between the parties do not resolve such dispute, either party may, upon written notice to the other party, submit such dispute to arbitration with each party hereto selecting one arbitrator, who shall then select the third arbitrator. The arbitrators shall proceed under the construction industry rules of the American Arbitration Association. The award of the majority of the arbitrators shall be final, conclusive, and binding upon the parties. The expenses of the arbitrators shall be shared equally, but each party shall bear its own fees and costs.

9. Exclusive Warranty

YOU AND WE AGREE THAT THIS LIMITED WARRANTY ON THE HOME IS IN *LIEU* OF ALL WARRANTIES OF HABITABILITY OR WORKMANLIKE CONSTRUCTION OR ANY OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO THE WARRANTY UNDER VIRGINIA CODE SECTIONS 55-70.1(A), 55-70.1(B), 55-70.1(C), 55-70.1(D), AND 55-70.1(E), EXPRESS OR IMPLIED, TO WHICH OWNER MIGHT BE ENTITLED, EXCEPT AS TO CONSUMER PRODUCTS. NO EMPLOYEE, TRADE CONTRACTOR, OR AGENT OF THE COMPANY HAS THE AUTHORITY TO CHANGE THE TERMS OF THIS ONE-YEAR LIMITED WARRANTY.

DATED the _____ day of [Month] , [Year]

Homeowner

Green Valley Builders, Inc.

Homeowner

Green Valley Builders, Inc.

Arranging Your Loan

The first item you'll need to take care of is completing a mortgage application. Plan to accomplish this within 10 business days of signing your purchase agreement. This should be accomplished by filling out a uniform Residential Loan Application

After submitting the mortgage application, a meeting will be arranged with your lender. They will be working with you in order to understand your particular financial circumstances completely. In the initial meeting you will discuss your financial needs and objectives, review all information on the application and receive a checklist for documentation required. A situation rarely arises that the loan officer has not encountered in the past. Do not hesitate to discuss any questions you have regarding your assets, income, or credit. By providing complete information, you prevent delays or extra trips to deliver documents.

Loan Application Checklist

The amount of documentation and information required for a mortgage can seem overwhelming. You can facilitate the application process by collecting as much of the needed information as you can before your appointment.

The checklist that follows is a **general guide to assist you** with the loan application. Some of the items listed may not apply to you, and your lender will probably request some items that we have not mentioned, but this list will get you off to a good start.

Property Information

___ The purchase agreement will include the legal description of the property and the price.

Personal Information

- ___ Social Security number and driver's license for each borrower
- ___ Home addresses for the last two years
- ___ Divorce decree and separation agreements, if applicable
- ___ Trust agreement, if applicable

Income

- ___ Most recent pay stubs
- ___ Documentation on any supplemental income such as bonuses or commissions
- ___ Names, addresses, and phone numbers of all employers for last two years
- ___ W-2s for last two years
- ___ If you are self-employed or earn income from commissioned sales, copies of last two years of tax returns with all schedules and year-to-date profit and loss for current year, signed by an accountant
- ___ Documentation of alimony or child support, if this income is considered for the loan

Real Estate Owned

- ___ Names, addresses, phone numbers, and account numbers of all mortgage lenders for the last seven years
- ___ Copies of leases and two years of tax returns for any rental property
- ___ Market value estimate

Liquid Assets

- ☐ Complete names, addresses, phone numbers, and account numbers for all bank, credit union, 401K, and investment account
- ☐ Copies of the last three month's statements for all bank accounts
- ☐ Copies of any notes receivable
- ☐ Value of other assets such as auto, household goods, and collectibles
- ☐ Cash value of life insurance policies
- ☐ Vested interest in retirement funds or IRAs

Liabilities

- ☐ Names, account numbers, balances, and current monthly payment amounts for all revolving charge cards
- ☐ Names, addresses, phone numbers, and account numbers for all installment debt and approximate balances and monthly payments for such items as mortgages, home equity loans, and auto loans
- ☐ Alimony or child support payments
- ☐ Names, addresses, phone numbers, and account numbers of accounts recently paid off, if used to establish credit

Loan Application Paperwork

Once you have given all preliminary information to the loan officer, your lender sends verification forms to your employers, banks, and current mortgage company or landlord, and also orders the credit report and appraisal. You sign a release to authorize these steps. Your lender will provide you with a Good Faith Estimate and a Truth-in-Lending Disclosure.

Good Faith Estimate

The Good Faith Estimate lists the estimated costs you will incur at closing. Some of the numbers listed on this form are prorated amounts, subject to change based on the actual date of the closing. Others are set fees that should remain the same.

Truth-in-Lending Disclosure

The Truth-in-Lending Disclosure shows the total cost to you, over the term of the loan, for your specific financing. The calculation is based on the assumption that you own the home and make regular payments throughout the term of the loan.

Verification of Employment

The lender sends Verification of Employment (VOE) forms to all employers for the last two years. The employers complete, sign, and return the forms to the lender. The forms show the dates of employment, the amount of money you earned last year, and how much you have earned so far this year. The VOE documents bonuses and overtime you earned.

Verification of Deposit

Verification of Deposit (VOD) forms go to each banking institution listed on your application. The institutions indicate the date you opened each account, average balances for the last three months, and the amount of money you have in each account on the day they complete the form. Any loans or overdraft accounts you have with the bank will also be shown.

Verification of Mortgage

Mortgage companies and landlords complete Verification of Mortgage (VOM) forms. These show the lender how much you owe, the amount of your monthly payment, and whether you make your payments by the due date.

Credit Report

Your credit report shows the amounts of money you owe to each of your creditors, minimum monthly payments, and your payment history. The appraisal confirms the value of the home you are purchasing for you and your lender.

Loan Underwriting

Typically, several weeks pass as these reports and forms are returned to the lender. If any delays are encountered, the loan officer may contact you for assistance. The credit reporting agency may call you to verify that the information they have gathered is correct.

Once the loan processor has collected this standard documentation, you may be asked to write letters describing your assets, income, or credit. Few loans are finalized without requests for additional information just before the package is submitted to the underwriter for final approval. At this point you may become frustrated with the loan process.

Please remember that your lender requests these letters to assist you in obtaining your financing. Do not hesitate to discuss your concerns with your loan officer. Perhaps he or she can provide some additional insight on what may seem to be redundant requests.

Loan Amount Requested

Before the processor submits your file to the underwriters for final approval, he or she will verify the final sales price. Make sure that copies of all addenda such as change orders signed after the original purchase agreement was completed have been sent to the lender. This assists the lender in determining the exact loan amount. If change orders affect the total price after this point, you may have to resubmit your loan application for the higher amount or the lender may ask you to pay for the additional items in cash.

Loan Approval

Green Valley Builders, Inc. works hand in hand with your lender to facilitate a timely arrival of your loan approval. This is the minimum that Green Valley Builders, Inc. requires to begin arranging delivery of your home. Several weeks after your first meeting with the lender, you should receive loan approval. If any of the documents requested have not been returned to the lender in a timely manner, approval may take longer.

Contingencies

Loan approvals often carry conditions of approval. The sale of a home and proof of funds are two examples. Discuss any concerns you may have about such conditions with your loan officer and obtain any requested documentation as soon as possible. Once all contingencies are met, the final loan can be approved.

Loan Amount Approved

If you qualify for an amount that is less than you requested, ask the loan officer what changes might qualify you for a larger loan. Or, consider omitting some items now (a deck or finished basement) and adding them to your home later. Another possibility is to talk to Green Valley Builders, Inc. about different programs and different requirements.

Loan Declined

If, after your best efforts, you are not approved for a loan within 45 days of signing your purchase agreement, in accordance with your Purchase Agreement, Green Valley Builders, Inc. will refund your initial deposit upon your signing a release letter and returning this Homeowners Manual to the sales office.

Loan Lock

The only thing anyone knows for certain about interest rates is that they will change. Do not rely on anyone's predictions regarding rates. Locking your rate prematurely can result in extra expense if your new home is not complete in time to close within the lock period. We are happy to update you throughout the process of construction on the target delivery date. ***Until we reach a point in construction where factors outside our control can no longer affect the delivery date, the decision to lock your loan is at best a gamble.***

Loan Closing

From the date your loan is approved and the date of your closing, remember that any significant changes in your financial circumstances could impact your loan approval. If your closing occurs more than 30 days after the lender issues your loan approval, the lender may order an additional credit report just prior to the closing date. Changes in your financial circumstances, for example, purchasing a new car or increases in your charge card will appear as a new liability on your updated credit report. Such changes may cause your lender to reconsider your approval. Holding off on such purchases until after closing is best.

Down Payment Worksheet

Available Funds

Equity in present home	\$	_____
Savings, savings certificates		_____
Investments		_____
Insurance (cash value)		_____
Other funds (such as a cash gift)		_____
 Total available funds		 _____
 Minus amount you want to keep in savings		 _____
 Adjusted Total Available Funds	\$	 _____

Expected Expenses

Settlement costs (estimate 5 percent of loan)	\$	_____
Moving costs		_____
Landscaping		_____
Other expected expenses		_____
 Total Expected Expenses	\$	 _____

Down Payment

Adjusted total available funds	\$	_____
Minus total expected expenses		_____
 Amount Available for Down Payment	\$	 _____

Monthly Payment Worksheet

Loan Payment

Principal and interest

\$ _____

Property tax

Hazard insurance

Total Loan Payment

\$ _____

Homeowner Association Monthly Dues

\$ _____

Estimated Utilities

Electric

\$ _____

Gas

Water

Sewer

Trash collection

Cable TV

Security system monitoring

Total Estimated Utilities

\$ _____

Monthly Payment

Loan payment

\$ _____

Homeowner association dues

Estimated utilities

Total Monthly Payment

\$ _____

New Home Selections

BuildLinks

Part of the fun of buying a new home is selecting features, finish materials, and colors. You will make most of these choices at Green Valley Builders, Inc.'s office with our selections coordinator via the *BuildLinks Program*. You will be given a username and password for the *BuildLinks Program*; this program is what we will use to complete the selections process for your home. Most of the features offered by Green Valley Builders, Inc. will be accessible on this web-based program. You will be able to access the program to look at selections and options whenever you feel necessary. You can make changes to your selections on *BuildLinks* up until an “Approve By” date has passed. Once this date has passed you will no longer be able to make changes to that particular selection within *BuildLinks*. Once the “Approve By” dates have passed in *BuildLinks* all selections will be considered finalized. Any changes past the “Approve By” dates will be considered change orders. Change orders have cut-off dates as listed in the change order section below. Depending on your type of financing, the timing of the selections process will vary. Some loans will require all selections to be made prior to start of construction or closing; while others will allow for more time and full use of the “Approve By” dates in *BuildLinks*.

You can also go to our suppliers' showrooms to see any of the products you are thinking of using in your home. Location and contact information is included in this section. As you make choices for your new home, consider your present and future lifestyle. Take into account your family's daily activities, hobbies, and work; the kind of entertaining you do, and your family's holiday traditions.

Getting Started

Once the purchase agreement has been signed we can start the selections process. You will be given a username and password to view your home on the *BuildLinks* site. Our selections coordinator will contact you to set up the first meeting. Included in the price of the home are eight hours with the selections coordinator, any additional hours will be billed at \$50.00 per hour to Green Valley Builders Inc. This amount of time has been chosen so that all the selections that need to be made in order to complete your home can be accomplished easily. Being able to use the *BuildLinks* system whenever you feel necessary to help with the selections process will be an integral part of completing the selections in a timely fashion. It will be necessary to log on to the *BuildLinks* site prior to the first meeting with your selections coordinator to preview options and upgrades, create questions for the selections coordinator, and complete the selections process on time.

Onsite Meetings

You will have three onsite meetings with the builder and selections coordinator during the construction process.

- 1) Pre-construction conference (Can occur in office as final selections meeting)
- 2) Frame Tour
- 3) Homeowner Orientation (Section 6)

Each meeting will last approximately 30 to 60 minutes. Please bring this binder to all meetings.

“Approve by” Dates

“Approve By” dates in the *BuildLinks* program are set up so that you make your selections in the right sequence and on time. Once the approve by dates have passed you will no longer be able to change selections. Some loans will require all selections to be made prior to start of construction or closing; while others will allow for more time and full use of the “Approve By” dates in *BuildLinks*.

Standard Features

Each floor plan includes a substantial number of standard features as listed by location in the selections section of your *BuildLinks* page. Please review this information carefully to prevent any misunderstandings about which features are included in the base price of your new home. To

change a standard feature, simply select the associated upgrade. If you have any questions, your selections coordinator will be able to assist you.

Foundation and Structural options will be selected with the realtor during the purchase agreement phase.

Upgrade Features

While using the *Build Links* program you will be able to select Upgrades as necessary to suit your needs. Pricing for these options will be shown on your *Build Links* page.

Custom Features

The possibilities for your new home far exceed the popular ideas we suggest in the *Build Links* program. In addition to the available options, you may have custom features you want us to consider incorporating into your new home.

Think, dream, imagine and look— we will assist you in any way that we can to make these decisions as early as possible. Please keep in mind that your new neighbors have this same opportunity and may request other features as well. We make no claim that we mention or offer every possible idea.

All requests for custom features require a custom design/pricing deposit of \$200. The full amount becomes a credit against the cost of the change if you approve the change order. If you decide not to proceed, Green Valley Builders, Inc. retains the design/pricing deposit.

Informed Choices

We recommend that you review the maintenance tasks and warranty guidelines in Section 8 of this manual prior to making your selection decisions. Please remember to be thorough when reviewing information or making selections.

Colors

You are welcome to bring cushions or swatches to showrooms to coordinate colors. View color samples in both natural and artificial light to get an accurate impression of the color. Variations between samples and actual material installed can occur. This is because of the manufacturer's coloring process (dye lots) and the fact that over time, sunlight and other environmental factors affect the samples. Some colors will appear different when seen in a large area as opposed to the sample.

Exterior Choices

Both your Architectural Review Committee, and selections your future neighbors have made may limit your choices for exterior finish materials or colors. The sooner you make your selections, the more choices you have. Viewing existing homes is one way to select exterior colors. Selections often look different on a full-size home. Some colors require extra coverage which can impact the cost.

Selection Hold

We reserve the right to place a hold on your selections until your lender has approved your loan and all contingencies are released. If suppliers have discontinued any of your selections, we will contact you and ask you to make an alternate selection within 5 days. Occasionally, a home is already under construction and Green Valley Builders, Inc. has made some or all of these choices.

Availability

If a selection you make turns out to be unavailable, we will contact you and request that you make a different selection within 5 business days. Because so many choices are offered, Green Valley Builders, Inc. is unable to predict when a particular manufacturer or supplier may discontinue any particular item. We regret any inconvenience this causes. Similarly, materials readily available when your home is built may not be available in years to come if replacements are needed.

Record of Selections

Please retain your selections for future reference. They are useful for matching paint colors, tile grout, and replacement items in your home.

Selection Locations

Item(s) General Selections
 Contact Lori Hager
 Company Green Valley Builders
 Phone 540-552-1099
 Email lori@greenvalleybuildersinc.com
 Hours 9am to 5pm Monday – Friday

Item(s) Electrical Fixtures
 Contact Amanda Hall
 Company Ferguson Enterprises
 Phone 540-953-1258
 Email amanda.hall@ferguson.com
 Hours 9am to 5pm Monday – Friday, 9am to 3pm Saturday

Item(s) Plumbing Fixtures, Appliances and Electrical
 Contact Jeff Nosenso
 Company Ferguson Enterprises
 Phone 540-953-1258
 Email jeff.nosenzo@ferguson.com
 Hours 9am to 5pm Monday – Friday, 10am to 12pm Saturday

Item(s) Hardwood Flooring & Tile
 Contact Eric Teske
 Company Ersan Wood Floors
 Phone 540-951-4027
 Fax 540-951-2995
 Email ErsanWood@aol.com
 Hours 9am to 5pm Monday – Friday

Item(s) Appliances
 Contact David Zier
 Company G&H Appliances
 Phone 540-382-7500
 Fax _____
 Email david@gandhappliance.com
 Hours 9am to 5pm Monday – Friday, 9am to 12 pm Saturday

Item(s) Electrical
 Contact Tracy Dillon
 Company Williams Lighting Galleries
 Phone 540-389-9285
 Fax _____
 Email tracydillon@williams-supply.com
 Hours 10am to 5pm Monday-Friday, 9am to 1pm Saturday

Item(s) Fireplace
 Contact Pat Jones
 Company Dixie Building Products
 Phone 540-342-6787
 Fax _____
 Email _____
 Hours 8am to 5:30pm Monday – Friday, 9am to 5pm Saturday

Change Orders

Green Valley Builders, Inc. uses a change order form (form at end of manual) to describe and document all changes you may request to your new home's plans and specifications after the “approve by” dates. Change orders fall into three categories. You may decide to:

- ∞ Add or delete items from the options list after *BuildLinks* has been completed
- ∞ Change a selection previously ordered
- ∞ Personalize your home plans still further with a custom feature

In order to deliver your home as close as possible to the target date, we order many items well in advance of installation. Once a particular item is ordered, making further changes may involve adjusting the planned delivery date and additional costs. By requesting all changes prior to signing the Buyer Start Order, you avoid both.

Processing

When you request a change, the selections coordinator will document the request and submit it for approval and, in the case of custom changes, pricing. Pricing of custom change requests typically takes 5 to 10 business days.

Sometimes a seemingly minor change impacts other elements of the home and therefore may come with hidden costs—for example, if you order a ceiling fan, the framing that will hold it is reinforced. If you add a window, framing, drywall, interior and exterior trim, and paint costs may all be affected.

Information on pricing and any schedule adjustment is returned to your selections coordinator who will then contact you for a final decision. If you elect to proceed with the change, we ask that you sign the change order and make full payment. Change orders that remain unsigned or unpaid become null and void upon the expiration date shown on the change order.

For the protection of all concerned, all changes are documented and incorporated into your new home only after

- ∞ Green Valley Builders, Inc. has approved and signed the change
- ∞ You have approved, signed, and paid for the change prior to its expiration date
- ∞ The applicable building department has approved the change, when applicable

Our contracts with our trade contractors prohibit them from making any changes to plans or specifications without written change order authorization from Green Valley Builders, Inc..

Cutoff Dates for Change Orders

Green Valley Builders, Inc. follows a schedule of cutoffs for changes as shown below. Green Valley Builders, Inc. reserves the right to deny changes you request after these cutoffs.

Changes affecting	Should be made prior to the start of
Foundation	Engineering and permit application
Windows, doors, elevation	Foundation
Mechanical systems, cabinets, appliances	Framing
Texture, hardware, lighting	Mechanical rough-ins
Interior trim and floor coverings	Insulation
Landscape design or materials	Interior trim

Note to Home Buyer:

Insert your records of your new home selections here.

Construction of Your Home

The construction of a new home differs from other manufacturing processes in several ways. By keeping these differences in mind, you can enjoy observing the construction process as we build your new home.

- As a consumer, you rarely have the opportunity to watch as the products you purchase are created. Your new home is created in front of you.
- You have more opportunity for input into the design and finish details of a new home than for most other products. Our success in personalizing your home depends on effective and timely communication of your choices.
- Because of the time required for construction, you have many opportunities to view your home as it is built, ask questions, and discuss details.

Preconstruction Conference

You will have the opportunity to meet with your builder twice during this process. The first of these is a preconstruction conference. This meeting takes approximately 60 to 90 minutes, and can take place at contract signing.

The purpose of the preconstruction conference is to conduct a comprehensive review of your final plans and specifications as well as the building process itself. We will discuss such things as site visits, questions, trade contractor communication, change orders, and target delivery date. A copy of our agenda is included on the next page. Please bring any questions you have and this manual with you to this meeting.

Start of Construction

Before construction of your home can begin, Green Valley Builders, Inc. has several important tasks to accomplish that involve outside people and entities. For example:

- ☐ Structural changes you decided to make to the plans may necessitate revision of engineering for the home. This must be completed prior to applying for a building permit and can take from several days to several weeks.
- ☐ Residential construction requires that we obtain a building permit. The process varies and can take a few days to many weeks depending on the volume of applications being processed by the building department. This volume varies from month to month.
- ☐ The time of year may affect the start date because of the weather conditions.

Preconstruction Conference

Purchasers _____ Date _____
Address _____

At the office:

- ☐ . 1. Site plan
- ☐ 2. Soil report
- ☐ 3. Drainage plan
- ☐ 4. Status of permit
- ☐ 5. Utilities status
- ☐ 6. Homeowner association issues
- ☐ 7. Landscape plans
- ☐ 8. House plans
- ☐ 9. Specifications
- ☐ 10. Selections and options
- ☐ 11. Change orders
- ☐ 12. Change order cutoff schedule
- ☐ 13. Target start date
- ☐ 14. Construction sequence/schedule
- ☐ 15. Events that extend schedule
- ☐ 16. “Nothing's happening”
- ☐ 17. Quality, builder's inspection of work
- ☐ 18. Site visit guidelines
- ☐ 19. How to handle questions
- ☐ 20. Pre-drywall tour
- ☐ 21. Target deliver
- ☐ 22. Read maintenance and warranty
- ☐ 23. Other Green Valley Builders, Inc. topics:
- ☐ 24. Other client topics:

At the site:

- ☐ 25. Lot boundaries
- ☐ 26. Easements
- ☐ 27. Orientation of home
- ☐ 28. Trees and other natural features
- ☐ 29. Drainage
- ☐ 30. Mailbox location

Notes:

Purchaser _____	Date _____
Purchaser _____	Date _____
Builder _____	Date _____

Safety

We understand that you will want to visit your new home between these construction reviews. A new home construction site is exciting and can also be dangerous. Your safety is of prime importance to us. Therefore, we must require that you contact Green Valley Builders, Inc. before visiting your site. We reserve the right to require that you wear a hard hat and that a member of our staff accompany you during your visit. Please observe commonsense safety procedures at all times when visiting:

- Keep older children within view and younger children within reach, or make arrangements to leave them elsewhere when visiting the site.
- Do not walk backward, even one step. Look in the direction you are moving at all times.
- Watch for boards, cords, tools, nails, or construction materials that might cause tripping, puncture wounds, or other injury.
- Do not enter any level of a home that is not equipped with stairs and rails.
- Stay a minimum of six feet from all excavations.
- Give large, noisy grading equipment or delivery vehicles plenty of room. Assume that the driver can neither see nor hear you.

In addition to safety considerations, be aware of the possibility that mud, paint, drywall compound, and other construction materials are in use and can get onto your clothing.

Frame Tour

Many buyers appreciate the opportunity to tour their home just after the rough mechanical stage, before insulation. The rooms have begun to take shape but the inner workings are still visible. This is an opportunity for you to see the quality that goes inside the walls of your home.

Although this is not an opportunity to request changes, the meeting does give all of us an opportunity to confirm that we are correctly installing the options you ordered or approved changes you requested. We will also update you on the target delivery date during the frame tour.

As with the preconstruction conference, your frame tour is scheduled by your selections coordinator. You will meet your builder at your new home. Frame tours usually take 20 to 30 minutes. Please remember to bring this homeowner manual, selection sheets, and any approved change orders.

Please understand that if for any reason you are unavailable to attend this meeting, we must continue with construction.

Homeowner Orientation

See section 6

Plans and Specifications

The building department of the city or county where your home is to be located must review and approve the plans and specifications for your home. We construct each home to comply with the plans and specifications approved by the applicable building department. Your specifications become part of our agreements with trade contractors and suppliers. Only written instructions from Green Valley Builders, Inc. can change these contracts. Many factors can cause variations between the model home you viewed and the home we deliver to you.

Regulatory Changes

From time to time, city or county agencies adopt new codes or regulations that can affect your home. Such changes are usually adopted in the interest of safety and are legal requirements with which Green Valley Builders, Inc. must comply. Therefore, builders may construct the same floor plan slightly differently in two different jurisdictions or at two different times within the same jurisdiction.

Individual Foundation Designs

Another area where variations among homes can appear is in the foundation system. The foundation design is specific to each lot. Based on the results of a soil test, an engineer determines which foundation system to use. Because of variations in soil conditions among lots, your foundation may differ from your neighbors' foundation or that of the same home in another neighborhood.

Topography and Home Site Conditions

Because each home site is shaped differently, the position of your home on the site may vary from others in the community. You will receive a copy of a plot plan, a drawing that shows you the home's position on your home site, at your preconstruction conference.

In addition, the exterior elevations of each home are affected by the topography, or surface contours, of your home site. For instance, slope on the site may affect the number and configuration of the driveway, walks, steps, and rails. Exterior finish varies in accordance with the slope on the site and retaining walls are sometimes needed for extreme conditions. Green Valley Builders, Inc. identifies existing trees on your home site that must be removed to create room for your home, drive, and so on. Our construction practices include steps intended to preserve other trees in a healthy condition. However, because the reaction of trees to construction activities and your new home are outside our control, we cannot guarantee the health or survival of any existing trees.

Utilities and Mailboxes

The location of meters, phone and electrical junction boxes, and mailboxes are examples of items outside the control of Green Valley Builders, Inc.. The authority of the utility companies and the U.S. Postal Service to designate the placement of these items is well established.

Changes in Materials, Products, and Methods

The new-home industry, building trades, and product manufacturers are continually working to improve methods and products. In addition, manufacturers sometimes make model changes that can impact the final product. For instance, appliance manufacturers generally make design changes every year. The model homes will show the appliances that were current when the models were built although your home may have a more recent version.

In all instances, as required by your purchase agreement, any substitution of method or product that we make will have equal or better quality than that shown in our models. Since such substitutions or changes may become necessary because of matters outside our control, we reserve the right to make them without notification.

Models

Model homes are equipped with larger capacity air conditioners to accommodate high traffic; models also display many decorator items, window coverings, and furnishings. Mature landscaping, extra walks, fences, lighting, fountains, signs and flags are other examples of items which are not part of the home we will be building for you. Please review your home's specifications as well as information Green Valley Builders, Inc. provides about optional items displayed in the models carefully to avoid misunderstandings. Contact your selections coordinator with any questions.

Because finish sizes can vary somewhat, you should measure for window coverings in your home rather than in any model.

Television and the Internet

You may be aware of various home construction methods and materials from watching television programs or exploring the Internet. Green Valley Builders, Inc. routinely reviews new approaches with a focus on building homes with materials and methods that perform predictably and to our standards. While we will be happy to discuss alternative methods and materials you may be interested in, we take a conservative approach to utilizing new approaches until they have been proven over time. In addition, what is appropriate for a home in one area may not be appropriate for your home because of soil, climate, and other conditions.

Natural Variations

Dozens of trade contractors have assembled your home. The exact placement of switches, outlets, registers, and so on will vary slightly from the model and other homes of the same floor plan.

Quality

Our company will build your new home to the quality standards described in our documents and demonstrated in our model homes. Each new home is a handcrafted product—combining art, science, and raw labor. The efforts of many people with varying degrees of knowledge, experience, and skill come together.

Errors and Omissions

From time to time during a process that takes several months and involves dozens of people, an error or omission may occur. We have systems and procedures for inspecting our homes to ensure that the level of quality meets our requirements. We inspect every step of construction and are responsible for quality control. In addition, the county, city, or an engineer conducts a number of inspections at different stages of construction. Your home must pass each inspection before construction continues.

Your Questions

We also respect your interest and appreciate your attachment to the new home. Therefore, your input into our system is welcome. However, to avoid duplication of efforts, confusion, misunderstandings, or compounding errors, we ask that you first check your purchase documents to review what you ordered and the specifications for construction of your home. If you still believe we are in error, do one of two things:

1. Bring your concern up at the frame stage tour.
2. Contact your selections coordinator, in writing, with your question. You are welcome to use one of the *Our Customer Wants to Know* forms included at the end of this section. We will note the date and time it was received and will respond within two business days. Also keep the following points in mind once you have notified the builder of a concern:
 - Your concern may involve a detail Green Valley Builders, Inc. has already noticed or appreciates your pointing out. Still, correction may not occur immediately. Trades and suppliers often impose trip charges for extra visits to the home site so to be efficient, we may schedule the correction for the next routine visit. Also, a particular trade may be unavailable on short notice.
 - Work may simply be incomplete; an early stage can look wrong to you but be exactly right when finished.
 - Methods and materials vary from region to region and change over time. When you are familiar with one method, you naturally question a different one. That does not make the new method wrong. Ask questions until you are comfortable.

Ugly Duckling Stages

During the construction process, every home being built experiences some days when it is not at its best. Homes under construction endure wind, rain, snow, foot traffic, and activities that generate noise, dust, and trash. Material scraps are a byproduct of the process. Although your

new home is cleaned by each trade upon completion of their portion of the work, during your visits you will encounter some messy moments. Keep in mind that the completed homes you toured also once endured these "ugly duckling" stages.

Private Home Inspectors

If you wish to retain the services of a private home inspector to review your home during or at the end of construction, please be aware of Green Valley Builders, Inc. policies regarding private home inspectors. Your inspector:

- ☐ Must provide us with evidence of current worker's compensation and liability insurance.
- ☐ Should be a member of a professional association such as the American Society of Home Inspectors.
- ☐ Should be familiar with the codes applicable in your jurisdiction.
- ☐ Should be experienced with new home construction.
- ☐ Is responsible for staying informed as to the stage of construction the home has reached.
- ☐ Should avoid making any markings on the home itself.
- ☐ Should provide you and Green Valley Builders, Inc. with a written report of any concerns.

Green Valley Builders, Inc. will address concerns involving building code or contract issues only. Your selections coordinator can provide you with a list of private home inspectors who have provided us with evidence of the required insurances as well as information about typical fees and services they offer.

Single Source

Green Valley Builders, Inc. is a single source company. That means that we select all personnel and companies who will contribute to your home. We order all materials and products from suppliers with whom we have established relationships. Although sweat equity arrangements are unavailable as a part of our purchase agreement, you are welcome to add your personal touches to the home after you close and take possession of it.

Trade Contractors

Your home is built through the combined efforts of specialists in many trades—from excavation and foundation, through framing, mechanicals, and insulation, to drywall, trim, and finish work. In order to ensure you the Green Valley Builders, Inc.'s standard of construction, only authorized suppliers, trade contractors, and Green Valley Builders, Inc. employees are permitted to perform work in your home.

Each trade contractor works on a limited portion of the home; they may not be aware of all the details that affect the home and are not in a position to offer judgments. All questions or requests for changes should go through Green Valley Builders, Inc., and we will obtain input from trades when that is appropriate.

Suppliers and trade contractors have no authority to enter into agreements for Green Valley Builders, Inc.. For your protection and theirs, the terms of our trade contractor agreements prohibit alterations without written authorization from Green Valley Builders, Inc.. Their failure to comply with this procedure can result in termination of their contract. Discuss changes you are considering with your selections coordinator.

Schedules

The delivery date for your new home begins as an estimate. Until the roof is on and the structure is enclosed, weather can dramatically affect the delivery date. Even after the home itself is past the potential for weather-related delays, weather can severely impact installation of utility services, final grading, and concrete flatwork, to mention a few examples. Extended periods of wet weather or freezing temperatures bring work to a stop in the entire region. When favorable

conditions return, the trades people go back to work, picking up where they left off. Please understand that they are as eager as you are to get caught up and to see progress on your home.

Delivery Date Updates

Green Valley Builders, Inc. recognizes that timing is critical to planning your move. Although a guaranteed date is unrealistic in the early stages of construction, the builder can provide regular updates. As the home nears completion, the builder can provide a firm delivery date (usually 45 days before the closing). Meanwhile, be flexible and avoid making arrangements that might cause you worry if the move-in date changes.

We will update you on the estimated delivery date at each of our construction meetings. You are also welcome to check with us for the most current target date. As completion nears, more factors come under our control and we can be more precise about that date. Expect a firm closing date no earlier than 30 days before delivery.

We suggest that, until you receive this commitment, you avoid finalizing arrangements for your move. Until then, flexibility is the key to comfort, sanity, and convenience. We want you to enjoy this process and avoid unnecessary stress caused by uncertainty that cannot be avoided. Review the Loan Lock heading in Section 3, Applying for Your Loan, for additional suggestions on this topic.

Please keep in mind that your belongings may be brought into the home only after the closing because of insurance issues and the regulations of the applicable building department.

"Nothing's Happening"

Expect several days during construction of your home when it appears that nothing is happening. This can occur for a number of reasons. Each trade is scheduled days or weeks in advance of the actual work. This period is referred to as "lead time." Time is allotted for completing each trade's work on your home. Sometimes, one trade completes its work a bit ahead of schedule. The next trade already has an assigned time slot, which usually cannot be changed on short notice.

Progress pauses while the home awaits building department inspections. This is also part of the normal sequence of the construction schedule and occurs at several points in every home. Also, throughout construction of a home, work progresses rapidly at some stages as highly visible stages are completed (such as installing large expanses of walls) and more slowly at others (such as detail work in framing in soffits and closets). If you have questions about the pace of work, please contact our office for an update.

Construction Sequence

Although the specific sequence of construction steps varies and overlaps, generally we build your home in the following order:

Foundation

- Excavation
- Footing installation
- Form and pour walls
- Perimeter drain, if applicable
- Waterproof
- Insulation, if applicable
- Inspection

Framing

- First floor
- Second floor
- Roof trusses
- Roof sheathing

Roofing

- Felt or paper
- Valley flashing
- Shingles

Exterior

Exterior trim

- Fascia (boards at ends of rafters)
- Windows and doors
- Sheathing
- Finish materials
- Trim
- Deck, if applicable
- Gutters, if applicable

Exterior painting or staining

Concrete or asphalt

Fine grading

Landscaping, if applicable

Interior

Rough-in of mechanical systems

- HVAC (heating, ventilating, and air conditioning)
- Plumbing
- Electrical (extra outlets need to be installed at this point)
- Rough inspections

Insulation

Drywall

- Hang
- Inspection
- Tape and texture

Interior trim

- Doors
- Baseboards, casings, other details

Paint and stain

Finish work

- Cabinets
- Countertops
- Tile
- Floor coverings
- Appliances
- Hardware
- Screens
- Light fixtures
- Plumbing fixtures

Construction cleaning

Builder's punchlist

Certificate of occupancy

Homeowner orientation

Closing

Home maintenance

Our Customer Wants to Know ...

Date	_____	Lot #	_____
Purchaser	_____	Phone	_____
Fax	_____	E-mail	_____

Question

My preference is to receive a response by ____ phone ____ fax ____ e-mail ____ letter

Response

Homeowner Orientation

Your homeowner orientation is an introduction to your new home and its many features. We follow a preplanned agenda and a set route through the home to assure that we cover everything. Our homeowner orientation provides you with a:

- ∞ Demonstration of your new home.
- ∞ Review of key points about maintenance and limited warranty coverage.
- ∞ Confirmation that Green Valley Builders, Inc. installed selections and options as you ordered them.

Scheduling

We schedule the orientation with you as your home nears completion, typically several days before your closing. Appointments are available Monday through Friday, 8:00 a.m. to 3:00 p.m. Especially in winter months, beginning by 3:00 P.M. assures sufficient day light to view all surfaces adequately. We meet at your new home. Expect your orientation to take approximately 2 hours.

Last-Minute Activity

If you visit your home a day or two prior to orientation, you may notice dozens of details that need attention. During the last few days just prior to your orientation appointment, many trades people and Green Valley Builders, Inc. employees will be working in your home. They are completing last-minute adjustments and fine-tuning your home. These finishing touches cannot be performed until all of the parts have been installed. What seems like a rush of activity is a normal part of the construction process.

Preparation

Following these hints will assure that you get the maximum benefit from your orientation.

Allow Enough Time

Arrange your schedule so you can use the full amount of time allotted.

Bring This Manual

By having this manual with your selection sheets and any approved change orders with you, any questions about the items installed in your home can usually be answered conveniently and immediately.

Attend Alone

Our experience shows that the orientation is most beneficial when buyers focus all their attention on their new home and the information we present. Although we appreciate that friends and relatives are eager to see your new home, it would be best if they visit after your orientation. Similarly, we suggest that, if possible, children and pets not accompany you at this time. If a real estate agent has helped you with your purchase, he or she is not required to attend.

Review Orientation Forms

We have included copies of our orientation forms at the end of this section. We note details that need attention on the orientation forms.

Cosmetic Surfaces

Cosmetic surface damage caused during construction is readily noticeable during the orientation. Such damage can also occur during the move-in process or through daily activities. Therefore,

during your orientation, we will confirm that all surfaces are in good and acceptable condition. Any details that need attention will be listed on your orientation forms. After we correct any items noted during the orientation, repair of cosmetic surface damage is your responsibility. Additional details appear on the orientation forms.

Our limited warranty specifically excludes repairs for damage caused by moving in or living in the home. If your movers scratch the marble entry floor bringing the piano in, notify the moving company. If you splinter some wood trim and break a tail light backing out of your new garage, repairs to the garage and the car is your responsibility. Green Valley Builders, Inc. is always available to assist you with information about cosmetic repairs you may need to make.

Bring Questions

If you have not already done so, please read the maintenance information, limited warranty, and warranty guidelines in Section 8 of this manual. If you have questions, make note of them to bring up at the orientation.

Attire

Wear shoes that are convenient to get off and on. We will tour both the exterior and interior of your home. Anticipate that some dust, bending, kneeling, and reaching may be encountered.

Get Involved

Plan to listen carefully and take a hands-on approach. Push buttons, lock locks, and flip breakers. This helps you remember the dozens of details we cover.

Quality

The overall quality of your home should equal that shown in our models and described in your purchase documents. We list items we agree need further attention and arrange appropriate work. Orientation items fall into several categories:

- ∞ Incomplete or missing (Cabinet knob not installed.)
- ∞ Incorrect (Porch light should be polished brass, not antique.)
- ∞ Dysfunctional (Bath fan does not come on.)
- ∞ Below company standard (Mitered corner rough, top right of den door, hallway side.)
- ∞ Damaged (Scrape on wall from carpet installation.)
- ∞ Unlearned (Mud on the garage floor.)

At some point, quality ceases to be scientific and becomes a matter of personal taste. In a few areas, your personal standards may be even higher than ours. Our commitment to you is that we will deliver what we promised. If you wish to make it even better after moving in, we will be happy to assist you with information.

Completion of Items

Green Valley Builders, Inc. takes responsibility for resolving any items noted. We will complete most items before your move-in. If work needs to be performed in your new home after your move-in, construction personnel are available for appointments Monday through Friday, 8:00 a.m. to 4:00 p.m.

Under normal circumstances, you can expect us to resolve all items within 15 working days. We will inform you of any delays caused by back-ordered materials. Please note that we will correct only those items listed. No verbal commitments of any kind will be honored by Green Valley Builders, Inc..

Gaining access to occupied homes to complete orientation items is a concern to homeowners and builders alike. Green Valley Builders, Inc. asks that you make appointments so that someone over 18 is present for repairs. Working around your busy schedule may result in service taking longer than anyone wants. Your cooperation is essential. Service hours are 8:00 a.m. to 4:00 p.m., Monday through Friday.

We will confirm that any items listed during your orientation have been resolved to meet our standards and policies.

Orientation

Date_____Lot #_____

Purchasers _____

Address _____

New Phone _____

We believe that your home is complete, in satisfactory condition, and meets the quality standards described in your contract documents. We invite your confirmation of this fact by offering you an opportunity to review your home at this time. Your signature indicates that with the exception of items noted on page 2, the components listed below are in good and acceptable condition, including, where applicable, the cosmetic surfaces of these items. Cosmetic damages noted subsequent to those identified today and listed on page 2 are excluded from warranty coverage except as specifically described in your homeowner manual.

Cosmetic surfaces are in acceptable condition

- ___ Appliances
- ___ Brass fixtures
- ___ Cabinets
- ___ Carpet
- ___ Caulking
- ___ Ceramic tile/grout (walls, counters, floors)
- ___ Countertops
- ___ Decks and exterior rails
- ___ Doors
- ___ Drywall
- ___ Fireplace doors
- ___ Garage overhead doors
- ___ Hardware (knobs, towel bars)
- ___ Hardwood floors
- ___ Landscaping (sod, shrubs, trees)
- ___ Light fixtures
- ___ Marble or manufactured marble
- ___ Masonry
- ___ Mirrors and medicine cabinets
- ___ Paint
- ___ Plumbing fixtures (sinks, tubs, faucets)
- ___ Resilient floor coverings
- ___ Shower or tub enclosure
- ___ Siding
- ___ Stair rail
- ___ Stucco
- ___ Windows, screens, patio doors
- ___ Wood trim

Selections/change orders

- ___ All selections and change order items are installed

Status summary

- ___ Grade: Complete Pending
- ___ A/C: Charged Pending N/A
- ___ Crawl: Dry Damp N/A
- ___ Smoke detectors respond to test buttons
- ___ GFCIs respond to test/reset buttons
- ___ Outside faucets function without leaks

Manufacturer literature/parts delivered

- ___ Heat system
- ___ Air conditioning
- ___ Humidifier
- ___ Water heater
- ___ Range
- ___ Cooktop
- ___ Range hood
- ___ Microwave
- ___ Dishwasher
- ___ Disposal
- ___ Fireplace

- ___ Broiler pan
- ___ Disposal wrench
- ___ Sink strainer and drain cover
- ___ Garage door openers or keys
- ___ Paint and stain samples

Warranty service

For your protection and to allow efficient operation of our services, our warranty system is based on your written list of items. Please refer to Section 8 of your homeowner manual for complete details.

Date _____ Lot # _____
Purchasers _____
Address _____

Inspection Items	Company Use

Homeowner _____ Builder _____
.....

All items listed above have been resolved.

Homeowner _____ Builder _____
Date _____ Date _____

Note to Home Buyer:

At the end of your homeowner orientation or closing, you will receive:

- ❑ A list of emergency phone numbers for critical trade contractors, such as heating and plumbing, who might be needed after hours or on weekends. We suggest you insert these phone numbers at the front of Section 8, Caring for Your Home, so that you can find them quickly in an emergency.
- ❑ The manufacturer's literature for the furnace, water heater, and other consumer products. Copies of this material for standard items are available for your review on the *Build Links* program.
- ❑ Copies of completed orientation form. We suggest you insert those forms here.

Closing on Your Home

At closing the ultimate purpose of your purchase agreement is achieved: Ownership of your new home is transferred from Green Valley Builders, Inc. to you. The steps include finalizing your loan (one set of papers and checks) and Green Valley Builders, Inc. selling you the home (another set of papers and checks). The funds are disbursed to the appropriate people and companies, title is transferred to your name(s), and the loan is recorded against your new property. This process involves about 75 documents—some of which are duplicates. Although these documents are not negotiable and thousands of home buyers have signed them, you should read them.

Date

Green Valley Builders, Inc. recognizes that timing is vitally important in planning your move and locking in your loan. We can specify an exact delivery date when construction reaches a point at which weather, material and labor shortages, lender issues, or change orders are unlikely to affect completion of your home. The closing takes place shortly after your orientation. Green Valley Builders, Inc. will notify you of the closing date 30 days or more before the date. We set the specific appointment time with at least 3 day's notice. Typically, the closing process takes about an hour.

Location

The closing on your new home typically takes place at the title company, although it occasionally occurs at the lender's office. We confirm the location with you when we set the appointment.

Documents

At closing, the documents necessary to convey your new home to you and to close the loan from the mortgage company will be signed and delivered. In addition to these standard items, the lender, the title company, and Green Valley Builders, Inc. may require other documents to be signed. The principal documents typically include the following:

General Warranty Deed

The general warranty deed conveys the home and lot to you, subject only to permitted exceptions. This does not apply if you already own the lot.

Title Commitment

At or before closing, we will deliver to you a standard form for an American Land Title Association (ALTA) owner's title insurance commitment to insure salable title of your home to you in the amount of the purchase price, subject to the permitted title exceptions that may be described in the purchase agreement.

The title insurance company will mail the actual policy in the weeks following the closing. When you receive this, keep it in a safe place with your other important papers. What you will see on the day of closing is a document that promises to issue the policy. Lenders require title insurance in the amount of the mortgage. This insurance protects the lender in the event the title search missed anything. You are wise to request an owner's policy to protect your interest in the property. By ordering the owner's policy from the same company that issues the lender's policy, you can save a bit; the title insurance company will usually issue a second policy at a discount.

Review the title commitment carefully. Discuss any questions with your title company. Within 60 days after the closing, the title company mails a standard ALTA owner's title insurance policy, insuring you the title to your home in accordance with the commitment you received at closing. Keep the title insurance policy with your other valuable papers.

Green Valley Builders, Inc. Limited Warranty

We provide a copy of the limited warranty in the Purchasing Your Home Section for your review. Please read it thoroughly.

Promissory Note

The promissory note is from you, payable to the lender in the principal amount of the loan, plus interest. One-twelfth of your annual taxes and homeowner's insurance will be added to the principal and interest payment to determine your total monthly payment.

Deed of Trust

This encumbers your home as security for repayment of the promissory note.

Homeowner Association Documents

You will receive and sign for another copy of your homeowner association covenants, conditions, and restrictions; the association bylaws; and articles of incorporation at closing. Green Valley Builders, Inc. recommends that you read these carefully. The provisions they contain will be enforced.

"The Final Number"

Certain customary items in connection with the property will be prorated to the date of closing such as prepaid expenses, or reserves required by your lender and homeowners association, if applicable. Prorations of general real property taxes and assessments will be based on the current year's taxes and assessments or, if they are unavailable, on the taxes and assessments for the prior year.

The final cost figure is available near to the actual closing. Although a reasonably close estimate may be determined before the date of closing, the proration of several items included is affected by the closing date and cannot be calculated until that date is known. The Real Estate Settlement Procedures Act (RESPA) provides you with many protections. Under this law, you can review the settlement page that lists costs you are paying at closing one day before the closing appointment.

Preparation

The key to a smooth closing is preparation. Several details require your attention. You can handle most of these by phone. Address these details during the weeks before closing to prevent last-minute delays.

Form of Payment

Plan to bring cash, certified funds, or a bank check (made out to yourself, which you will endorse at the closing) to the closing table. In your planning, be sure to allow time to arrange for and obtain these funds. Keep in mind that some banks place a hold on monies moved from another account.

Insurance

You need to provide proof of a homeowner's policy from your insurance company. Your insurance agent should know exactly what is needed. We suggest you arrange for this at least 3 weeks before the expected closing date.

Green Valley Builders, Inc. or Lender Issues

The title company is not authorized to negotiate or make representations on behalf of any of the parties involved in the closing. Therefore, please discuss any questions, agreements, or other details directly with us or your lender in advance of the closing.

Utilities

Green Valley Builders, Inc. will have utility service removed from its name 3 days after closing. You will need to notify all applicable utility companies of your move so that service is provided in your name. We suggest that you contact these companies well ahead of time to avoid any interruption in service. If you ordered a security system for your home, you can arrange to activate that system by contacting the monitoring service for a connection appointment. For your convenience, we have included a list of your utility companies and contact information at the end of this section.

House Keys

When the closing process is complete, you will get the keys to your new home. You will receive two keys for each lock on your home. The same key will operate both the knob and the deadbolt locks.

We recommend that you try all of the keys in all of your locks to confirm smooth operations. Depending on the number of family members living in the home, you may want to get extra copies of your house keys made.

Garage Door Opener Operators

Garage door opener operators, if applicable, will be left on the motor of the garage door opener. If you wish to change the code, review the manufacturer instructions. Batteries typically need to be replaced about once a year. You will receive one operator for each garage door opener installed in your home. If you need additional operators, contact the garage door opener company using the customer service number shown in the manufacturer's literature that came with the openers.

First Mortgage Payment

Your lender will provide you with information on where to send your mortgage payments and when the first payment will be due. Many lenders supply payment coupons for you to send in with your payments.

Storing Documents

We suggest that you store the legal documents from your closing with other valuable papers, in a safe place. You will need them for tax purposes and when you refinance or sell your home.

Utility and Community Services

Gas

Atmos Energy
540-639-1662

Electric

American Electric Power
1-800-956-4237

Telephone

Citizens
1-800-741-9525

Verizon
540-954-6222

Cable TV

Citizens
1-800-741-9525

Comcast
1-888-266-2278

Satellite TV

DirecTV
1-888-777-2454

Dish Network
1-888-825-2557

Recycling

Town of Blacksburg
540-961-1894

Water

Town of Blacksburg
540-961-1142

Sewer

Town of Blacksburg
540-961-1142

Trash Collection

Town of Blacksburg
540-961-1142

Caring for Your Home

Green Valley Builders, Inc. has constructed your home with carefully selected materials and the effort of experienced craftsmen and laborers under the supervision of our field personnel, with the administrative support of our office personnel. Although this group works from detailed plans and specifications, no two homes are exactly alike. Each one is unique; a home is one of the last hand-built products left in the world. Over time, each behaves differently.

Although quality materials and workmanship have been used in creating your home, similar to an automobile, it requires care from the first day. Regular homeowner maintenance is essential to providing a quality home for a lifetime. This section of our manual was assembled to assist you in that effort.

Homeowner Use and Maintenance Guidelines

We are proud of the homes we build and the neighborhoods in which we build them. We strive to create lasting value. This is best achieved when you, as the homeowner, know and perform appropriate maintenance tasks. Periodic maintenance is necessary because of normal wear and tear, the inherent characteristics of the materials used in your home, and normal service required by the mechanical systems. Natural fluctuations in temperature and humidity also affect your home, resulting in maintenance items. The natural and manufactured materials, the components interact with each other and the environment.

We recognize that it is impossible to anticipate and describe every attention needed for good home care. We focused on items that homeowners commonly ask about. The subjects are listed in alphabetical order to make finding answers to your questions convenient. Because we offer home buyers a variety of floor plans and optional features, this manual may discuss components that are not present in your home.

Checklists

You will find several checklists included in this manual. These cover fire prevention reminders, energy and water conservation tips, suggestions for extended absences, appliance service information, and a maintenance schedule. Again we make no claim that we have included every detail. We do believe we have provided you with a good start, and we've allowed space for you to add your own notes to our checklists.

Prompt Attention

In addition to routine care, many times a minor maintenance attention provided immediately saves you a more serious, time-consuming, and sometimes costly repair later. Note also that neglecting routine maintenance can void applicable limited warranty coverage on all or part of your home.

By caring for your new home attentively, you ensure uninterrupted warranty coverage as well as your enjoyment of it for years. The attention provided by each homeowner contributes significantly to the overall desirability of the community.

Manufacturer Literature

Please take time to read the literature (warranties and use and care guides) provided by the manufacturers of consumer products and other items in your home. The information contained in that material is not repeated here. Although much of the information may be familiar to you, some points may differ significantly from homes you have had in the past.

We make every effort to keep the information in this manual current. However, if any detail in our discussion conflicts with the manufacturer's recommendations, you should follow the manufacturer's recommendations.

Activate specific manufacturer's warranties by completing and mailing any registration cards included with their materials. In some cases, manufacturer's warranties may extend beyond the first year and it is in your best interests to know about such coverage's.

Green Valley Builders, Inc. Limited Warranty Guidelines

While we strive to build a defect-free home, we are realistic enough to know that, with repeated use, an item in the home may fail to perform as it should. When this occurs, we will make necessary corrections so the item meets our warranty guidelines. In support of this commitment, Green Valley Builders, Inc. provides you with a limited warranty.

Corrective Actions

In addition to the information contained in the limited warranty itself, this manual includes details about the criteria we will use to evaluate concerns you report. The purpose is to let you know what our warranty commitment is for the typical concerns that can come up in a new home. The manual describes the corrective action we will take in a many common situations.

We Sometimes Break Our Own Rules–In Your Favor

Our criteria for qualifying warranty repairs are based on typical industry practices in our region and meet or exceed those practices. Please note that we reserve the right, at our discretion, to exceed these guidelines if common sense or individual circumstances make that appropriate, without being obligated to exceed all guidelines to a similar degree or for other homeowners whose circumstances are different.

We Sometimes Say No

With a product as complex as a home, different viewpoints regarding which tasks are homeowner maintenance responsibilities and which are Green Valley Builders, Inc. warranty responsibilities are possible. If you request warranty service on a maintenance item, we will explain to you the steps you should take to care for the item. We are available to answer your home-care questions during and after your warranty period. Providing normal maintenance for your home is your job.

Warranty Specimen Provided for Your Review

You will receive the signed limited warranty document at your closing. We provide a specimen copy for your review at the time you sign your purchase agreement. Please read through this information, as well as the service procedures and guidelines discussed on the following pages. If you have any questions, please contact our warranty office.

Warranty Reporting Procedures

Providing warranty service for a new home is more complicated than for other products. When you purchased your home, you're actually purchased hundreds of items and the work of 35 to 50 independent trade contractors. With so many details and people involved, a planned system is essential.

Our warranty service system is designed based on your written report of nonemergency items. This provides you with the maximum protection and allows us to operate efficiently, thereby providing faster service to all homeowners. Emergency reports are the only service requests we accept by phone. Please put all nonemergency service requests in writing.

You are welcome to mail, fax, e-mail, or drop off your warranty service request in person at our main office. Keep a copy for your records. This written system permits Green Valley Builders, Inc. personnel to focus their time producing results for you and following up. Experience has taught us that accuracy and efficiency suffer when we work outside this system and sacrifice careful documentation.

We plan two standard warranty contacts with you. The first is 60 days after your closing and the second is at 11 months after closing. We also have emergency response procedures and have

provided for miscellaneous warranty requests between the standard 60-day and 11-month reports. Service for your appliances is handled differently and is described in detail on the next page.

90-Day Report

For your convenience and in order for our service program to operate at maximum efficiency, we suggest that you wait 90 days before submitting a warranty list. This allows you sufficient time to become settled in your new home and to use most components repeatedly. As you notice items, jot them down on a service request form (found at the end of this manual).

11-Month Report

Near the end of the eleventh month of your materials and workmanship warranty, you should submit a year-end report if you have any items to report. We will also be happy to discuss any maintenance questions you may have at that time. Again, keep notations of items on a service request form. This is also the best time for you to request the "one-time" repairs we offer on several components such as drywall.

Emergency Service

While emergency warranty situations are rare, when they occur, prompt response is essential. Begin by checking items you can check. Troubleshooting tips appear in this manual for several of your home's components:

- Air conditioning
- Electrical
- Heat system
- Plumbing
- Roof (leak)
- Water heater

Please refer to the individual categories to review these hints; you will find them at the end of the corresponding sections. Often the appropriate action by you can solve a problem immediately or mitigate the situation until a technician arrives.

If your review of the troubleshooting tips fails to solve the problem, during business hours, call Green Valley Builders, Inc.'s warranty office:

540-552-1099

After hours, or on weekends or holidays, call the necessary trade contractor or utility company directly. Their phone numbers are listed on the Emergency Phone Numbers sheet you receive at orientation or closing. We suggest that you insert the Emergency Phone Numbers sheet in this section of your homeowner manual or secure it inside a kitchen cabinet, near your phone.

Our trade contractors or local utility companies provide emergency responses to the following conditions:

- Total loss of heat when the outside temperature is below 50 degrees F
- Total loss of electricity
- Total loss of water
- Plumbing leak that requires the entire water supply to be shut off
- Gas leak

Note that if a service (gas, electricity, water) is out in an entire area, attention from the local utility company is needed. Trade contractors are unable to help with such outages.

Air Conditioning. Understandably, if your air conditioner is not working, you want it fixed pronto. In a typical scenario, many other homeowners across our region will discover they too need service on their air conditioners on the same hot day that you do. The trades who address these needs generally respond to calls on a first come, first served basis. If your call for service comes during this time period, you may wait several days for a technician to arrive. For this reason, we recommend that you operate your air conditioner as soon as warm temperatures begin. In this way, if service is needed, you can avoid the rush and get a more satisfactory response.

Roof Leak. While we agree with homeowners that a roof leak is indeed an emergency, the reality is that repairs cannot safely or effectively be performed while the roof is wet. During business hours, contact our office with the information, take appropriate steps to mitigate damage, and we will follow up when conditions make repairs possible. (See *Roof* for more details.)

Other Emergencies. In addition to emergency situations covered by our limited warranty, be prepared for other kinds of emergencies. Post phone numbers for the fire department, police, paramedics, and poison control near phones in your home. Have companies in mind in the event you need a locksmith, water extraction, glass breakage repair, or sewer router service. If you are new to the area, neighbors may be able to recommend good service providers. Introduce your children to neighbors who might be available to help in an emergency if you are not home.

Other Warranty Service

If you wish to initiate nonemergency warranty service between the standard 90-day and 11-month report, you are welcome to do so by sending in a service request form (we've included 3 copies of this form at the back of this manual).

Homeowners who want to arrange 90-day or 11-month warranty visits receive priority scheduling. We schedule appointments for miscellaneous requests on a first come, first served basis between the standard appointments. As a result, service on miscellaneous requests may take a bit longer to address.

Kitchen Appliance Warranties

The manufacturers of kitchen appliances have asked to work directly with homeowners if any repairs are needed for their products. Customer service phone numbers are listed in the use and care materials for each appliance. Be prepared to provide the model and serial number of the item and the closing date on your home. For your convenience, we have included an Appliance Service information sheet among the other checklists in this manual.

Appliance warranties are generally for one year; refer to the literature provided by the manufacturer for complete information. Remember to mail in any registration cards you receive with manufacturer materials. Being in the manufacturer's system assures that in the event of a recall the company can contact you and arrange to provide the needed correction.

Warranty Item Processing Procedures

When we receive a warranty service request, we may contact you for an inspection appointment. Warranty inspection appointments are available Monday through Friday, 7:00 a.m. to 4:00 p.m. We inspect the items listed in your written request to confirm warranty coverage and determine appropriate action. Generally, reported items fall into one of three categories:

- ▶ Trade contractor item
- ▶ In-house item
- ▶ Home maintenance item

If a trade contractor or an in-house employee is required to perform repairs, we issue a warranty work order describing the situation to be addressed. If the item is home maintenance, we will review the maintenance steps with you and offer whatever informational assistance we can.

Occasionally the inspection step is unnecessary. In that case, we issue the needed work orders and notify you that we have done so.

Help Us to Serve You

We can provide service faster and more accurately if we have all the necessary information. With your warranty request, please include:

- ☐ Your name, address, and the phone numbers where you can be reached during business hours.
- ☐ A complete description of the problem, for example, "guest bath—cold water line leaks under sink," rather than "plumbing problem."
- ☐ Information about your availability or the best days or times to reach you. For instance, if calling you at work is acceptable, let us know. Otherwise, we will use your home phone number. If you are usually home on Thursday, mention that.

Access to Your Home

Green Valley Builders, Inc. conducts inspections of interior warranty items only when an adult is available to accompany our representative and point out the items you have listed. Both our in-house service technicians and those of our trade's contractors will likewise perform repairs only when an adult is available to admit them to your home. An adult is a person 18 or older who has your authorization to admit service personnel and sign completed work orders.

We do not accept keys, nor will we permit our trade contractors to accept your key and work in your home without an adult present. While we recognize that this means processing warranty service items may take longer, we believe your peace of mind and security should be our first concern.

Exterior Items

Exterior items can usually be inspected and repaired without an adult present, provided access is available (for instance, no locked gate). However, we will contact you the day prior to any visit and let you know we will have someone on your property. If you prefer to meet with us and discuss the item(s) in question, we are happy to arrange an appointment to do that.

Repair Appointments

Depending on the work needed, at the conclusion of the inspection appointment, the warranty manager will most likely ask you to designate a *work date*—a date a minimum of 10 days from the inspection date—for approved repairs to be made. This 10-day time frame allows us to notify appropriate trades people and arrange for most repairs to occur on the same day.

Although on occasion work must occur in sequence and more than one work date might be needed, this system works well in the majority of situations. Once work date appointments are set, we confirm them the day before and our warranty manager follows up to confirm repairs are completed.

Inspection and Work Hours

Many homeowners ask whether evening and weekend appointment times are available. Green Valley Builders, Inc. understands the desire for appointments outside normal business hours. We recognize the trend to services being available "24/7" in many businesses. However, in investigating how such appointments could be arranged, we discovered many factors that make extended service hours impractical.

- ☐ A significant portion of repairs require daylight for proper execution. This applies to drywall or plaster, paint, and exterior work of almost any type.
- ☐ We also found that most of the 35 to 50 independent trade contractors who helped us build your home—many of whom operate as small companies—were unable to work all week and also be available for extended hours. Therefore, the few repairs that could be performed in off-hours failed to eliminate the need for repair appointments during normal hours.

- Administrative staff and supervisors would need to be available to answer questions. Having some personnel work extended hours meant being short staffed during normal business hours.
- When we calculated the impact on wages and salaries for adding more personnel or compensating existing personnel for working non-traditional hours, we found that this affected overhead, and consequently the prices for our homes.

We are still looking for a workable long-term answer to this recognized dilemma. Meanwhile, our warranty hours will be as follows:

- Administrative staff: Monday through Friday, 8:00 a.m. until 5:00 p.m.
- Inspection appointments: Monday through Friday, 8:00 a.m. until 4:00 p.m.
- Work appointments: Monday through Friday, 8:00 a.m. until 4:00 p.m.

Evening and weekend appointments are reserved for emergency situations. We appreciate your understanding and cooperation with these policies.

Pets

Green Valley Builders, Inc. respects the pets that many homeowners count as members of their households. To prevent the possibility of an animal getting injured or lost, or giving in to its natural curiosity about tools and materials used for repairs, we ask that you restrict all animals to a comfortable location during any warranty visit, whether for inspection or warranty work. This policy is also for the protection of our employees and trades personnel. We have instructed Green Valley Builders, Inc. and trades personnel to reschedule the appointment if pets have access to the work area.

Your Belongings

In all work that we perform for our homeowners we are concerned that their personal belongings be protected. When warranty work is needed in your home, we ask that you remove vulnerable items or items that might make performing the repair difficult. Green Valley Builders, Inc. and trade personnel will reschedule the repair appointment rather than risk damaging your belongings.

Surfaces

We expect all personnel who work in your home to arrive with appropriate materials to cover the work area, protecting it from damage and catching the dust or scraps from the work being performed. Similarly, all personnel should clean up the work area, removing whatever excess materials they brought in.

Repair personnel will routinely check the work area for any existing damage to surfaces. They will document any scratches, chips, or other cosmetic damage prior to beginning repairs to avoid any later disagreement about how and when such damage occurred.

Signatures on Work Orders

Signing a work order acknowledges that a technician worked in your home on the date shown and with regard to the items listed. It does not negate any of your rights under the warranty nor does it release us from any confirmed warranty obligation. If you prefer not to sign the work order, the technician will note that, sign the work order and return it to us for our records. If you are dissatisfied with any service we provide, you can note that on the work order or call the warranty office with your feedback. We will review your concerns and determine whether our requirements have been met. While complaints of this type are infrequent, about 50 percent of the time we find the homeowner is correct and more attention is needed.

Completion Time

Regular review of outstanding work orders is part of our office routine. Checking with trades and homeowners alike, we strive to identify the cause for delays and get all warranty work completed within an appropriate and reasonable amount of time.

We intend to complete warranty work orders within 15 work days of the inspection unless you are unavailable for access. If a back-ordered part or similar circumstance causes a delay, we will let you know. Likewise, when weather conditions prevent the timely completion of exterior items, we track those items and follow up to ensure that they are addressed when conditions are right. This can mean a wait of several months.

Missed Appointments

Good communication is one key to successful completion of warranty items. We strive to keep homeowners informed and to protect them from inconvenience. One of our challenges in this regard is when unexpected events sometimes result in missed appointments.

If a Green Valley Builders, Inc. employee or a trade person will be late, he or she should contact you as soon as the delay is recognized, offering you a choice of a later time the same day or a completely different appointment. If you must miss an appointment, we appreciate being alerted as soon as you realize your schedule has changed. We can put work orders on "hold" for 10 to 30 days and re-activate them when your schedule offers a better opportunity to arrange access to the home.

Warranty Service Summary

The many details of warranty coverage can be confusing. We hope this summary of key points will help. If you do not know whom to contact, call our warranty office and we will guide you.

Warranty Hours

- ▶ Administrative staff: Monday through Friday, 8:00 a.m. until 5:00 p.m.
- ▶ Inspection appointments: Monday through Friday, 8:00 a.m. until 4:00 p.m.
- ▶ Work appointments: Monday through Friday, 8:00 a.m. until 4:00 p.m.

Appliances

Contact the manufacturer directly with model and serial number, closing date, and description of problem. Refer to your Appliance Service information sheet.

Emergency

First, check the troubleshooting tips under several individual headings in this manual. If those tips do not solve the problem, during our business hours (Monday through Friday, 8:00 a.m. until 5:00 p.m.), call our warranty office:

540-552-1099

After business hours or on weekends or holidays, contact the trade or appropriate utility company directly using the emergency numbers you receive at your orientation or closing.

Nonemergency

Mail, fax, e-mail, or drop off your list of items at our warranty office. You will find warranty service request forms at the end of this manual or you can request copies by calling our office.

Phone 540-552-1099
Fax 540-552-1021
justin@greenvalleybuildersinc.com

Green Valley Builders, Inc.
P.O. Box 10246
Blacksburg, Va 24060

Storm Damage or Other Natural Disaster

Contact your homeowner's insurance agent immediately. Contain damage as much as possible without endangering yourself. In extreme situations, photograph the damage.

Fire Prevention

Fire safety should be practiced by all family members. Awareness of potential dangers and preventive actions are preferable to even the fastest response. Keep these hints in mind and add your own reminders in the space provided on the next page.

Train Family Members

- ☐ Ensure that all family members know what escape routes exist in your home.
- ☐ Conduct a fire drill with family members.
- ☐ Test the smoke detectors to assure they function and so that everyone recognizes the sound. Follow the manufacturer's directions for cleaning and servicing all of your smoke detectors.
- ☐ As soon as possible, teach young children how and why to dial 911.
- ☐ Have a general use fire extinguisher and instruct all family members in its location and use.
- ☐ Teach children the safe use of appliances such as irons and toasters.

Practice Prevention

- ☐ Store matches away from children and heat sources.
- ☐ Avoid smoking in bed.
- ☐ Avoid leaving small children home alone, even for a short time.
- ☐ Maintain appliances in clean and safe working condition.
- ☐ Avoid overloading electrical outlets.
- ☐ Ensure that all electrical cords are in good repair.
- ☐ Use correctly sized fuses.
- ☐ Avoid having any flammable objects or materials near the stove.
- ☐ Keep the range hood filter clean to prevent a build up of grease.
- ☐ Allow space for cooling around electrical equipment.
- ☐ Unplug the iron when it is not in use. Do not leave an iron that is on unattended.
- ☐ Use electric blankets with care, following manufacturer directions.
- ☐ Store volatile materials (paint, gasoline for the lawn mower, and so on) in appropriate containers, away from flames (such as pilots lights) or heat sources. Many trash collection services offer a means for you to dispose of hazardous items. Check with your service provider for details.
- ☐ Keep the barbeque clear of flammable objects and materials.
- ☐ If your home includes a gas fireplace follow all directions and do not leave the fireplace unattended when it is on. If you have a wood burning fireplace:
 - ☐ Arrange for professional cleaning of the chimney at appropriate intervals.

- ☐ Maintain the spark arrester on the chimney.
- ☐ Never use liquid fire starters (such as for a charcoal barbeque) in an indoor fireplace.
- ☐ Use a screen or glass doors when a fire is burning.
- ☐ Confirm the fire is out before closing the flue.
- ☐ Do not leave the fireplace unattended while a fire is burning.

- ☐ During holidays, ensure that all cords and connections are in good condition and of appropriate capacity for electrical decorations.

- ☐ If you decide to remodel, finish the basement, or add onto your home, obtain a building permit and work with trained professionals. Ensure that all building department inspections occur and that the work complies with all applicable codes. This also applies to installing a gas line for an outdoor barbeque, a gas fireplace, clothes dryer, and so on.

Your Additional Reminders and Notes:

Extended Absences

Whether for a vacation, business travel, or other reasons, nearly all of us occasionally leave our homes for days or weeks at a time. With some preparation, such absences can be managed uneventfully. Keep these guidelines in mind and add additional reminders that are appropriate to your situation.

Plan in Advance

- ☐ Ask a neighbor to keep an eye on the property. If possible, provide them with a way to reach you while your are away.
- ☐ If you will be gone an especially long time (over two weeks) consider arranging for a house sitter.
- ☐ Arrange for someone to mow the lawn or shovel snow.
- ☐ Notify local security personnel or police of the dates you will be away.
- ☐ Stop mail, newspapers, and other deliveries.
- ☐ Use lighting timers (available at hardware stores for \$10 to \$20).
- ☐ Confirm that all insurance policies that cover your property and belongings are current and provide sufficient coverage.
- ☐ Mark valuable items with identifying information. Consider whether you have irreplaceable items that should be stored in a bank vault or security box.

As You Leave

- ☐ Forward phone calls to a relative or close friend.
- ☐ Unplug computers and other electronic devices that might be harmed in an electric storm.
- ☐ Leave window coverings in their most typical positions.
- ☐ Confirm that all doors and windows are locked and the deadbolts are engaged.
- ☐ Shut off the main water supply. Set the thermostat on the water heater to "vacation" to save energy.
- ☐ Store items such as your lawn mower, bicycles, or ladders in the garage.
- ☐ Disengage the garage door opener (pull on the rope that hangs from the mechanism). Use the manufacturer's lock to bolt the overhead door. *Caution:* Attempting to operate the garage door opener when the manufacturer's lock is bolted will burn out the motor of your opener. Upon your return, unlock the garage door first, then re-engage the motor (simply push the button to operate the opener and it will reconnect) to restore normal operation.
- ☐ Leave a second car in the drive.
- ☐ Summer: Turn your air conditioner fan to on. Set the thermostat to 78.
- ☐ Winter: Set the thermostat to a minimum of 55. Leave doors on cabinets that contain plumbing lines open. Leave room doors open as well. This allows heat to circulate.
- ☐ Arm your security system, if applicable.

Your Additional Reminders and Notes:

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and extend across the width of the page. There are no margins, text, or other markings on the paper.

Energy and Water Conservation

Good planning and thoughtful everyday habits can save significant amounts of energy and water. In the process of conserving, you also save money as an additional benefit. Keep these hints in mind as you select and use your home's features:

Heating and Cooling

- ☐ Maintain all your home's systems in clean and good working order to prevent inconvenience and maximize efficiency. Arrange for a professional to service heat and air conditioning systems a minimum of once every two years.
- ☐ Keep filters clean or replace them regularly.
- ☐ Learn how to use your day/night thermostat for comfort and efficient energy use.
- ☐ If you have a zoned system (one furnace and separate controls) think through operating schedules and temperature settings to maximize comfort and minimize energy consumption.
- ☐ During cold days, open window coverings to allow the sun to warm your home. Close them when the sun begins to set.
- ☐ Limit use of your fireplace in extremely cold or windy weather when the chimney draft will draw room air out at an extreme rate.
- ☐ During the winter, humidifying the air in your home allows the air to retain more heat and is a general health benefit. Note: If condensation develops on your windows, you have taken a good thing too far and need to lower the setting on the humidifier. Avoid use of the humidifier when you are using your air conditioner.
- ☐ Ceiling fans cost little to operate and the moving air allows you to feel comfortable at temperatures several degrees higher.
- ☐ On hot days, close all windows and the window coverings on windows facing the sun to minimize solar heating and reduce demands on your air conditioner.
- ☐ Whole house fans draw cool outside air into the home through open windows, often effectively creating a comfortable temperature. Avoid running a whole house fan at the same time as air conditioning.
- ☐ Plan landscaping elements that support efficient energy use:
 - ▶ Deciduous trees provide shade during the summer and permit solar warming in winter.
 - ▶ Evergreen trees and shrubs can create a windbreak and reduce heating costs.
 - ▶ Position trees to shade the roof and still allow good air flow around the home.
 - ▶ Plant shrubs and trees to shade the air conditioner without obstructing air flow around the unit.
- ☐ Keep the garage overhead doors closed.

Water and Water Heater

- ☐ Set your water heater at 120 degrees
- ☐ Follow the steps outlined in the manufacturer's directions for draining water from your water heater in order to remove accumulated hard-water scale that builds up inside the tank. Timing will depend on the nature of your water supply.
- ☐ Correct plumbing leaks, running toilets, or dripping faucets ASAP.

- ☐ Correct plumbing leaks, running toilets, or dripping faucets ASAP.
- ☐ Keep aerators clean.
- ☐ If you have a swimming pool, consider using solar heating power.

Appliances

- ☐ In selecting your home's appliances, compare the information on the (yellow and black) Energy Guide sticker. Sometimes spending a bit more up front can reduce operating costs over the life of the appliance, conserving energy at the same time.
- ☐ Use cold water when operating your disposal. This not only saves hot water you pay to heat, it preserves the disposal motor.
- ☐ When baking, preheat your oven just five minutes before you use it. When possible, bake several items at the same time or at least consecutively. Turn the oven off a few minutes before baking time is done.
- ☐ Microwave rather than using the range when possible, especially during hot weather.
- ☐ Run the dishwasher when it has a full load and use the air-dry cycle. Avoid regular use of the rinse and hold cycle.
- ☐ Turn electric burners off a few minutes before cooking is complete.
- ☐ Refrigerators with the freezer on top generally use significantly less energy than side-by-side models. Select an appropriate size for your needs; two small refrigerators use more energy than one large one.

Electrical

- ☐ Use compact fluorescent bulbs or fluorescent tubes where possible. Incandescent bulbs are the least efficient source of light.
- ☐ Turn lights and other electric items off when you finish using them or leave the room.

Maintenance

- ☐ Caulk in dry weather when temperatures are moderate. Check all locations, such as:
 - ☐ Foundation penetrations (electrical, phone, water, cable tv, and gas line entrances)
 - ☐ Around fans and vents
 - ☐ Joints between door or window frames and siding
- ☐ Check weather-stripping on all exterior doors and adjust as needed. Ensure that door thresholds are a good fit—most are adjustable.
- ☐ After any activity in the attic, check that the insulation is evenly distributed.

Your Additional Reminders and Notes:

Appliance Service

This sheet is for your convenience. For warranty service on an appliance, contact the appropriate manufacturer directly at the service number provided in the appliance literature. You will need to supply the model and serial number (usually located on a small metal plate or seal attached to the appliance in an inconspicuous location), and the date of purchase (your closing date).

Closing Date _____

<i>Appliance</i>	<i>Manufacturer</i>	<i>Model #</i>	<i>Serial #</i>	<i>Service Phone #</i>
Range				
Range Hood				
Cooktop				
Oven				
Microwave				
Dishwasher				
Disposal				
Washer				
Dryer				
Refrigerator				
Freezer				

Maintenance Schedule

Spring

- ☐ Clean and test smoke alarms.
- ☐ Test and reset ground fault circuit interrupters (GFCI) breakers.
- ☐ Change or clean the furnace filter **MONTHLY**
- ☐ Operate air-conditioning system; if service is needed it is more conveniently arranged before the busiest part of the season arrives.
- ☐ Adjust registers and confirm that cold air returns are clear of furniture or draperies.
- ☐ Make certain the air-conditioner compressor is level and clear of debris.
- ☐ Turn the humidifier off.
- ☐ Pour water down the basement floor drain. As drain water evaporates, sewer odor can seep into the house.
- ☐ Drain sediment from the bottom of the water heater per manufacturer's instructions.
- ☐ Inspect grout around tile (floor or wall) and touch up.
- ☐ Wash windows and screens, clean weep holes, and lubricate tracks.
- ☐ Check caulking, inside and out, and touch up.
- ☐ Check garage overhead door, tighten bolts as needed, and lubricate springs with motor oil. Have other repairs done by professionals.
- ☐ Clean gutters and confirm that downspouts or splashblocks drain away from the house.
- ☐ Look for settling of backfill soils and fill in where needed.
- ☐ Check exterior paint and stain surfaces (especially stained doors) and refinish as needed.

Winter

- ☐ Clean and test smoke alarms.
- ☐ Test and reset ground fault circuit interrupters (GFCI) breakers.
- ☐ Change or clean the furnace filter **MONTHLY**
- ☐ Operate the heating system.
- ☐ Adjust registers and confirm that cold air returns are clear of furniture or draperies.
- ☐ Clean the humidifier per manufacturer's instructions.
- ☐ Adjust or replace weatherstripping on exterior doors as needed.
- ☐ Check the fit of exterior doors; thresholds are adjustable—use a quarter to turn the screws.
- ☐ Check caulking, inside and out, and touch up.
- ☐ Remove hoses from exterior faucets. "Freeze proof" faucets suffer a broken water line if the water in the hose freezes and expands into the pipe.
- ☐ Review safe fireplace operation. Provide professional cleaning at regular intervals.
- ☐ Check garage overhead door, tighten bolts as needed, and lubricate springs with motor oil. Have other repairs done by professionals.
- ☐ Clean gutters, check downspouts; confirm that splashblocks drain away from the house.
- ☐ Check foundation, concrete, and yard for settling; fill in as needed for positive drainage.
- ☐ After snowfall, brush snow off gutters and away from downspouts.
- ☐ Remove ice and snow from concrete promptly; avoid de-icing agents with damaging salts.
- ☐ On pleasant days, open windows to allow house to breathe.
- ☐ Decorate safely for the holidays. Do not overload circuits or use worn extension cords.

Air Conditioning

Homeowner Use and Maintenance Guidelines

Air conditioning can greatly enhance the comfort of your home, but if it is used improperly or inefficiently, wasted energy and frustration will result. These hints and suggestions are provided to help you maximize your air conditioning system.

Your air conditioning system is a whole-house system. The air conditioning unit is the mechanism that produces cooler air. The air conditioning system involves everything inside your home including, for example, drapes, blinds, and windows.

Your home air conditioning is a closed system, which means that the interior air is continually recycled and cooled until the desired air temperature is reached. Warm outside air disrupts the system and makes cooling impossible. Therefore, you should keep all windows closed. The heat from the sun shining through windows with open drapes is intense enough to overcome the cooling effect of the air conditioning unit. For best results, close the drapes on these windows.

Time is very important in your expectations of an air conditioning system. Unlike a light bulb, which reacts instantly when you turn on a switch, the air conditioning unit only begins a process when you set the thermostat.

For example, if you come home at 6:00 p.m. when the temperature has reached 90 degrees F and set your thermostat to 75 degrees, the air conditioning unit will begin cooling, but it will take much longer to reach the desired temperature. During the whole day, the sun has been heating not only the air in the house, but the walls, the carpet, and the furniture. At 6:00 p.m. the air conditioning unit starts cooling the air, but the walls, carpet, and furniture release heat and nullify this cooling. By the time the air conditioning unit has cooled the walls, carpet, and furniture, you may well have lost patience.

If evening cooling is your primary goal, set the thermostat at a moderate temperature in the morning while the house is cooler, allowing the system to maintain the cooler temperature. The temperature setting may then be lowered slightly when you arrive home, with better results. Once the system is operating, setting the thermostat at 60 degrees will *not* cool the home any faster and can result in the unit freezing up and not performing at all. Extended use under these conditions can damage the unit.

Adjust Vents

Maximize air flow to occupied parts of your home by adjusting the vents. Likewise, when the seasons change, readjust them for comfortable heating.

Compressor Level

Maintain the air conditioning compressor in a level position to prevent inefficient operation and damage to the equipment.

See also Grading and Drainage.

Humidifier

If a humidifier is installed on the furnace system, turn it off when you use the air conditioning; otherwise, the additional moisture can cause a freeze-up of the cooling system.

Manufacturer's Instructions

The manufacturer's manual specifies maintenance for the condenser. Review and follow these points carefully. Since the air conditioning system is combined with the heating system, follow

the maintenance instructions for your furnace as part of maintaining your air conditioning system.

Temperature Variations

Temperatures may vary from room to room by several degrees Fahrenheit. This is due to such variables as floor plan, orientation of the home on the lot, type and use of window coverings, and traffic through the home.

Troubleshooting Tips: No Air Conditioning

Before calling for service, check to confirm that the:

- Thermostat is set to "cool" and the temperature is set below the room temperature.
- Blower panel cover is installed correctly for the furnace blower (fan) to operate. Similar to the way a clothes dryer door operates, this panel pushes in a button that lets the fan motor know it is safe to come on. If that button is not pushed in, the furnace will not operate.
- Air conditioner and furnace breakers on the main electrical panel are on. (Remember if a breaker trips you must turn it from the tripped position to the off position before you can turn it back on.)
- 220 switch on the outside wall near the air conditioner is on.
- Switch on the side of the furnace is on.
- Fuse in furnace is good. (See manufacturer literature for size and location.)
- Filter is clean to allow air flow.
- Vents in individual rooms are open.
- Air returns are unobstructed.
- Air conditioner has not frozen from overuse.

Even if the troubleshooting tips do not identify a solution, the information you gather will be useful to the service provider you call.

Green Valley Builders, Inc. Limited Warranty Guidelines

The air conditioning system should maintain a temperature of 72 degrees or a differential of 15 degrees from the outside temperature, measured in the center of each room at a height of 5 feet above the floor. Lower temperature settings are often possible, but neither the manufacturer nor Green Valley Builders, Inc. guarantee this.

Compressor

The air conditioning compressor must be in a level position to operate correctly. If it settles during the warranty period, Green Valley Builders, Inc. will correct this.

Coolant

The outside temperature must be 70 degrees F or higher for the contractor to add coolant to the system. If your home was completed during winter months, this charging of the system is unlikely to be complete and will need to be performed in the spring. Although we check and document this at orientation, your call to remind us is welcome in the spring.

Nonemergency

Lack of air conditioning service is not an emergency. Air conditioning contractors in our region respond to air conditioning service requests during normal business hours and in the order received.

Alarm System

Homeowner Use and Maintenance Guidelines

If your home selections included prewire for an alarm system, you will arrange for the final connection and activation after you move-in. The alarm company will demonstrate the system, instruct you in its use, and provide identification codes for your family. We recommend that you test the system each month.

Green Valley Builders, Inc. Limited Warranty Guidelines

Green Valley Builders, Inc. will correct wiring that does not perform as intended for the alarm system. Green Valley Builders, Inc. makes no representation that the alarm system will provide the protection for which it is installed or intended.

Appliances

Homeowner Use and Maintenance Guidelines

Please see page 8.5 and your *Appliance Service* information sheet.

Green Valley Builders, Inc. Limited Warranty Guidelines

We confirm that all appliance surfaces are in acceptable condition during your orientation. We assign all appliance warranties to you, effective on the date of closing. The appliance manufacturers warrant their products directly to you according to the terms and conditions of these written warranties.

Asphalt

Homeowner Use and Maintenance Guidelines

Asphalt is a flexible and specialized surface. Like any other surface in your home, it requires protection from things that can damage it. Over time, the effects of weather and earth movement will cause minor settling and cracking of asphalt. These are normal reactions to the elements and do not constitute improperly installed asphalt or defective material. Avoid using your driveway for one week after it is installed and keep people, bicycles, lawn mowers, and other traffic off of it.

Chemical Spills

Asphalt is a petroleum product. Gasoline, oil, turpentine, and other solvents or petroleum products can dissolve or damage the surface. Wash such spills with soap and water immediately, and then rinse them thoroughly with plain water.

Hot Weather

Avoid any concentrated or prolonged loads on your asphalt, particularly in hot weather. High-heeled shoes, motorcycle or bicycle kickstands, trailers, or even cars left in the same spot for long periods can create depressions or punctures in asphalt.

Nonresidential Traffic

Prohibit commercial or other extremely heavy vehicles such as moving vans or other large delivery trucks from pulling onto your driveway. We design and install asphalt drives for conventional residential vehicle use only: family cars, vans, light trucks, bicycles, and so on.

Sealcoating

Exposure to sunlight and other weather conditions will fade your driveway, allowing the surface gravel material to be more visible. This is a normal condition and not a material or structural problem. You do not need to treat the surface of your asphalt driveway. However, if you choose to treat it, wait a minimum of 12 months and use a dilute asphalt emulsion, rather than the more common coal tar sealant. Hairline cracks will usually be filled by the sealing process. Larger cracks can be filled or patched with a sand and sealer mixture prior to resealing.

Green Valley Builders, Inc. Limited Warranty

We perform any asphalt repairs by overlay patching. Green Valley Builders, Inc. is not responsible for the inevitable differences in color between the patch and the original surface. Sealcoating can eliminate this cosmetic condition and is your responsibility.

Alligator Cracking

If cracking that resembles the skin of an alligator develops under normal residential use, Green Valley Builders, Inc. will repair it. If improper use, such as heavy truck traffic, has caused the condition, repairs will be your responsibility.

Settling

Settling next to your garage floor of up to 1.5 inches across the width of the driveway is normal. Settling or depressions elsewhere in the driveway of up to one inch in any 8-foot radius are considered normal. We will repair settling that exceeds these measurements.

Thermal Cracking

Your driveway will exhibit thermal cracking, usually during the first 12 months. These cracks help your driveway adapt to heating and freezing cycles. Cracks should be evaluated in the hottest months—July or August. We will repair cracks that exceed ½ inch in width.

Attic Access

Homeowner Use and Maintenance Guidelines

The attic space is neither designed nor intended for storage. We provide access to this area for maintenance of mechanical equipment that may traverse the attic space. When you perform needed tasks in the attic, use caution and avoid stepping off wood members onto the drywall. This can result in personal injury or damage to the ceiling below. Your limited warranty does not cover such injury or damage.

Green Valley Builders, Inc. Limited Warranty Guidelines

Green Valley Builders, Inc. and the local building department inspect the attic before your closing to confirm insulation is correct.

Satin Nickel / Chrome Fixtures

Homeowner Use and Maintenance Guidelines

The manufacturer treats metal fixtures with a clear protective coating, electrostatically applied, to provide beauty and durability. This coating is not impervious to wear and tear. Atmospheric conditions, sunlight, caustic agents such as paints, and scratches from sharp objects can cause the protective coating to crack or peel, exposing the metal and resulting in spotting and discoloration.

Cleaning

Initial care of these products requires only periodic cleaning with a mild, nonabrasive soap and buffing with a soft cloth.

Green Valley Builders, Inc. Limited Warranty Guidelines

During the orientation we will confirm that metal fixtures are in acceptable condition. Green Valley Builders, Inc. does not warrant against corrosion damage to the external surfaces or internal workings of plumbing fixtures. This limitation includes solid metal or metal-coated fixtures.

Brick/Rock

Homeowner Use and Maintenance Guidelines

Brick and rock are one of the most durable and lowest maintenance finishes for a home's exterior. A record of your brick or rock color is included in your selection sheets.

Efflorescence

The white, powdery substance that sometimes accumulates on brick or rock surfaces is called efflorescence. This is a natural phenomenon and cannot be prevented. In some cases, you can remove it by scrubbing with a stiff brush and vinegar. Consult your home center or hardware store for commercial products to remove efflorescence.

Tuck-Pointing

After several years, face brick or rock may require tuck-pointing (repairing the mortar between the bricks or rocks). Otherwise, no regular maintenance is required.

Weep Holes

You may notice small holes or ropes in the mortar along the lower rows of brick or rock. These holes allow moisture that has accumulated behind the brick or rock to escape. Do not fill these weep holes or permit landscaping materials to cover them.

Green Valley Builders, Inc. Limited Warranty Guidelines

We check the brick or rock work during the orientation to confirm correct installation of designated materials.

Cracks

One time during the warranty period, we repair masonry cracks that exceed 3/16 inch.

Cabinets

Homeowner Use and Maintenance Guidelines

Your selection sheets are your record of the brand, style, and color of cabinets in your home. If you selected wood or wood veneer cabinets, expect differences in grain and color between and within the cabinet components due to natural variations in wood and the way it takes stain.

Cleaning

Products such as lemon oil or polishes that include scratch cover are suggested for wood cabinet care. Follow container directions. Use such products a maximum of once every 3 to 6 months to avoid excessive build-up. Avoid paraffin-based spray waxes and washing cabinets with water, as both will damage the luster of the finish.

Hinges

If hinges catch or drawer glides become sluggish, a small amount of silicone lubricant will improve their performance.

Moisture

Damage to cabinet surfaces and warping can result from operating appliances that generate large amounts of moisture (such as a crockpot) too near the cabinet. When operating such appliances, place them in a location that is not directly under a cabinet.

Green Valley Builders, Inc. Limited Warranty Guidelines

During the orientation, we will confirm that all cabinet parts are installed and that their surfaces are in acceptable condition.

Alignment

Doors, drawer fronts, and handles should be level and even.

Operation

Cabinets should operate properly under normal use.

Separations

We will correct gaps between cabinets and the ceiling or cabinets and the walls by caulking or other means if the gap exceeds 1/8 inch (locations behind appliances are excepted from this repair).

Warping

If doors or drawer fronts warp in excess of 1/4 inch within 24 inches, we will correct this by adjustment or replacement.

Wood Grain

Readily noticeable variations in wood grain and color are normal in all wood or wood veneer selections. Replacements are not made due to such variations.

Carpet

Homeowner Use and Maintenance Guidelines

Your selection sheets provide a record of the brand, style, and color of floor coverings in your home. Please retain this information for future reference. Refer to the various manufacturer's recommendations for additional information on the care of your floor coverings.

Burns

Take care of any kind of burn immediately. First snip off the darkened fibers. Then use a soapless cleaner and sponge with water. If the burn is extensive, talk with a professional about replacing the damaged area.

Cleaning

You can add years to the life of your carpet with regular care. Carpet wears out because of foot traffic and dirt particles that get trampled deep into the pile beyond the suction of the vacuum. The dirt particles wear down the fibers like sandpaper and dull the carpet. The most important thing you can do to protect your carpet is to vacuum it frequently.

Vacuum twice each week lightly and once a week thoroughly. Heavy traffic areas may require more frequent cleaning. A light vacuuming is three passes; a thorough job may need seven passes. A vacuum cleaner with a beater-bar agitates the pile and is more effective in bringing dirt to the surface for easy removal.

Vacuuming high-traffic areas daily helps keep them clean and maintains the upright position of the nap. Wipe spills and clean stains immediately. For best results, blot or dab any spill or stain; avoid rubbing. Test stain removers on an out-of-the-way area of the carpet, such as in a closet, to check for any undesirable effects.

Have your carpet professionally cleaned regularly, usually after 18 months in your home and then once a year after that.

Crushing

Furniture and traffic may crush a carpet's pile fibers. Frequent vacuuming in high-traffic areas and glides or cups under heavy pieces of furniture can help prevent this. Rotating your furniture to change the traffic pattern in a room promotes more even wear. Some carpets resist matting and crushing because of their level of fiber, but this does not imply or guarantee that no matting or crushing will occur. Heavy traffic areas such as halls and stairways are more susceptible to wear and crushing. This is considered normal wear.

Fading

Science has yet to develop a color that will not fade with time. All carpets will slowly lose some color due to natural and artificial forces in the environment. You can delay this process by frequently removing soil with vacuuming, regularly changing air filters in heating and air conditioning systems, keeping humidity and room temperature from getting too high, and reducing sunlight exposure with window coverings.

Filtration

If interior doors are kept closed while the air conditioning is operating, air circulation from the closed room flows through the small space at the bottom of the door. This forces the air over the carpet fibers, which in turn act as a filter, catching particulate pollution. Over time, a noticeable stain develops at the threshold.

See also Ghosting.

Fuzzing

In loop carpets, fibers may break. Simply clip the excess fibers. If it continues, call a professional.

Pilling

Pilling or small balls of fiber can appear on your carpet, depending on the type of carpet fiber and the type of traffic. If this occurs, clip off the pills. If they cover a large area, seek professional advice.

Rippling

With wall-to-wall carpeting, high humidity may cause rippling. If the carpet remains rippled after the humidity has left, have a professional restretch the carpeting using a power stretcher, not a knee-kicker.

Seams

Carpet usually comes in 12-foot widths, making seams necessary in most rooms. Visible seams are not a defect unless they have been improperly made or unless the material has a defect, making the seam appear more pronounced than normal. The more dense and uniform the carpet texture, the more visible the seams will be.

Carpet styles with low, tight naps result in the most visible seams. Seams are never more visible than when the carpet is first installed. Usually with time, use, and vacuuming the seams become less visible. You can see examples in the model homes of how carpet seams diminish after they have been vacuumed repeatedly and have experienced traffic.

Shading

Shading is an inherent quality of fine-cut pile carpets. Household traffic causes pile fibers to assume different angles; as a result, the carpet appears darker or lighter in these areas. A good vacuuming, which makes the pile all go in the same direction, provides a temporary remedy.

Shedding

New carpeting, especially pile, sheds bits of fiber for a period of time. Eventually these loose fibers are removed by vacuuming. Shedding usually occurs more with wool carpeting than with nylon or other synthetics.

Snags

Sharp-edged objects can grab or snag the carpet fiber. When this occurs, cut off the snag. If the snag is especially large, call a professional.

Sprouting

Occasionally you may find small tufts of fiber sprouting above carpet surface. Simply use scissors to cut off the sprout. Do not attempt to pull it, because other fibers will come out in the process.

Stains

No carpet is stain-proof. Although your carpet manufacturer designates your carpet as stain-resistant, some substances may still cause permanent staining. These include hair dyes, shoe polish, paints, and India ink. Some substances destroy or change the color of carpets, including bleaches, acne medications, drain cleaners, plant food, insecticides, and food or beverages with strongly colored natural dyes as found in some brands of mustard and herbal tea.

Refer to your care and maintenance brochures for recommended cleaning procedures for your particular fiber. Pretest any spot-removal solution in an inconspicuous area before using it in a

large area. Apply several drops of the solution, hold a white tissue on the area, and count to ten. Examine both tissue and carpet for dye transfer and check for carpet damage.

Static

Cooler temperatures outside often contribute to static electricity inside. To avoid the problem, look for carpets made with anti-static. You can also install a humidifier to help control static build-up.

Green Valley Builders, Inc. Limited Warranty Guidelines

During your orientation, we will confirm that your carpet is in acceptable condition. We will correct stains or spots noted at this time by cleaning, patching, or replacement. Green Valley Builders, Inc. is not responsible for dye lot variations if replacements are made.

Edges

Edges of carpet along moldings and edges of stairs should be held firmly in place. In some areas, metal or other edging material may be used where carpet meets another floor covering.

Seams

Carpet seams will be visible. Green Valley Builders, Inc. will repair any gaps or fraying.

Caulking

Homeowner Use and Maintenance Guidelines

Time and weather will shrink and dry caulking so that it no longer provides a good seal. As routine maintenance, check the caulking and make needed repairs. Caulking compounds and dispenser guns are available at hardware stores. Read the manufacturer's instructions carefully to be certain that you select an appropriate caulk for the intended purpose.

Colored Caulk

Colored caulking is available where larger selections are provided. As with any colored material, dye lots can vary.

Latex Caulk

Latex caulking is appropriate for an area that requires painting, such as along the stair stringer or where wood trim meets the wall.

Silicone Caulk

Caulking that contains silicone will not accept paint; it works best where water is present, for example, where tub meets tile or a sink meets a countertop.

Green Valley Builders, Inc. Limited Warranty Guidelines

During the orientation we confirm that appropriate areas are adequately caulked.

One-Time Repair

We will touch up caulking one time during your materials and workmanship period. We suggest that this be performed with your 11-month service.

See also Countertops, Expansion and Contraction, Stairs, and Wood Trim.

Ceramic Tile

Homeowner Use and Maintenance Guidelines

Your selection sheets include the brand and color of your ceramic tile.

Cleaning

Ceramic tile is one of the easiest floor coverings to maintain. Simply vacuum when needed. Occasionally, a wet mopping with warm water may be appropriate. Avoid adding detergent to the water. If you feel a cleaning agent is required, use a mild solution of warm water and dishwasher crystals (they will not result in a heavy, difficult-to-remove lather on the grout). Rinse thoroughly.

The ceramic tile installed on walls or countertops in your home may be washed with any nonabrasive soap, detergent, or tile cleaner. Abrasive cleaners will dull the finish.

Grout Discoloration

Clean grout that becomes yellowed or stained with a fiber brush, cleanser, and water. Grout cleansers and whiteners are available at most hardware stores.

Sealing Grout

Sealing grout is your decision and responsibility. Once grout has been sealed, ongoing maintenance of that seal is necessary and limited warranty coverage on grout that has been sealed is void.

Separations

Expect slight separations to occur in the grout between tiles. This grout is for decorative purposes only; it does not hold the tile in place. Cracks in the grout can be filled using premixed grout purchased from flooring or hardware stores. Follow package directions.

Tile around bathtubs or countertops may appear to be pulling up after a time. This is caused by normal shrinkage of grout or caulk and shrinkage of wood members as they dry out. If this occurs, the best remedy is to purchase tub caulk or premixed grout from a hardware store. Follow directions on the container. This maintenance is important to protect the underlying surface from water damage.

Green Valley Builders, Inc. Limited Warranty Guidelines

During the orientation we confirm that tile and grout areas are in acceptable condition. We will repair or replace cracked, badly chipped, or loose tiles noted at that time. Green Valley Builders, Inc. is not responsible for variations in color or discontinued patterns. New grout may vary in color from the original.

One-Time Repair

Cracks appearing in grouting of ceramic tiles at joints or junctions with other materials are commonly due to shrinkage. Green Valley Builders, Inc. will repair grouting, if necessary, one time during the first year. We are not responsible for color variations in grout or discontinued colored grout. Any grouting or caulking that is needed after that time is your responsibility.

Concrete Flatwork

Homeowner Use and Maintenance Guidelines

By maintaining good drainage, you protect your home's foundation and the concrete flatwork: the basement floor, porch, patio, driveway, garage floor, and sidewalks.

Concrete slabs are floating—they are not attached to the home's foundation walls. These are not a structural (load-bearing) element of the home and are covered by the one year material and workmanship warranty.

Green Valley Builders, Inc. incorporates many details in the construction of the basement floor because we know the floor will move in response to the soils. Movement of the basement slab or any concrete slab results in cracking. Minimize this movement by following Green Valley Builders, Inc. landscaping recommendations, the objective of which is to prevent moisture from reaching soils around and under the home.

Cleaning

Avoid washing exterior concrete slabs with cold water from an outside faucet when temperatures are high and the sun has been shining on the concrete. The abrupt change in temperature can damage the surface bond of the concrete. We recommend sweeping for keeping exterior concrete clean. If washing is necessary, do this when temperatures are moderate. Repeated cleaning of the garage floor by hosing can increase soil movement by allowing water to penetrate any existing cracks. We recommend sweeping to clean the garage floor.

Cracks

A concrete slab 10 feet across shrinks approximately 5/8 inch as it cures. Some of this shrinkage shows up as cracks. Cracking of concrete flatwork also results from temperature changes that cause expansion and contraction.

During the summer, moisture finds its way under the concrete along the edges or through cracks in the surface. In winter, this moisture forms frost that can lift the concrete, increasing the cracking. Maintaining drainage away from all concrete slabs will minimize cracking from this cause.

As cracks occur, seal them with a waterproof concrete caulk (available at hardware or home improvement stores) to prevent moisture from penetrating to the soil beneath.

Expansion Joints

We install expansion joints to help control expansion. However, as the concrete shrinks during the curing process, moisture can penetrate under the concrete and lift the expansion joint. When this occurs, fill the resulting gap with a gray silicone sealant, which you can purchase at most hardware stores.

Heavy Vehicles

Prohibit commercial or other extremely heavy vehicles such as moving vans and other large delivery trucks from pulling onto your driveway. We design and install concrete drives for conventional residential vehicle use only: family cars, vans, light trucks, bicycles, and so on.

Ice, Snow, and Chemicals

Driving or parking on snow creates ice on the drive, which magnifies the effects of snow on the concrete surface. Remove ice and snow from concrete slabs as promptly as possible after snow storms. Protect concrete from abuse by chemical agents such as pet urine, fertilizers, radiator overflow, repeated hosing, or de-icing agents, such as road salt that can drip from vehicles. All of these items can cause spalling (chipping of the surface) of concrete.

Sealer

A concrete sealer, available at paint stores, will help you keep an unpainted concrete floor clean. Do not use soap on unpainted concrete. Instead, use plain water and washing soda or, if necessary, a scouring powder.

Green Valley Builders, Inc. Limited Warranty Guidelines

Concrete slabs are floating—they are not attached to the home's foundation walls. Because these slabs are not a structural (load-bearing) element of the home, they are excluded from coverage under the structural warranty. The limited warranty coverage is for one year unless the requirements of your loan state otherwise.

Color

Concrete slabs vary in color. Green Valley Builders, Inc. provides no correction for this condition.

Cracks

If concrete cracks reach 3/16 of an inch in width or vertical displacement, Green Valley Builders, Inc. will patch or repair them one time during the warranty year. Subsequently, concrete slab maintenance is your responsibility. If you prefer to have the slab replaced, we will obtain a price for you and assist in scheduling the work upon receipt of your payment. However, we advise against this expense since the new slab can crack as well.

Finished Floors

Green Valley Builders, Inc. will correct cracks, settling, or heaving that rupture finish floor materials that we installed as part of the home as you originally purchased it.

Level Floors

Concrete floors in the habitable areas of the home will be level to within 1/4 inch within any 32-inch measurement with the exception of an area specifically designed to slope toward a floor drain.

Separation

Green Valley Builders, Inc. will correct separation of concrete slabs from the home if separation exceeds one inch.

Settling or Heaving

Green Valley Builders, Inc. will repair slabs that settle or heave in excess of 2 inches or if such movement results in negative drainage (toward the house) or hazardous vertical displacement.

Spalling (Surface Chips)

Causes of spalling include repeated hosing of concrete for cleaning, animal urine, radiator overflow, fertilizer, uncleared snow and ice, ice-melting agents, and road salts from vehicles. Repair of spalling is a home owner’s task.

Standing Water

Water may stand on exterior concrete slabs for several hours after precipitation or from roof run-off. Green Valley Builders, Inc. will correct conditions that cause water to remain longer than 12 hours unless it is from roof run-off of melting snow or ice.

Condensation

Homeowner Use and Maintenance Guidelines

When warm, moist air comes into contact with cooler surfaces, the moisture condenses. Outside we see this as dew; inside you may see it as a layer of moisture on glass windows and doors. This condensation comes from high humidity within the home combined with low outside

temperatures and inadequate ventilation. Family lifestyle significantly influences two out of three of these conditions.

Humidifier Operation

If your home includes a humidifier, closely observe manufacturer's directions for its use. Instructions to turn the humidifier off during air conditioning season are typical. Moderate settings in winter can maintain desired comfort levels without contributing too much moisture to your home. You may need to experiment to find the correct level for your family's lifestyle.

New Construction

Some experts have estimated that a typical new home contains 50 gallons of water. Water is part of lumber, concrete, drywall texture, paint, caulk, and other materials used in building. Wet weather during construction adds more. This moisture evaporates into the air as you live in your home—adding to the moisture generated by normal living activities. Over time, this source of moisture will diminish.

Normal Activities

As you live in your home, your daily lifestyle contributes to the moisture in the air also. Cooking, laundry, baths and showers, aquariums, plants, and so on all add water to the air in your home. Likewise, your daily routine can mitigate the amount of moisture in your home and reduce condensation on interior surfaces.

Temperature

Avoid setting your thermostat at extreme temperatures. Heating your home will cause the materials to dry out faster, generating more moisture into the air; drying the materials out too fast also increases shrinkage cracks and separations.

Ventilation

Develop the habit of using exhaust fans in bathrooms and over the stove. When weather conditions permit, open windows so fresh air can circulate through your home. Keep the dryer exhaust hose clean and securely connected.

See also Ventilation.

Green Valley Builders, Inc. Limited Warranty Guidelines

Condensation results from weather conditions and a family's lifestyle. Green Valley Builders, Inc. has no control over these factors. The limited warranty coverage excludes condensation.

Countertops

Homeowner Use and Maintenance Guidelines

Use a cutting board to protect your counters when you cut or chop. Protect the counter from heat and from extremely hot pans. If you cannot put your hand on it, do not put it on the counter. Do not use countertops as ironing boards and do not set lighted cigarettes on the edge of the counter.

Granite

Routine Care: Granite should be cleaned with water and a non-abrasive, mild, ph-neutral soap such as “Dawn,” or “Palmolive”. A polishing paste is an optional material used to restore the shine to the stone surface. While not required, this paste and other special granite and marble cleaners are also available at home improvement centers.

Sealing: All granite is sealed with an impregnator before installation. This sealant penetrates the material and creates a barrier to most of the tiny openings present in stone. The sealant will not change the color of the polished granite. We recommend that all granite be resealed every 5 years. Check with your selections coordinator for type of sealer.

Substances to Avoid: Some substances may stain granite if left on the surface for a period of time, such as cooking grease, lemon juice, or wine. There are some substances that are more dangerous to granite and should be avoided: paint removers, hydrochloric acid, ammonia, degreasers will cause the polish to fade or etch. Certain adhesives such as: plumbers putty, and painters putty can permanently stain your granite.

Staining: Bleach is a wonder product to use with granite; it will not discolor the stone but can pull out stains. Pour bleach directly on the stain, cover it with a piece of plastic wrap (to keep the area wet and protect clothing and other products) and let it set overnight. It may take more than one application to remove the stain. If bleaching is not successful, contact a professional granite representative for further care instructions.

Seams: Due to the inconsistency of slab lengths, seams are unavoidable in granite countertops. Our goal is to minimize the length of seams followed by the number of seams. Seams are color matched to your top as closely as possible using a two-part epoxy resin. It is impossible to match the seam 100%. Seams should be no larger than 1/8" wide.

Solid Surface/Corian

Routine Care: For most dirt and residue remove with soapy water or an ammonia based cleaner. For water marks wipe with a damp cloth and wipe dry. To disinfect use a diluted household bleach, rinse thoroughly with water and wipe dry.

Caulking

The caulking between the countertop and the wall, along the joint at the backsplash (the section of counter that extends a few inches up the wall along the counter area), and around the sink may shrink, leaving a slight gap. Maintaining a good seal in these locations is important to keep moisture from reaching the wood under the laminates and to prevent warping.

Cleaning

Avoid abrasive cleaners that will damage the luster of the surface.

Mats

Rubber drain mats can trap moisture beneath them, causing the laminated plastic to warp and blister. Dry the surface as needed.

Wax

Wax is not necessary, but it can be used to make counters gleam.

See also Ceramic Tile.

Green Valley Builders, Inc. Limited Warranty Guidelines

During your orientation we confirm that all countertops are in acceptable condition. We repair noticeable surface damage such as chips, cracks, and scratches noted on the orientation list. Repair of surface damage noted subsequent to this is one of your home maintenance responsibilities.

Laminates

Laminated countertops will have one or more discernible seams. Green Valley Builders, Inc. will repair gaps or differential at the seams that exceed 1/16 inch.

Manufactured Marble

Edges should be smooth and even. Where backsplash joints occur at corners, the top edges should be even within 1/16 inch.

Granite or Solid Surface

Edges should be smooth and even. Where backsplash joints occur at corners, the top edges should be even within 1/16 inch. With natural stone there will be variations in color, texture, and shading. Countertops receiving more than one piece of natural stone type countertop are subject to these variations.

Separation from Wall

Separation of countertops from walls, backsplash, and around sinks results from normal shrinkage of materials. Green Valley Builders, Inc. will recaulk these areas one time during the materials and workmanship warranty. Subsequently caulking will be your home maintenance responsibility.

Crawl Space

Homeowner Use and Maintenance Guidelines

The crawl space is not intended as a storage area for items that could be damaged by moisture. Wood stored in a crawl space can attract termites.

You may notice slight dampness in the crawl space. Landscaping that is correctly installed helps prevent excessive amounts of water from entering crawl spaces. Report standing water to Green Valley Builders, Inc. for inspection.

See also Ventilation.

Green Valley Builders, Inc. Limited Warranty Guidelines

During the orientation we will check the condition of soils in the crawl space. Soils in the crawl space may be damp but should not have standing water. Provided that you have not altered the drainage nor caused excessive moisture to accumulate and remain in this area with incorrect landscaping, Green Valley Builders, Inc. will correct the conditions that result in persistent standing water.

Dampproofing

Homeowner Use and Maintenance Guidelines

We spray your foundation walls with an asphalt waterproofing material, and cover the sprayed on coating with a drainage board. Although we make every effort to assure a dry basement, during times of excessive moisture, you may notice some dampness. Over time, natural compaction of soils in the backfill areas will usually eliminate this condition. Careful maintenance of positive drainage will also protect your basement from this condition.

Green Valley Builders, Inc. Limited Warranty Guidelines

Green Valley Builders, Inc. will correct conditions that allow actual water to enter the basement unless the cause is improper installation of landscaping or failure to adequately maintain drainage.

Decks

Homeowner Use and Maintenance Guidelines

Wood decks add to the style and function of your home and are a high maintenance part of your home's exterior.

Effects of Exposure

Wood decks are subject to shrinkage, cracking, splitting, cupping, and twisting. Nails or screws may work loose and will need routine maintenance. Plan to inspect your decks regularly, a minimum of once each year, and provide needed attention promptly to maintain an attractive appearance and forestall costly repairs. Green Valley Builders, Inc. recommends that you treat or restrain your decks annually to keep them looking their best.

Foot Traffic

As you use your decks, abrasives and grit on shoes can scratch or dent the wood surface. Regular sweeping and mats can mitigate this but will not completely prevent it.

Outdoor Furniture

The surface of the decking can be damaged by moving grills, furniture, or other items. Use caution when moving such items to prevent scratches, gouges, and so on.

Sealing or Water Repellent

To prolong the life and beauty of your deck, treat it periodically with a water repellent or wood preservative. Local home centers or hardware stores offer several products to consider for this purpose. Always follow manufacturer directions carefully.

Snow and Ice

Heavy snow or ice that remains on the deck over long periods increases wear and tear on the deck. Prompt removal can reduce adverse effects. Use caution in shoveling to avoid needless scratching of the deck boards.

Stain

If an Exposed wood deck has been stained with a semi-transparent oil stain to protect and beautify the wood. Each board takes the same stain differently and variations in color will be readily noticeable. Over time, with exposure to weather and use, further variations in color will occur.

Green Valley Builders, Inc. Limited Warranty Guidelines

Exposed wood decks are constructed to meet structural and functional design. During the orientation, we will confirm that the wood decks are in satisfactory condition.

Color Variation

Color variations are a natural result of the way in which wood accepts stain and are excluded from limited warranty coverage.

Replacement Boards or Rails

Shrinkage, cracking, splitting, cupping, and twisting are natural occurrences in wood decks and are excluded from limited warranty coverage. In extreme situations where personal safety is involved, if Green Valley Builders, Inc. provides replacement of boards or rails, the new material will not match existing pieces that have been exposed to elements and use. Green Valley

Builders, Inc. does not provide corrections when problems occur due to lack of normal maintenance.

Doors and Locks

Homeowner Use and Maintenance Guidelines

The doors installed in your home are wood products subject to such natural characteristics of wood as shrinkage and warpage. Natural fluctuations caused by humidity and the use of forced air furnaces, showers, and dishwashers, interior doors may occasionally require minor adjustments.

Bifold Doors

Interior bifolds sometimes stick or warp because of weather conditions. Apply a silicone lubricant to the tracks to minimize this inconvenience.

Exterior Finish

To ensure longer life for your exterior wood doors, plan to refinish them at least once a year. Stained exterior doors with clear finishes tend to weather faster than painted doors. Treat the finish with a wood preserver every three months to preserve the varnish and prevent the door from drying and cracking. Reseal stained exterior doors whenever the finish begins cracking or crazing.

Failure to Latch

If a door will not latch because of minor settling, you can correct this by making a new opening in the jamb for the latch plate (remortising) and raising or lowering the plate accordingly.

Hinges

You can remedy a squeaky door hinge by removing the hinge pin and applying a silicone lubricant to it. Avoid using oil, as it can gum up or attract dirt. Graphite works well as a lubricant but can create a gray smudge on the door or floor covering beneath the hinge if too much is applied.

Keys

Keep a duplicate privacy lock key where children cannot reach it in the event a youngster locks him- or herself in a room. The top edge of the door casing is often used as a place to keep the key. A small screwdriver or similarly shaped device can open some types of privacy locks.

Locks

Lubricate door locks with graphite or other waterproof lubricant. Avoid oil, as it will gum up.

Shrinkage

Use putty, filler, or latex caulk to fill any minor separations that develop at mitered joints in door trim. Follow with painting. Panels of wood doors shrink and expand in response to changes in temperature and humidity. Touching up the paint or stain on unfinished exposed areas is your home maintenance responsibility.

Slamming

Slamming doors can damage both doors and jambs and can even cause cracking in walls. Teach children not to hang on the doorknob and swing back and forth; this works loose the hardware and causes the door to sag.

Sticking

The most common cause of a sticking door is the natural expansion of lumber caused by changes in humidity. When sticking is caused by swelling during a damp season, do not plane the door unless it continues to stick after the weather changes.

Before planing a door because of sticking, try two other steps: first, apply either a paste wax, light coat of paraffin, or candle wax to the sticking surface; or second, tighten the screws that hold the door jamb or door frame. If planing is necessary even after these measures, use sandpaper to smooth the door and paint the sanded area to seal against moisture.

Warping

If a door warps slightly, keeping it closed as much as possible often returns it to normal.

Weather Stripping

Weather stripping and exterior door thresholds occasionally require adjustment or replacement.

Green Valley Builders, Inc. Limited Warranty Guidelines

During the orientation we confirm that all doors are in acceptable condition and correctly adjusted. Green Valley Builders, Inc. will repair construction damage to doors noted on the orientation list.

Adjustments

Because of normal settling of the home, doors may require adjustment for proper fit. Green Valley Builders, Inc. will make such adjustments.

Panel Shrinkage

Panels of wood doors shrink and expand in response to changes in temperature and humidity. Although touching up the paint or stain on unfinished exposed areas is your home maintenance responsibility, Green Valley Builders, Inc. will repair split panels that allow light to be visible.

Warping

Green Valley Builders, Inc. will repair doors that warp in excess of 1/4 inch.

Drywall/Plaster

Homeowner Use and Maintenance Guidelines

Slight cracking, nail pops, or seams may become visible in walls and ceilings. These are caused by the shrinkage of the wood and normal deflection of rafters to which the drywall is attached.

Ceilings

The ceilings in your home are easy to maintain: periodically remove dust or cobwebs as part of your normal cleaning and repaint as needed.

Repairs

With the exception of the one-time repair service provided by Green Valley Builders, Inc., care of drywall is your maintenance responsibility. Most drywall repairs can be easily made. This work is best done when you redecorate the room.

Repair hairline cracks with a coat of paint. You can repair slightly larger cracks with spackle or caulk. To correct a nail pop, reset the nail with a hammer and punch. Cover it with spackle, which is available at paint and hardware stores. Apply two or three thin coats. When dry, sand the surface with fine-grain sandpaper, and then paint. You can fill indentations caused by sharp objects in the same manner.

Green Valley Builders, Inc. Limited Warranty Guidelines

During the orientation, we confirm that drywall/plaster surfaces are in acceptable condition.

One Time Repairs

One time during the materials and workmanship warranty, Green Valley Builders, Inc. will repair drywall shrinkage cracks and nail pops and will touch up the repaired area using the same paint color that was on the surface when the home was delivered. Touch-ups will be visible.

Repainting the entire wall or the entire room to correct this is your choice and responsibility. You are also responsible for custom paint colors or wallpaper that has been applied subsequent to closing. Due to the effects of time on paint and wallpaper, as well as possible dye lot variations, touch-ups are unlikely to match the surrounding area.

Lighting Conditions

Green Valley Builders, Inc. does not repair drywall flaws that are only visible under particular lighting conditions.

Related Warranty Repairs

If a drywall repair is needed as a result of poor workmanship (such as blisters in tape) or other warranty-based repair (such as a plumbing leak), Green Valley Builders, Inc. completes the repair by touching up the repaired area with the same paint that was on the surface when the home was delivered, unless custom paint is made available to Green Valley Builders, Inc. by the homeowner. If more than one-third of the wall is involved, we will repaint the wall corner to corner. You are responsible for custom paint colors or wallpaper that has been applied subsequent to closing. The effects of time on paint and wallpaper, as well as possible dye lot variations, mean touch-up may not match the surrounding area.

Easements

Homeowner Use and Care Guidelines

Easements are areas where such things as utility supply lines can pass through your property. They permit service to your lot and adjacent lots, now and in the future. Your lot will also include drainage easements, meaning the runoff from adjacent lots passes across your property. Likewise, water from your property may run across a neighboring lot. Easements are recorded and are permanent.

Trees, shrubs, gardens, play equipment, storage sheds, fences or other items which you install in or across these easements may be disturbed if service entities—such as the gas, electric, or phone companies—need access to lines for repairs or to connect service to nearby home sites.

Utility companies, the United States Postal Service, and others have the right to install equipment in easements. These might include streetlights, mailboxes, or junction boxes to name a few. Neither Green Valley Builders, Inc. nor you as the homeowner have the authority to prevent, interfere with, or alter these installations. Plans for the location of such items are subject to change by the various entities involved. Because they have no obligation to keep Green Valley Builders, Inc. informed of such changes, we are unable to predict specific sites that will include such equipment.

See also Property Boundaries.

Electrical System

Homeowner Use and Maintenance Guidelines

Know the location of the breaker panel; it includes a main shut-off that controls all the electrical power to the home. Individual breakers control the separate circuits. Each breaker is marked to help you identify which breaker is connected to which major appliances, outlets, or other service. Should a failure occur in any part of your home, always check the breakers in the main panel box.

Breakers

Circuit breakers have three positions: on, off, and tripped. When a circuit breaker trips, it must first be turned off before it can be turned on. Switching the breaker directly from tripped to on will not restore service.

Breakers Tripping

Breakers trip because of overloads caused by plugging too many appliances into the circuit, a worn cord or defective appliance, or operating an appliance with too high a voltage requirement for the circuit. The starting of an electric motor can also trip a breaker.

If any circuit trips repeatedly, unplug all items connected to it and reset. If it trips when nothing is connected to it, you need an electrician. If the circuit remains on, one of the items you unplugged is defective and will require repair or replacement.

Buzzing

Fluorescent fixtures use transformer action to operate. This action sometimes causes a buzzing.

Fixture Location

We install light fixtures in the locations indicated on the plans. Moving fixtures to accommodate specific furniture arrangements or room use is your responsibility.

GFCI (Ground-Fault Circuit-Interrupters)

GFCI receptacles have a built-in element that senses fluctuations in power. Quite simply, the GFCI is a circuit breaker. Building codes require installation of these receptacles in bathrooms, the kitchen, outside, and the garage (areas where an individual can come into contact with water while holding an electric appliance or tool). Heavy appliances such as freezers or power tools will trip the GFCI breaker.

Caution: Never plug a refrigerator or food freezer into a GFCI-controlled outlet. The likelihood of the contents being ruined is high and the limited warranty does not cover such damage.

Each GFCI circuit has a test and reset button. Once each month, press the test button. This will trip the circuit. To return service, press the reset button. If a GFCI breaker trips during normal use, it may indicate a faulty appliance and you will need to investigate the problem. One GFCI breaker can control up to three or four outlets.

Grounded System

Your electrical system is a three-wire grounded system. Never remove the bare wire that connects to the box or device.

Light Bulbs

You are responsible for replacing burned-out bulbs other than those noted during your orientation.

Luminous Light Panels

Translucent panels covering ceiling lights are made of polystyrene plastic. To clean, gently push up, tilting the panel slightly and remove it from the fixture frame. Wash with a diluted (1 to 2 percent) solution of mild detergent and warm water. Do not rinse; the soap film that remains reduces static electricity that attracts dust.

Over time, the plastic panel may yellow and will become brittle and may need to be replaced if it cracks or breaks. Replacement material can be found at home center and hardware stores. Most suppliers will cut the panel to fit so if you need to purchase a replacement, be sure to note the size you need.

Bulbs for these fixtures can be purchased at home centers or hardware stores. Avoid exceeding the wattage indicated inside the fixture.

Modifications

If you wish to make any modifications, contact the electrician listed on the Emergency Phone Numbers you receive at the orientation. Having another electrician modify your electrical system during the warranty period can void that portion of your limited warranty.

Outlets

If an outlet is not working, check first to see if it is controlled by a wall switch or GFCI. Next, check the breaker.

If there are small children in the home, install safety plugs to cover unused outlets. This also minimizes the air infiltration that sometimes occurs with these outlets. Teach children to never touch electrical outlets, sockets, or fixtures.

Underground Cables

Before digging, check the location of buried service leads by calling the local utility locating service. In most cases, wires run in a straight line from the service panel to the nearest public utility pad. Maintain positive drainage around the foundation to protect electrical service connections.

Under- or Over-Cabinet Lights

The selection of optional under- or over-cabinet lighting provides either task lighting or atmosphere to your kitchen. We suggest you note the size and type of bulbs in these fixtures and keep replacements on hand.

TROUBLESHOOTING TIPS: NO ELECTRICAL SERVICE

No Electrical Service Anywhere in the Home

Before calling for service, check to confirm that the:

- ☐ Service is not out in the entire area. If so, contact the utility company.
- ☐ Main breaker and individual breakers are all in the on position.

No Electrical to One or More Outlets

Before calling for service, check to confirm that the

- ☐ Main breaker and individual breakers are all in the on position.
- ☐ Applicable wall switch is on
- ☐ GFCI is set (see details on GFCIs, earlier in this section)
- ☐ Item you want to use is plugged in
- ☐ Item you want to use works in other outlets
- ☐ Bulb in the lamp is good

Even if the troubleshooting tips do not identify a solution, the information you gather will be useful to the service provider you call.

Green Valley Builders, Inc. Limited Warranty Guidelines

During the orientation, we confirm that light fixtures are in acceptable condition and that all bulbs are working. Green Valley Builders, Inc.'s limited warranty excludes any fixture you supplied.

Designed Load

Green Valley Builders, Inc. will repair any electrical wiring that fails to carry its designed load to meet specifications. If electrical outlets, switches, or fixtures do not function as intended, Green Valley Builders, Inc. will repair or replace them.

GFCI (Ground-Fault Circuit-Interrupters)

Green Valley Builders, Inc. is not responsible for food spoilage that results from your plugging refrigerators or freezers into a GFCI outlet.

Power Surge

Power surges are the result of local conditions beyond the control of Green Valley Builders, Inc. and are excluded from limited warranty coverage. These can result in burned-out bulbs or damage to sensitive electronic equipment such as TVs, alarm systems, and computers. Damage resulting from lightning strikes are excluded from limited warranty coverage.

Expansion and Contraction

Homeowner Use and Maintenance Guidelines

Changes in temperature and humidity cause all building materials to expand and contract. Dissimilar materials expand or contract at different rates. This movement results in separation between materials, particularly dissimilar ones. You will see the effects in small cracks in drywall and in paint, especially where moldings meet drywall, at mitered corners, and where tile grout meets tub or sink. While this can alarm an uninformed homeowner, it is normal.

Shrinkage of the wood members of your home is inevitable and occurs in every new home. Although this is most noticeable during the first year, it may continue beyond that time. In most cases, caulk and paint are all that you need to conceal this minor evidence of a natural phenomenon. Even though properly installed, caulking shrinks and cracks. Maintenance of caulking is your responsibility.

Green Valley Builders, Inc. Limited Warranty

Green Valley Builders, Inc. provides one-time repairs to many of the effects of expansion and contraction. See individual categories such as drywall and caulk for details.

Fencing

Homeowner Use and Maintenance Guidelines

Drainage

In planning, installing, and maintaining fencing, allow existing drainage patterns to function unimpeded. When installing a fence, use caution in distributing soil removed to set posts to avoid blocking drainage swales. Plan enough space under the bottom of a wood fence for water to pass through.

Homeowner Association Design Review

If you choose to add fencing after moving into your new home, keep in mind the need to obtain approval from the Design Review Committee of your homeowners association. Specific requirements about style, height, position on the lot are described in the current design review guidelines which you can obtain from a committee member. Special requirements apply to homes on corner lots where drivers must have adequate visibility. Additionally, in some communities, zoning laws may impact private fencing. Your responsibilities include checking on such details.

Green Valley Builders, Inc. recommends that you engage the services of professionals to install your fence. Be certain to inform a fence installer of all design review requirements.

See also Property Boundaries.

Green Valley Builders, Inc. Limited Warranty

If fencing is part of your home purchase, we will confirm the acceptable condition of the fence during your orientation. Green Valley Builders, Inc. will correct fence posts that become loose during the warranty period. Be aware that damage to fencing caused by severe weather should be referred to your homeowner insurance company and is specifically excluded from warranty coverage.

Fireplace

Homeowner Use and Maintenance Guidelines

See also Fire Prevention.

Masonry wood burning fireplaces

Most of us feel a fireplace is an excellent way to create a warm, cozy atmosphere. However, without sufficient information, your use of the fireplace can result in heat (and dollars) being wasted. To help prevent that, consider the following points.

Look upon burning a fire as a luxury that adds much to the atmosphere but just a little to the heat in a home. About 10 percent of the heat produced by a fire is radiated into the house. In many older homes, the air used by the fireplace for combustion is replaced with cold outside air drawn in through cracks around doors and windows. However, your home is constructed so tightly that this does not happen. We install a fresh air vent to supply the fireplace with combustion air and reduce the amount of heated air the fire draws from your house. Open this vent before starting the fire as you do the damper.

Close the damper and cold air vent when the fireplace is not in use. Leaving these open is equivalent to having an open window in the house. If the fire is still burning, but you are finished enjoying it, use glass doors to prevent heated air from being drawn up the chimney until your damper can be closed.

One caution on the use of glass doors: do not close them over a roaring fire, especially if you are burning hard woods (such as oak or hickory) because this could break the glass. Also, when closing the doors over a burning fire, open the mesh screens first. This prevents excessive heat build-up on the mesh, which might result in warping or discoloration.

Your objective in building a fire should be a clean, steady, slow-burning fire. Begin with a small fire to allow the components of the fireplace to heat up slowly. Failure to do so may damage the fireplace and can void the warranty. Start the fire by burning kindling and newspaper under the grate; two to three layers of logs stacked with air space between, largest logs to the rear, works best. One sheet of paper burned on top of the stack will help the chimney start to draw. Any logs 6 inches in diameter or larger should be split.

Caution: Do not burn trash in the fireplace and never use any type of liquid fire starter.

Remove old ashes and coals from under the grate when completely cool. A light layer is desirable as an insulator and will help to reflect heat.

Chimney Cleaning

Creosote and other wood-burning by-products accumulate inside the flue over a period of time. This build-up can be a fire hazard. The way you use your fireplace and the type of wood you

burn determine the frequency of your chimney cleanings. For instance, burning soft woods or improperly seasoned woods necessitates more frequent cleaning. Hire a qualified chimney sweep for this cleaning.

Spark Arrester

If the spark arrester becomes clogged, the diminished air flow will affect the performance of the fireplace and may be a fire hazard. Have the arrester cleaned professionally when needed.

Gas Fireplace

Green Valley Builders, Inc. offers direct-vent gas fireplaces. If you ordered this type of fireplace, it is demonstrated during the orientation. Read and follow all manufacturer's directions.

A slight delay between turning the switch on and flame ignition is normal. The flames should ignite gently and silently. If you notice any deviation from this and any gas smell, immediately shut off the switch and report it to the gas company.

Excessive winds can cause a downdraft, which can blow out the pilot, requiring you to relight it before using the fireplace.

Caution: The exterior vent cover for a direct-vent gas fireplace becomes extremely hot when the fireplace is operating.

Green Valley Builders, Inc. Limited Warranty Guidelines

Fireplaces are not intended to be the sole heat source in the home. The fireplace should function properly when Green Valley Builders, Inc.'s and the manufacturer's directions are followed.

Chimney Separation

Separation of a brick chimney from a newly constructed home may occur. Green Valley Builders, Inc. will repair separation from the main structure in excess of ½ inch in 10 feet. Caulking is acceptable in most cases.

Cracks

Normal shrinkage of mortar results in hairline cracks in masonry. Green Valley Builders, Inc. will repair cracks that exceed 1/8 inch in width. The repair consists of pointing or patching and the mortar color will be matched as closely as possible, but expect some variation.

Exterior masonry may have chips, irregular surfaces, and color variations, which occur during manufacturing, shipping, or handling. Unless such conditions affect the structural integrity of the home, no repair is provided.

Discoloration

Discoloration of the firebox or brick is a normal result of use and requires no corrective action. Mortar-style fireplaces may develop cracks due to temperature changes and other factors.

Downdraft

Although extremely high winds can result in a downdraft, this condition should be temporary and occasional. We will determine and correct continuous malfunction if caused by a construction or design defect.

Glass Doors

During the orientation we confirm that glass fireplace doors, when included with the home, are in acceptable condition.

Water Infiltration

In unusually heavy or prolonged precipitation, especially when accompanied by high winds, some water can enter the home through the chimney. The limited warranty excludes this occurrence.

Foundation

Homeowner Use and Maintenance Guidelines

We install the foundation of your home according to the recommendations of our consulting engineer. The walls of the foundation are poured concrete with steel reinforcing rods. To protect your home's foundation, follow guidelines for installation and maintenance of landscaping and drainage in this manual.

Cracks

Even though an engineer designed the foundation and we constructed it according to engineering requirements, surface cracks can still develop in the wall. Surface cracks are not detrimental to the structural integrity of your home. If a crack develops in a foundation wall that allows water to come through, follow the procedures for submitting a warranty claim.

Dampness

Due to the amount of water in concrete, basements may be damp. Condensation can form on water lines and drip onto the floor.

Future Construction in Basement

If you decide to perform additional construction in the basement, obtain guidelines from a licensed engineer, obtain a building permit, and comply with all codes and safety requirements. Green Valley Builders, Inc. does not warrant that you will be able to obtain such a permit because of the possibility that building codes may change.

Green Valley Builders, Inc. Limited Warranty Guidelines

The foundation of your home has been designed and installed according to the recommendations of an engineer. The walls of the foundation are poured concrete with steel reinforcing rods.

Cosmetic Imperfections

Slight cosmetic imperfections in foundation walls, such as a visible seam where two pours meet or slight honeycombing (aggregate visible), are possible and require no repair unless they permit water to enter.

Cracks

Shrinkage or backfill cracks are not unusual in foundation walls, especially at the corners of basement windows. Green Valley Builders, Inc. will seal cracks that exceed 1/8 inch in width.

Leaks

Green Valley Builders, Inc. will correct conditions that permit water to enter the basement, provided you have complied with the drainage, landscaping, and maintenance guidelines.

Garage Overhead Door

Homeowner Use and Maintenance Guidelines

Since the garage door is a large, moving object, periodic maintenance is necessary.

Light Visible

Garage overhead doors cannot be airtight. Some light will be visible around the edges and across the top of the door. Weather conditions may result in some precipitation entering around the door as well as some dust especially until most homes in the community have landscaping installed.

Lock

If the lock becomes stiff, apply a silicone or graphite lubricant. Do not use oil on a lock, as it will stiffen in winter and make the lock difficult to operate.

Lubrication

Every 6 months, apply a lubricant such as silicone spray to all moving parts: track, rollers, hinges, pulleys, and springs. Avoid over lubricating to prevent drips on vehicles or the concrete floor. At the same time, check to see that all hardware is tight and operating as intended without binding or scraping.

Opener

To prevent damage to a garage door opener, be sure the door is completely unlocked and the rope-pull has been removed before using the operator. If you have an opener installed after closing on your home, we suggest that you order it from the company that provided and installed the garage door to assure uninterrupted warranty coverage. Be familiar with the steps for manual operation of the door in the event of a power failure.

During orientation we demonstrate the electric eye that provides a safety stop in the event someone crosses through the opening while the overhead door is in motion. Use care not to place tools or other stored items where they interfere with the function of the electric eye.

Expect to replace the battery in the garage opener remote controls about once a year. The battery is usually a 9 volt.

Safety

Follow the manufacturer's instructions for safe and reliable operation. Do not allow anyone except the operator near the door when it is in motion. Keep hands and fingers away from all parts of the door except the handle. Do not allow children to play with or around the door.

For your safety, after the expiration of the one-year warranty, have any needed adjustments made by a qualified specialist. The door springs are under a considerable amount of tension and require special tools and knowledge for accurate and safe servicing. Have the door inspected by a professional garage door technician after any significant impact to the door.

Green Valley Builders, Inc. Limited Warranty Guidelines

The garage door should operate smoothly and with reasonable ease. The door can become misaligned and require adjustment, which Green Valley Builders, Inc. will provide unless the problem is caused by the installation of a garage door opener subsequent to closing on the home.

Gas Shut-Offs

Homeowner Use and Maintenance Guidelines

You will find shut-offs on gas lines near their connection to each item that operates on gas. In addition, there is a main shut-off at the meter. We point these out during the orientation.

Gas Leak

If you suspect a gas leak, leave the home and call the gas company immediately for emergency service.

Green Valley Builders, Inc. Limited Warranty Guidelines

The gas company is responsible for leaks up to the meter. Green Valley Builders, Inc. will correct leaks from the meter into the home.

Ghosting

Homeowner Use and Maintenance Guidelines

Feedback from homeowners (in both old and new homes) regarding black sooty stains which develop on surfaces in homes (on carpet, walls, ceilings, appliances, mirrors, and around area rugs—to list a few examples) have caused much investigation and research.

The conclusion of the research and laboratory tests has been that the majority of this staining or "ghosting" results from pollution of the air in the home caused by burning scented candles. Incomplete combustion of hydrocarbons as these candles burn contributes a considerable amount of soot to the air. This sooty substance then settles or accumulates on surfaces of the home. The sooty deposits are extremely difficult to remove; on some surfaces (light-colored carpet, for instance), they are impossible to clean completely away.

The popularity of scented candles has increased many-fold in recent years. If this is an activity that is part of your lifestyle, we caution you about the potential damage to your home. When this condition results from homeowners burning candles or other lifestyle choices, the resulting damage is excluded from our limited warranty coverage.

See also Carpet/Filtration.

Grading and Drainage

Homeowner Use and Maintenance Guidelines

The final grades around your home have been inspected and approved for proper drainage of your lot. Our surveyor completes a drainage certification and then the local building authorities as well as Green Valley Builders, Inc. inspect the site. Yards drain from one to another. You and your neighbors share an overall drainage plan for the community. Use caution when installing landscaping, fencing, or additions to your home to prevent causing water problems on adjacent lots.

Drainage

Typically, the grade around your home should slope 1 foot in the first 10 feet, tapering to a 2 percent slope. In most cases, drainage swales do not follow property boundaries. Maintain the slopes around your home to permit the water to drain away from the home as rapidly as possible.

This is essential to protect your foundation. Failure to do so can result in major structural damage and will void your warranty.

Exterior Finish Materials

Maintain soil levels 6 inches below siding, stucco, brick, or other exterior finish materials. Contact with the soil can cause deterioration of the exterior finish material and encourages pest infestations.

Roof Water

Do not remove the splash blocks or downspout extensions from under the downspouts. Keep these in place at all times, sloped so the water drains away from your home quickly.

Rototilling

Rototilling can significantly change drainage swales. You can minimize this by rototilling parallel to the swales rather than across them.

Settling

The area we excavated for your home's foundation was larger than the home to allow room to work. In addition, some trenching is necessary for installation of utility lines. Although we replaced and compacted the soil, it does not return to its original density. Some settling will occur, especially after prolonged or heavy rainfall or melting of large amounts of snow. Settling can continue for several years. Inspect the perimeter of your home regularly for signs of settling and fill settled areas as needed to maintain positive drainage.

Subsurface Drains

Occasionally Green Valley Builders, Inc. installs a subsurface drain to ensure that surface water drains from a yard adequately. Keep this area and especially the drain cover clear of debris so that the drain can function as intended.

See also Landscaping.

Green Valley Builders, Inc. Limited Warranty Guidelines

We established the final grade to ensure adequate drainage away from the home. Maintaining this drainage is your responsibility. If you alter the drainage pattern after closing, or if changes in drainage occur due to lack of maintenance, the limited warranty is void.

Backfill Settlement

Backfilled or excavated areas around the foundation and at utility trenches should not interfere with the drainage away from your home. If these areas settle during the first year, Green Valley Builders, Inc. will fill the areas one time and subsequently will provide you with fill dirt to maintain positive drainage.

Erosion

Green Valley Builders, Inc. is not responsible for weather-caused damage to unlandscaped yards after the final grade has been established or the closing date, whichever occurs last.

New Sod

New sod installation and the extra watering that accompanies it can cause temporary drainage problems, as can unusually severe weather conditions.

Recommendations

Green Valley Builders, Inc. documents the grades that exist at the time of delivery of your home or as soon thereafter as possible. The ground must be dry and free of frost to make these determinations. Once final grades are set, Green Valley Builders, Inc. will inspect drainage problems reported in writing during the warranty period, compare grades to those originally established, and advise you on corrective actions you might take.

Soil Information

We provide soil information when the purchase agreement is written or as soon thereafter as it becomes available. Landscaping recommendations are designed based on soils and engineering reports and thus may vary slightly.

Swales

Green Valley Builders, Inc. does not alter drainage patterns to suit individual landscape plans. Typically, a lot receives water from and passes water on to other lots, so changes in grade often affect adjacent or nearby lots. Green Valley Builders, Inc. advises against making such changes. After heavy rain or snow, water may stand in swales up to 48 hours.

Under Concrete

Green Valley Builders, Inc. will fill visible sunken areas under concrete during the first year.

Winter Grading

Due to weather conditions, especially during winter and early spring, the final grade may not have been established at the time of closing. We document the status of your grading at the time of delivery. When conditions permit, grading work will continue. Confirm that we have completed your grading before beginning landscaping.

Gutters and Downspouts

Homeowner Use and Maintenance Guidelines

Check gutters periodically and remove leaves or other debris. Materials that accumulate in gutters can slow water drainage from the roof, cause overflows, and clog the downspouts.

Extensions or Splashblocks

Extensions should discharge outside of rock or bark beds so that water is not dammed behind the edging materials that might be used. Settlement can occur here; be sure water is always flowing away from the home.

Ladders

Use caution when leaning ladders against gutters, as this may cause dents.

Leaks

If a joint between sections of gutter drips, caulk the inside joint using a commercial gutter caulking compound available at hardware stores.

Snow and Ice

Clear excess snow from downspouts as soon as possible to allow the gutter to drain and to prevent damage. Severe ice or snow build-up can damage gutters, and such damage is not covered by the limited warranty.

See also Roof/Ice Dam.

Green Valley Builders, Inc. Limited Warranty Guidelines

Gutters over 3 feet long are installed with a slight slope so that roof water will flow to the downspouts.

Leaks

We correct leaks that occur during the warranty period.

Overflow

Gutters may overflow during periods of excessively heavy rain. This is expected and requires no repair.

Standing Water

Small amounts of water (up to one inch) will stand for short periods of time in gutters immediately after rain. No correction is required for these conditions.

Hardware

Homeowner Use and Maintenance Guidelines

Doorknobs and locks should operate correctly with little attention. Over time, they may need slight adjustments due to normal shrinkage of the framing. Occasionally, you may need to tighten screws or lubrication.

Green Valley Builders, Inc. Limited Warranty Guidelines

We confirm that all hardware is in acceptable condition during orientation. The limited warranty excludes repairs for cosmetic damage subsequent to the orientation.

Green Valley Builders, Inc. will repair hardware items that do not function as intended.

Hardwood Floors

Homeowner Use and Maintenance Guidelines

In daily care of hardwood floor, preventive maintenance is the primary goal.

Cleaning

Sweep on a daily basis or as needed. Never wet-mop a hardwood floor. Excessive water causes wood to expand and can possibly damage the floor. When polyurethane finishes become soiled, damp-mop with a mixture of 1 cup vinegar to one gallon of warm water. When damp-mopping, remove all excess water from the mop. All hardwood floors are finished with a water-based finish.

Dimples

Placing heavy furniture or dropping heavy or sharp objects on hardwood floors can result in dimples.

Filmy Appearance

A white, filmy appearance can result from moisture, often from wet shoes or boots.

Furniture Legs

Install proper floor protectors on furniture placed on hardwood floors. Protectors will allow chairs to move easily over the floor without scuffing. Regularly clean the protectors to remove any grit that may have accumulated.

Humidity

Wood floors respond noticeably to changes in humidity in your home. Especially during winter months the individual planks or pieces expand and contract as water content changes. A humidifier helps but does not eliminate this reaction.

Mats and Area Rugs

Use protective mats at the exterior doors to help prevent sand and grit from getting on the floor. Gritty sand is wood flooring's worst enemy. However, be aware that rubber backing on area rugs or mats can cause yellowing and warping of the floor surface.

Recoat

The waterbased finish applied to your floors allows for easy recoating by a flooring professional. While taking care of the floor, use only vinegar and water as this will ensure a cost efficient recoating procedure. Using wax or other similar products to clean the floor will prevent the floors from simply being recoated (floor will have to be resanded to recoat). The exact timing of recoating will depend on your particular lifestyle.

Separation

Expect some shrinkage around heat vents or any heat-producing appliances, or during seasonal weather changes.

See also Warping.

Shoes

Keep high heels in good repair. Heels that have lost their protective cap (thus exposing the fastening nail) will exert over 8,000 pounds of pressure per square inch on the floor. That's enough to damage hardened concrete; it will mark your wood floor.

Spills

Clean up food spills immediately with a dry cloth. Use a vinegar-and-warm-water solution for tough food spills.

Splinters

When floors are new, small splinters of wood can appear.

Sun Exposure

Exposure to direct sunlight can cause irreparable damage to hardwood floors. To preserve the beauty of your hardwood floors, install and use window coverings in these areas.

Traffic Paths

A dulling of the finish in heavy traffic areas is likely.

Warping

Warping will occur if the floor repeatedly becomes wet or is thoroughly soaked even once. Slight warping in the area of heat vents or heat-producing appliances is also typical.

Wax

Waxing and the use of products like oil soap are neither necessary nor recommended. Once you wax a polyurethane finish floor, recoating is difficult because the new finish will not bond to the wax. The preferred maintenance is preventive cleaning and recoating annually or as needed to maintain the desired luster.

Green Valley Builders, Inc. Limited Warranty Guidelines

During the orientation we will confirm that hardwood floors are in acceptable condition. We will correct any readily noticeable cosmetic defects listed during the orientation. You are responsible for routine maintenance of hardwood floors.

Separations

Shrinkage will result in separations between the members of hardwood floors. If these exceed 1/8 inch, Green Valley Builders, Inc. will fill them one time. Green Valley Builders, Inc. is not responsible for removing excess filler that appears on the surface if the boards expand due to subsequent changes in humidity and expel the filler.

Heating System: Gas Forced Air

Homeowner Use and Maintenance Guidelines

Good maintenance of your furnace can save energy dollars and prolong the life of the furnace. Carefully read and follow the manufacturer's literature on use and maintenance. The guidelines here include general information only.

Adjust Vents

Experiment with the adjustable registers in your home to establish the best heat flow for your lifestyle. Generally, you can reduce the heat in seldom-used or interior rooms. This is an individual matter and you will need to balance the system for your own family's needs.

Avoid Overheating

Do not overheat your new home. Overheating can cause excessive shrinkage of framing lumber and may materially damage the home. In the beginning, use as little heat as possible and increase it gradually.

Blower Panel (Fan cover)

You need to position the blower panel cover correctly for the furnace blower (fan) to operate. This panel compresses a button that tells the blower it is safe to operate. Similar to the way a clothes dryer door operates, this panel pushes in a button that lets the fan motor know it is safe to come on. If that button is not pushed in, the furnace will not operate.

Combustion Air

Furnaces we install in basements or in utility closets over crawl spaces include a combustion air duct. The outside end of this duct is covered with a screen to minimize insect or animal from entering the duct. Cold air coming in through this duct means it is functioning as it should.

Caution: Never cover or block the combustion air vent in any way. Outside air is needed to supply the furnace with sufficient oxygen. Blocking the combustion air vent will cause the furnace to draw air down the vent pipe and pull poisonous gases back into your home.

Duct Cleaning

Exercise caution before spending money on professional ductwork cleaning services. A study by the EPA found no proof that ductwork cleaning improves indoor air quality, nor was evidence found that it prevents health problems. For more information contact the EPA and request document EPA-402-K-97-002. Or you can view this information on their Website: www.epa.gov/iaq/pubs/.

Ductwork Noise

Some popping or pinging sounds are the natural result of ductwork heating and cooling in response to airflow as the system operates.

Filter

A clean filter will help to keep your home clean and reduce dusting chores. Remember to change or clean the filter monthly during the heating season (year-round if you also have air conditioning). A clogged filter can slow airflow and cause cold spots in your home. Although it takes less than one minute to change the filter, this is one of the most frequently overlooked details of normal furnace care.

Buy filters in large quantity for the sake of convenience. You will find the size and type printed along the edge of the filter that in your furnace.

If you have a permanent, washable, removable filter, you need to clean this monthly. Use water only to clean the filter, tap to dry or air dry, and leave unit off for a brief period. Do not use soaps or detergents on the filter.

Furnished Home

The heating system was designed with a furnished home in mind. If you move in during the cooler part of the year and have not yet acquired all of your draperies and furnishings, the home may seem cooler than you would expect.

Fuse

Some furnaces have a fuse directly above the on-off switch. This fuse is an S10, S12, or S15 fuse. It absorbs any spikes in the line such as close electrical strikes or power surges. Unlike old fuses that burn out and clearly indicate that they are blown, these fuses, similar to automobile fuses, have a spring that depresses when tripped. Unless you have examined these quite carefully before, it may be hard to determine if the fuse has blown. We suggest that you buy some extra fuses of the same size to have on hand.

Gas Odor

If you smell gas, call the gas company immediately.

Odor

A new heating system may emit an odor for a few moments when you first turn it on. An established system may emit an odor after being unused for an extended time (such as after the summer months if you do not use air conditioning). This is caused by dust that has settled in the ducts and should pass quickly.

On-Off Switch

The furnace has an on-off blower switch. This switch looks like a regular light switch and is located in a metal box outside the furnace. When turned off, this switch overrides all furnace commands and shuts down the blower. This is usually done only when maintenance service is being performed, although young children have been known to turn the furnace off using this switch. (If your furnace is a high-efficiency model, it does not have a pilot or an on-off switch.)

Pilot

On models with manually lit pilots, lighting the furnace pilot involves several steps. First, remove the cover panel to expose the pilot. Then rotate the on-off-pilot knob to pilot. When the knob is in this position, you can depress the red button.

While depressing the red button, hold a match at the pilot. Once the pilot lights, continue to hold the red button down for 30 to 60 seconds. When you release the red button, the pilot should stay lit. If it does not, wait several minutes to allow any gas to dissipate from the furnace area and repeat the entire process. If the pilot stays lit, rotate the on-off pilot knob to the on position. Reinstall the cover panel. You can find these instructions on a sticker on the furnace and in the manufacturer's literature.

Registers

Heat register covers are removable and adjustable. You are responsible for adjusting the dampers in these covers to regulate the heat flow within the home. Registers in the rooms farther away from the furnace will usually need to be opened wider.

Return Air Vents

For maximum comfort and efficient energy use, arrange furniture and draperies to allow unobstructed airflow from registers and to cold air returns.

Temperature

Depending on the style of home, temperatures can normally vary from floor to floor as much as 10 degrees or more on extremely cold days. The furnace blower will typically cycle on and off more frequently and for shorter periods during severe cold spells.

Thermostat

The furnace will come on automatically when the temperature at the thermostat registers below the setting you have selected. Once the furnace is on, setting the thermostat to a higher temperature will not heat the home faster. Thermostats are calibrated to within plus or minus 5 degrees.

Trial Run

Have a trial run early in the fall to test the furnace. (The same applies to air conditioning in the spring.) If service is needed, it is much better to discover that before the heating season.

TROUBLESHOOTING TIPS: NO HEAT

Before calling for service, check to confirm that the:

- ☐ Thermostat is set to "heat" and the temperature is set above the room temperature.
- ☐ Blower panel cover is installed correctly for the furnace blower (fan) to operate. This panel compresses a button that tells the blower it is safe to operate. Similar to the way a clothes dryer door operates, this panel pushes in a button that lets the fan motor know it is safe to come on. If that button is not pushed in, the furnace will not operate.
- ☐ Breaker on the main electrical panel is on. (Remember, if a breaker trips you must turn it from the tripped position to the off position before you can turn it back on.)
- ☐ Switch on the side of the furnace is on.

- ☐ Fuse in furnace is good. (See manufacturer literature for size and location.)
- ☐ Gas line is open at the main meter and at the side of the furnace.
- ☐ Filter is clean to allow airflow.
- ☐ Vents in individual rooms are open.
- ☐ Air returns are unobstructed.

Even if the troubleshooting tips do not identify a solution, the information you gather will be useful to the service provider you call.

Green Valley Builders, Inc. Limited Warranty Guidelines

We will install heating systems according to local building codes, as well as to engineering designs of the particular model home.

Adequacy of the system is determined by its ability to establish a temperature of 70 degrees F, as measured in the center of the room, 5 feet above the floor. In extremely cold temperatures (10 degrees below or colder), the system should be able to maintain a temperature differential of 80 degrees from the outside temperature.

Duct Placement

The exact placement of heat ducts may vary from those positions shown in similar floor plans.

Ductwork

Although the heat system is not a sealed system, the ductwork should remain attached and securely fastened. If it becomes unattached, Green Valley Builders, Inc. will repair as needed.

Furnace Sounds

Expansion or contraction of metal ductwork results in ticking or popping sounds. While eliminating all these sounds is impossible, Green Valley Builders, Inc. will correct oil canning. (Oil canning occurs when a large area of sheet metal like those found in air ducts makes a loud noise as it moves up and down in response to temperature changes.)

Thermostat

Thermostats are calibrated to plus or minus 5 degrees.

Heating System: Heat Pump

Homeowner Care and Maintenance

If your home contains a heat pump system, you should be aware of the performance characteristics unique to these systems. As with any system, read the manufacturer's literature and follow all instructions for efficient operation and maintenance of your system. Clean or replace filters once a month. Provide professional service for your system at least once every two years.

Air Circulation Across Coils

Keep the outside unit clear of any materials that would interfere with air circulation. Snow, ice, landscaping materials, trash, leaves, and other accumulating items can cause inefficiency or damage the unit.

Air Conditioning and Heating

A heat pump system operates differently from a gas forced-air furnace. The same system provides both heat and air conditioning. This is possible because a refrigerant flows back and forth in the coils of the heat pump, controlled by a reversing valve. In the heating mode, the heat pump removes heat from the outside air and transfers it to the inside air. In the cooling mode, it

does just the opposite, removing heat from the inside air and discharging it outside of the home. The thermostat inside your home controls this heating or cooling activity.

Air Temperature at Vents

Do not expect dramatic temperature differences in the air coming from the vents as is common with other kinds of systems. The coils used in a heat pump system operate at lower temperatures than those common in a gas forced-air system. As a result, for example, in the heat mode, air from the supply vents will typically range from 85 to 90 degrees F. The vents will not feel hot, though the air discharged is warmer than the air in the room by as much as 20 degrees.

Auxiliary Heat System

At lower outside temperatures, less heat is available for the heat pump to draw from the exterior air. Therefore, from time to time the auxiliary heat system will come on to maintain the temperature you set at the thermostat. The auxiliary system will also come on whenever the temperature at the thermostat is moved 1.5 degrees or more at one time. If the light stays on when the outside temperature is more than 30 degrees F, contact a service person.

Defrost Cycle

When the heat pump is operating in the heat mode, the coils outside may reach below freezing temperatures. Moisture in the air will condense into frost and accumulate on the coils under these circumstances. From time to time, the system will go into defrost mode to clear accumulated frost from the coils. This is a normal part of the operation of the system and will occur automatically.

During the defrost cycle, the outside fan will stop temporarily. The temperature of airflow into the home will be a bit lower during the defrost cycle. The defrost cycle can only occur once every 90 minutes and lasts no longer than 10 minutes.

Night Setback

Unless you have a night setback thermostat designed to work with a heat pump system, do not turn the thermostat down in the evenings. Adjust the temperature a fraction of a degree at a time until a comfortable, permanent setting is found.

Register Adjustment

Registers will require adjustment from time to time to maximize your family's comfort. Do not completely close off more than one supply register at a time. This can restrict the airflow too much and reduce the efficiency of the system. A good technique is to completely open all the vents, then gradually move the temperature setting up until the coolest room is comfortable. Once the coolest room is comfortable, gradually close the vents in the warmer rooms until all rooms are comfortable as well. Reverse the process for air conditioning.

Return Air Vents

As with any heating system, return air vents must be clear so the air flows through the ducts unimpeded. Avoid placing furniture where it blocks the return air vents.

TROUBLESHOOTING TIPS: NO HEAT OR AUXILIARY HEAT STAYS ON WHEN OUTSIDE TEMPERATURE IS 30 DEGREES OR ABOVE

Before calling for service, check to confirm that the:

- ☐ Thermostat is set to "heat" and the temperature is set above the room temperature.
- ☐ Breaker on the main electrical panel is on. (Remember, if a breaker trips you must turn it from the tripped position to the off position before you can turn it back on.)
- ☐ Filter is clean to allow airflow.
- ☐ Vents in individual rooms are open.

- ☐ Air returns are unobstructed.
- ☐ Outside unit is not blocked by snow or other materials.
- ☐ Outside coil does not have an excessive ice build-up.

Even if the troubleshooting tips do not identify a solution, the information you gather will be useful to the service provider you call.

Green Valley Builders, Inc. Limited Warranty Guidelines

Refer to the manufacturer's limited warranty for information regarding warranty coverage.

Humidifier

Homeowner Use and Maintenance Guidelines

Operate a humidifier only with the furnace, not with the air conditioner. If you notice condensation on windows, the humidifier should be adjusted to a lower setting. Clean the moisture pad according to the manufacturer's instructions and suggested timetable.

Green Valley Builders, Inc. Limited Warranty Guidelines

Refer to the manufacturer's limited warranty for information regarding coverage of the humidifier.

Insulation

Fiberglass

Homeowner Use and Maintenance Guidelines

The effectiveness of blown insulation is diminished if it is uneven. As the last step in any work done in your attic (for example, the installation of speaker wire), you should confirm that the insulation lays smooth and even. Do not step on drywall ceilings, because this can result in personal injury or damage to the drywall.

Electrical outlets normally emit noticeable amounts of cold air when outside temperatures are low.

Green Valley Builders, Inc. Limited Warranty Guidelines

Green Valley Builders, Inc. will install insulation to meet or exceed the building codes applicable at the time of construction and outlined as part of your purchase agreement.

Icynene

Homeowner Use and Maintenance Guidelines

Icynene is an air barrier as well as an insulator. Care should be taken when working in areas with exposed insulation not to disturb the product. Any removal of the insulation will result in a break in the heated envelope of the home.

Green Valley Builders, Inc. Limited Warranty Guidelines

Green Valley Builders, Inc. will install insulation to meet or exceed the building codes applicable at the time of construction and outlined as part of your purchase agreement.

Landscaping

Homeowner Use and Maintenance Guidelines

Providing complete details on landscape design is beyond the scope of this manual. Many excellent books, videos, and computer software programs are available that offer your this information. Local nurseries and landscape professionals can also assist you.

In planning any further landscaping, think of proportion, texture, color, mature size, maintenance needs, soft and hard surfaces, lighting, fencing, edging, and water requirements. A beautiful yard requires considerable planning and regular attention. Most homeowners take years to achieve the yard they want. Planning to install items in stages can spread the cost and work over several seasons.

Additions

Before installing patio additions or other permanent improvements, consider soil conditions in the design and engineering of your addition.

Backfill

We construct the foundation of your home beginning with an excavation into the earth. When the foundation walls are complete, the area surrounding them is backfilled. Soil in this area is not as compact as undisturbed ground. Water can penetrate through the backfill area to the lower areas of your foundation. This can cause potentially severe problems such as wet basements, cracks in foundation walls, and floor slab movement. Avoid this through proper installation of landscaping and good maintenance of drainage.

Backfill areas will settle and require prompt attention to avoid damage to your home and voiding of the structural warranty.

Keep downspout extensions in the down position to channel roof runoff away from the foundation area of your home. Routine inspection of downspouts, backfill areas, and other drainage components is an excellent maintenance habit.

See also Grading and Drainage.

Bark or Rock Beds

Do not allow edging around decorative rock or bark beds to dam the free flow of water away from the home. You can use a nonwoven landscape fabric between the soil and rock or bark to restrict weed growth while still permitting normal evaporation of ground moisture.

Erosion

Until your yard is established and stable, erosion will be a potential concern. Heavy rains or roof runoff can erode soil. The sooner you restore the grade to its original condition, the less damage will occur.

Erosion is of special concern in drainage swales. If swales become filled with soil runoff, they may not drain the rest of the yard, causing further problems. Correcting erosion is your responsibility. You may need to protect newly planted seed with erosion matting or reseed to establish grass in swales. It can take several years to fully establish your lawn in such challenging areas.

Hired Contractors

You are responsible for changes to the drainage pattern made by any landscape, concrete, deck, or pool contractor. Discuss drainage with any company you hire to do an installation in your yard. Do not permit them to tie into existing drainage pipes without approval from Green Valley Builders, Inc.

Natural Areas

During construction, we remove construction debris from natural areas. Removing dead wood, tree limbs, fallen trees, or other natural items is your responsibility.

Planning

Locate plants and irrigation heads out of the way of pedestrian or bicycle traffic and car bumpers. Space groves of trees or single trees to allow for efficient mowing and growth. Group plants with similar water, sun, and space requirements together.

Plant Selection

Plant with regard to your local climate. Favor native over exotic species. Consider ultimate size, shape, and growth of the species.

Requirements

Check with your local building department and homeowners association before designing, installing, or changing landscaping for any regulations that they require you to follow.

Seeded Lawns

If lawn seeding is part of your home purchase, consider this just the first step in establishing your yard. Remember that the forces of nature are far stronger than grass seed. You will need to overseed at some point, perhaps more than once. Heavy storms can cause washouts and erosion that you will need to correct. It generally takes at least three growing seasons to establish a good lawn, longer if weather conditions are difficult or if you do not have the time to devote to lawn care.

Before over-seeding, remember to fill any slight depressions with a light layer of topsoil. Minimize traffic of all kinds on newly seeded areas and avoid weed killer for at least 120 days. Keep the seed moist, not wet.

Sod

Newly placed sod requires extra water for several weeks. Water in the cool part of the day (ideally just before sunrise) at regular intervals for the first three weeks. Be aware that new sod and the extra watering it requires can sometimes create drainage concerns (in your yard or your neighbor's) that will disappear when the yard is established and requires normal watering.

Soil Mix

Provide good soil mixes with sufficient organic material. Use mulch at least 3 inches deep to hold soil moisture and to help prevent weeds and soil compaction.

In areas with high clay content, prepare the soil before installing your grass. First cover the soil with 2 inches of sand and 1 inch of manure that is treated and odorless. Rototill this into the soil to a depth of 6 inches (rototill parallel to the swales). Whether you use seed or sod, this preparation helps your lawn to retain moisture and require less water. Installing a lawn over hard soil permits water to run off with little or no penetration and your lawn will derive minimal benefit from watering or rain.

Apply appropriate fertilizer and weed and pest controls as needed for optimal growth. Investigate organic compounds for additional protection of the environment.

Stones

The soil in your area may have stones and rocks. Removing these naturally occurring elements is a maintenance activity. If Green Valley Builders, Inc. installs seed or sod, large rocks will be picked up and surface raking performed. You will need to provide continued attention to this condition as you care for your yard.

Trees

Green Valley Builders, Inc. values trees as one of the features that make up an attractive community and add value to the homes we build. We take steps to protect and preserve existing trees in the area of your home. In spite of our efforts, existing trees located on construction sites can suffer damage from construction activities, which manifest months after the completion of construction.

Damage to existing trees can be caused by such things as compaction of soil in the root zone, changing patterns of water flow on the lot, disturbing the root system, and removing other trees to make room for the home. The newly exposed tree may react to conditions it is unaccustomed to. Caring for existing trees, including pruning dead branches or removing these trees altogether is your responsibility.

Remember to water trees during the summer or during warm dry periods in the winter.

Mulch around trees and avoid tilling or planting flower beds around trees. This is especially important while trees are recovering from the construction process.

Trees and other plant materials that exist on the lot when construction begins and are not part of any landscaping installed by Green Valley Builders, Inc. are excluded from warranty coverage.

Utility Lines

A slight depression may develop in the front lawn along the line of the utility trench. To correct this, roll back the sod, spread topsoil underneath to level the area, and then relay the sod.

Before any significant digging, check the location of buried service leads by calling the local utility locating service. In most cases, wires and pipes run in a straight line from the main service to the public supply.

See also Easements.

Weeds

Weeds will appear in your new lawn whether seed or sod is used. Left unlandscaped, your yard will quickly begin to show weeds. When soil is disturbed, dormant seeds come to the surface and germinate. The best control is a healthy lawn, achieved through regular care and attention.

Green Valley Builders, Inc. Limited Warranty

Landscape materials we install are warranted for one growing season. We will confirm the healthy condition of all plant materials during the orientation. The maintenance of landscaping is your responsibility.

Mildew/Mold

Homeowner Use and Maintenance Guidelines

Mildew is a fungus that spreads through the air in microscopic spores. They love moisture and feed on surfaces or dirt. On siding, they look like a layer of dirt. To determine whether you are dealing with mildew or dirt, wipe the surface with a cloth or sponge dampened with bleach. If the bleach causes the surface to lose its dark appearance, you are most likely seeing mildew.

Cleaning mildew from your home is your responsibility. Solutions that remove mildew are available from local paint or home improvement stores. Wear protective eyewear and rubber gloves for this task; the chemicals that remove mildew are unfriendly to humans.

Mold occurs naturally in the environment. Residential home construction is not, and cannot be, designed to exclude mold spores. During construction, Green Valley Builders, Inc., will treat any mold found using industry accepted measures. If mold growth starts to be a problem, there is probably an issue with water infiltration. Please complete a warranty service request to have an inspection done.

Green Valley Builders, Inc. Limited Warranty Guidelines

We will remove any mildew noted during the orientation. Green Valley Builders, Inc. warranty excludes mildew.

Mirrors

Homeowner Use and Maintenance Guidelines

To clean your mirrors, use any reliable liquid glass cleaner or polisher available at most hardware or grocery stores. Avoid acidic cleaners and splashing water under the mirror; either can cause the silvering to deteriorate. Acidic cleaners are usually those that contain ammonia or vinegar. Avoid getting glass cleaners on plumbing fixtures as some formulas can deteriorate the finish.

Green Valley Builders, Inc. Limited Warranty Guidelines

We will confirm that all mirrors are in acceptable condition during the orientation. Green Valley Builders, Inc. will correct scratches, chips, or other damage to mirrors noted during the orientation.

Paint and Stain

Homeowner Use and Maintenance Guidelines

Because of changes in the formula for paint (such as the elimination of lead to make paints safer), painted surfaces must be washed gently using mild soap and as little water as possible. Avoid abrasive cleaners, scouring pads, or scrub brushes. Flat paints show washing marks more easily than gloss paints do. Often better results come from touching up rather than washing the paint.

Colors

Your selection sheets are your record of the paint and stain color names, numbers, and brands in your home.

Exterior

Regular attention will preserve the beauty and value of your home. Check the painted and stained surfaces of your home's exterior annually. Repaint before much chipping or wearing away of the original finish occurs; this will save the cost of extensive surface preparation.

Plan on refinishing the exterior surface of your home as often as your paint manufacturer suggests for your area and climate. Climatic conditions control the chemical structure of the paint used on the exterior. Over time, this finish will fade and dull a bit. Depending on the exposure to weather of each surface, the paint on some parts of your home may begin to show signs of deterioration sooner than others.

When you repaint the exterior of your home, begin by resetting popped nails and removing blistered or peeling portions of paint with a wire brush or putty knife. Sand, spot with primer, and then paint the entire area. Use a quality exterior paint formulated for local climate conditions.

Avoid having sprinklers spray water on the exterior walls of your home. This will cause blistering, peeling, splintering, and other damage to the home.

Severe Weather

Hail and wind can cause a great deal of damage in a severe storm, so inspect the house after such weather. Promptly report damage caused by severe weather to your insurance company.

Stain

For minor interior stain touch-ups, a furniture-polish-and-stain treatment is inexpensive, easy to use, and will blend in with the wood grain. Follow directions on the bottle.

Touch-Up

When doing paint touch-ups, use a small brush, applying paint only to the damaged spot. Touch-up may not match the surrounding area exactly, even if the same paint mix is used. When it is time to repaint a room, prepare the wall surfaces first by cleaning with a mild soap and water mixture or a reliable cleaning product.

We provide samples of each paint used on your home. Store these with the lids tightly in place and in a location where they are not subjected to extreme temperatures.

Wall Cracks

We suggest that you wait until after the first heating season to repair drywall cracks or other separations due to shrinkage.

See also Drywall.

Green Valley Builders, Inc. Limited Warranty Guidelines

During your orientation we will confirm that all painted or stained surfaces are in acceptable condition. Green Valley Builders, Inc. will touch up paint as indicated on the orientation list. You are responsible for all subsequent touch-up, except painting we perform as part of another warranty repair.

Cracking

As it ages, exterior wood trim will develop minor cracks and raised grain. Much of this will occur during the first year. Raised grain permits moisture to get under the paint and can result in peeling. This is not a defect in materials or workmanship. Paint maintenance of wood trim and gutters is your responsibility.

Fading

Expect fading of exterior paint or stain caused by the effects of sun and weather. Green Valley Builders, Inc. limited warranty excludes this occurrence.

Touch-Up Visible

Paint touch-up is visible under certain lighting conditions.

Wood Grain

Because of wood characteristics, color variations will result when stain is applied to wood. This is natural and requires no repair. Today's water-base paints often make wood grain visible on painted trim. Green Valley Builders, Inc. does not provide corrections for this condition.

Pests and Wildlife

Homeowner Use and Maintenance Guidelines

Insects such as ants, spiders, wasps, and bees, and animal life such as woodpeckers, squirrels, mice, and snakes, may fail to recognize that your home belongs to you. Addressing concerns involving these pests and wildlife goes with being a homeowner. Informational resources include, among others, the state wildlife service, animal control authorities, the county extension service, pest control professionals, Internet, and public library.

Phone Jacks

Homeowner Use and Maintenance Guidelines

Your home is equipped with telephone jacks as shown on the blueprints and selection sheets. Initiating phone service, additions to phone service, and moving phone outlets for decorating purposes or convenience are your responsibility.

Green Valley Builders, Inc. Limited Warranty Guidelines

Green Valley Builders, Inc. will correct outlets positioned so that a wall phone cannot be installed, for instance, if a kitchen phone outlet is positioned too close to a cabinet or countertop backsplash and prevents a wall phone from being connected.

Green Valley Builders, Inc. will repair wiring that does not perform as intended from the phone service box into the home. From the service box outward, care of the wiring is the responsibility of the local telephone service company.

Plumbing

Homeowner Use and Maintenance Guidelines

Your plumbing system has many parts, most of which require little maintenance. Proper cleaning, occasional minor attention, and preventive care will assure many years of good service from this system.

Aerators

Even though your plumbing lines have been flushed to remove dirt and foreign matter, small amounts of minerals may enter the line. Aerators on the faucets strain much of this from your water. Minerals caught in these aerators may cause the faucets to drip because washers wear more rapidly when they come in contact with foreign matter.

See also Dripping Faucet.

Basement Construction

If you perform any construction in your basement, ensure that the plumbing lines in the basement or crawl space are not isolated from the heating source without insulation being added.

Cleaning

Follow manufacturer's directions for cleaning fixtures. Avoid abrasive cleansers. They remove the shiny finish and leave behind a porous surface that is difficult to keep clean. Clean plumbing fixtures with a soft sponge and soapy water (a nonabrasive cleaner or a liquid detergent is usually recommended by manufacturers). Then polish the fixtures with a dry cloth to prevent water spots. Care for brass fixtures with a good-quality brass cleaner, available at most hardware stores.

Clogs

The main causes of toilet clogs are domestic items such as disposable diapers, excessive amounts of toilet paper, sanitary supplies, Q-tips, dental floss, and children's toys. Improper garbage disposal use also causes many plumbing clogs. Always use plenty of cold water when running the disposal. This recommendation also applies to grease; supplied with a steady flow of cold water, the grease congeals and is cut up by the blades. If you use hot water, the grease remains a liquid, then cools and solidifies in the sewer line. Allow the water to run 10 to 15 seconds after shutting off the disposal.

You can usually clear clogged traps with a plumber's helper (plunger). If you use chemical agents, follow directions carefully to avoid personal injury or damage to the fixtures.

Clean a plunger drain stopper—usually found in bathroom sinks—by loosening the nut under the sink at the back, pulling out the rod attached to the plunger, and lifting the stopper. Clean and return the mechanism to its original position and connection.

Dripping Faucet

You can repair a dripping faucet by shutting off the water at the valve directly under the sink, then removing the faucet stem, changing the washer, and reinstalling the faucet stem. The shower head is repaired the same way. Replace the washer with another of the same type and size. You can minimize the frequency of this repair by remembering not to turn faucets off with excessive force. (Please note that some manufacturers do not use rubber washers.)

Extended Absence

If you plan to be away for an extended period, you should drain your water supply lines. To do this, shut off the main supply line and open the faucets to relieve pressure in the lines. You may also wish to shut off the water heater. Do this by turning off the cold water supply valve on top and the gas control at the bottom. Drain the tank by running a hose from the spigot on the bottom to the basement floor drain. If you leave the tank full, keep the pilot on and set the temperature to its lowest or "vacation" setting. Check manufacturer's directions for additional hints and instructions.

See also Extended Absence checklist.

Fiberglass Fixtures

For normal cleaning use a nonabrasive bathroom cleanser and sponge or nylon cleaning pad. Avoid steel wool, scrapers, and scouring pads. Auto wax can provide a shine and restore an attractive appearance.

Freezing Pipes

Provided the home is heated at a normal level, pipes should not freeze at temperatures above 0 degrees Fahrenheit. Set the heat at a minimum of 55 degrees F if you are away during winter

months. Keep garage doors closed to protect plumbing lines running through this area from freezing temperatures.

In unusually frigid weather or if you will be gone more than a day or two, open cabinet doors to allow warm air to circulate around pipes. Use an ordinary hair dryer to thaw pipes that are frozen. Never use an open flame.

Gold or Brass Finish

Avoid using any abrasive cleaners on gold or antique brass fixtures. Use only mild detergent and water or a cleaning product recommended by the manufacturer.

Jetted Tubs

If your home includes a jetted tub follow manufacturer directions for its use and care. Never operate the jets unless the water level is at least one inch above the jets. Be cautious about using the tub if you are pregnant or have heart disease or high blood pressure; discuss the use of the tub with your doctor. Tie or pin long hair to keep it from away from the jets where it might become tangled—a potentially dangerous event.

Clean and disinfect the system every one to two months, depending on usage. To do this, fill the tub with lukewarm water and add one cup of liquid chlorine bleach. Run the jets for 10 to 15 minutes, drain and fill again. Run for 10 minutes with plain water, drain.

Auto wax will help seal and preserve your tub's surface. Avoid abrasive cleansers.

Laundry Tub

If you have a laundry room tub, the faucet does not have an aerator. This is to allow the laundry tub faucet to accept a hose connection.

Leaks

If a major plumbing leak occurs, the first step is to turn off the supply of water to the area involved. This may mean shutting off the water to the entire home. Then contact the appropriate contractor.

Low Flush Toilets

We want to draw your attention to a water-saving regulation that went into effect in 1993, which prohibits the manufacture of toilets that use more than 1.6 gallons of water per flush. In the search for a balance among comfort, convenience, and sensible use of natural resources, the government conducted several studies. The 1.6-gallon toilet turned out to be the size that overall consistently saves water.

As a result of implementing this standard, flushing twice is occasionally necessary to completely empty the toilet bowl. Even though you flush twice on occasion, rest assured that overall you are saving water and we have complied with the law. Similarly, flow restrictors are manufactured into most faucets and all shower heads and cannot be removed. We apologize for any inconvenience this may cause.

Low Pressure

Occasional cleaning of the aerators on your faucets (normally every three to four months) will allow proper flow of water. The water department controls the overall water pressure.

Main Shut-Off

The water supply to your home can be shut-off entirely in two locations. The first is at the street and the second is at the meter. We will point both of these out during your orientation.

Marble or Manufactured Marble

Marble and manufactured marble will not chip as readily as porcelain enamel but can be damaged by a sharp blow. Avoid abrasive cleansers or razor blades on manufactured marble; both damage the surface. Always mix hot and cold water at manufactured marble sinks; running only hot water can damage the sink.

Outside Faucets

Outside faucets (sillcocks) are freeze-proof, but in order for this feature to be effective, you must remove hoses during cold weather, even if the faucet is located in your garage. If a hose is left attached, the water that remains in the hose can freeze and expand back into the pipe, causing a break in the line. Repair of a broken line that feeds an exterior faucet is a maintenance item. Note that Green Valley Builders, Inc. does not warrant sillcocks against freezing.

Porcelain

You can damage porcelain enamel with a sharp blow from a heavy object or by scratching. Do not stand in the bathtub wearing shoes unless you have placed a protective layer of newspaper over the bottom of the tub. If you splatter paint onto the porcelain enamel surfaces during redecorating, wipe it up immediately. If a spot dries before you notice it, use a recommended solvent.

Running Toilet

To stop running water, check the shut-off float in the tank. You will most likely find it has lifted too high in the tank, preventing the valve from shutting off completely. In this case, gently bend the float rod down until it stops the water at the correct level. The float should be free and not rub the side of the tank or any other parts. Also check the chain on the flush handle. If it is too tight, it will prevent the rubber stopper at the bottom of the tank from sealing, resulting in running water.

Shut-Offs

Your main water shut-off is located near your meter. You use this shut-off for major water emergencies such as a water line break or when you install a sprinkler system or build an addition to your home. Each toilet has a shut-off on the water line under the tank. Hot and cold shut-offs for each sink are on the water lines under the sink.

Sprinklers

You should routinely inspect sprinkler heads and provide seasonal service to maintain proper functioning.

See also Landscaping/Sprinkler.

Stainless Steel

Clean stainless steel sinks with soap and water to preserve their luster. Avoid using abrasive cleaners or steel wool pads; these will damage the finish. Prevent bleach from coming into prolonged contact with the sink as it can pit the surface. An occasional cleaning with a good stainless steel cleaner will enhance the finish. Rub in the direction of the polish or grain lines and dry the sink to prevent water spots.

Avoid leaving produce on a stainless steel surface, since prolonged contact with produce can stain the finish. Also avoid using the sink as a cutting board; sharp knives will gouge the finish.

Local water conditions affect the appearance of stainless steel. A white film can develop on the sink if you have over-softened water or water with a high concentration of minerals. In hard water areas, a brown surface stain can form appearing like rust.

Tank Care

Avoid exposing the toilet to blows from sharp or heavy objects, which can cause chipping or cracking. Avoid abnormal pressures against the sides of the tank. It is possible to crack the tank at the points where it is attached to the bowl.

Water Filter or Softener

If you install either a water filter or a water softener, carefully read the manufacturer's literature and warranty for your specific model.

If your home includes a septic system, prior to installing a water softener, discuss with the vendor whether the system you are considering will adversely affect your septic system.

See also Septic System.

TROUBLESHOOTING TIPS: PLUMBING

No Water Anywhere in the Home

Before calling for service, check to confirm that the:

- ☐ Main shut off on the meter inside your home is open.
- ☐ Main shut off at the street is open.
- ☐ Individual shut-offs for each water-using item are open.

No Hot Water

See Water Heater

Leak Involving One Sink, Tub, or Toilet

- ☐ Check caulking and grout.
- ☐ Confirm shower door or tub enclosure was properly closed.
- ☐ Turn water supply off to that item.
- ☐ Use other facilities in your home and report problem on next business day.

Leak Involving a Main Line

- ☐ Turn water off at the meter in your home.
- ☐ Call emergency number for service.

Back Up at One Toilet

If only one toilet is affected, corrections occur during normal business hours.

- ☐ Shut off the water supply to the toilet involved.
- ☐ Use a plunger to clear the blockage.
- ☐ Use a snake to clear the blockage.
- ☐ If you've been in your home fewer than 30 days, contact Green Valley Builders, Inc. or the plumber listed on your Emergency Phone Numbers sheet.
- ☐ If you've been in your home over 30 days, contact a router service.

Sewer Back Up Affecting Entire Home

- ☐ If you've been in your home fewer than 30 days, contact Green Valley Builders, Inc. or the plumber listed on your Emergency Phone Numbers sheet.
- ☐ If you've been in your home over 30 days, contact a router service.
- ☐ Remove personal belongings to a safe location. If items are soiled, contact your homeowner insurance company.

Even if the troubleshooting tips do not identify a solution, the information you gather will be useful to the service provider you call.

Green Valley Builders, Inc. Limited Warranty Guidelines

During the orientation we will confirm that all plumbing fixtures are in acceptable condition and are functioning properly, and that all faucets and drains operate freely.

Clogged Drain

Green Valley Builders, Inc. will correct clogged drains that occur during the first 30 days after closing. If a household item is removed from a clogged drain during this time, we will bill you for the drain service. After the first 30 days, you are responsible for correcting clogged drains.

Cosmetic Damage

Green Valley Builders, Inc. will correct any fixture damage noted on the orientation list. Repairing chips, scratches, or other surface damage noted subsequent to the orientation list is your responsibility.

Exterior Faucets

Green Valley Builders, Inc. will repair leaks at exterior faucets noted on the orientation list. Subsequent to orientation, repair of a broken line to an exterior faucet is your responsibility.

Freezing Pipes

Provided the home is heated at a normal level, pipes should not freeze. Set heat at 55 degrees F if you are away during winter months. Keep garage doors closed to protect plumbing lines that run through this area.

Leaks

Green Valley Builders, Inc. will repair leaks in the plumbing system. If a plumbing leak caused by a warranted item results in drywall or floor covering damage, Green Valley Builders, Inc. will repair or replace items that were part of the home as originally purchased. We do not make adjustments for secondary damages (for example, damage to wallpaper, drapes, and personal belongings). Insurance should cover these items.

Noise

Changes in temperature or the flow of the water itself will cause some noise in the pipes. This is normal and requires no repair. Green Valley Builders, Inc. will repair persistent water hammer. Expect temperatures to vary if water is used in more than one location in the home at the exact same time.

Water Supply

Green Valley Builders, Inc. will correct construction conditions that disrupt the supply of water to your home if they involve service from the main water supply to your home, provided actions of yours have not caused the problem. Disruption of service due to failure of the water department system is the responsibility of the water department to correct.

Property Boundaries

Homeowner Use and Maintenance Guidelines

At closing you will receive a copy of a survey that shows your lot and the location of your home on the lot. To construct the home Green Valley Builders, Inc. established the property boundaries and corners.

During construction, some of the monuments that mark the lot corners may be affected or covered up by grading, excavation, installation of utility lines and other typical construction activities. If you wish to install a fence, swimming pool, add a deck or patio to your home, or otherwise establish a permanent structure, we advise that you have professional surveyors locate and mark property boundaries to be certain they are accurate and you have found all corners.

See also Easements.

Railings

Homeowner Use and Maintenance Guidelines

Stained or wrought iron railings in your home require little maintenance beyond occasional dusting or polishing. Protect railings from sharp objects or moisture. Cover them during move-in so large pieces of furniture do not cause dents or scratches.

Stained railings will show variation in the way the wood grain took the stain. Some designs show seams where pieces of wood came together to form the railing.

Green Valley Builders, Inc. Limited Warranty Guidelines

During the orientation we will confirm that all railings are in good condition. Green Valley Builders, Inc. installs railings in positions and locations to comply with applicable building codes. Railings should remain securely attached with normal use.

Resilient Flooring

Homeowner Use and Maintenance Guidelines

Although resilient floors are designed for minimum care, they do have maintenance needs. Follow any manufacturer's specific recommendations for care and cleaning. Some resilient floors require regular application of a good floor finish. This assures you of retaining a high gloss. However, avoid using cleaning or finishing agents on the new floor until the adhesive has thoroughly set. This will take about two weeks.

Color and Pattern

Your color selection sheets provide a record of the brand, style, and color of floor coverings in your home. Please retain this information for future reference.

Limit Water

Wipe up spills and vacuum crumbs instead of washing resilient floors frequently with water. Limit mopping or washing with water; excessive amounts of water on resilient floors can penetrate seams and get under edges, causing the material to lift and curl.

Moving Furniture

Moving appliances across resilient floor covering can result in tears and wrinkles. Install coasters on furniture legs to prevent permanent damage. If you damage the resilient floor, you can have it successfully patched by professionals. If any scraps remain when installation of your floor covering is complete, we leave them in the hope that having the matching dye lot will make such repairs less apparent.

No-Wax Flooring

The resilient flooring installed in your home is the no-wax type. No-wax means a clear, tough coating that provides both a shiny appearance and a durable surface. However, even this surface will scuff or mark. Follow the manufacturer's recommendations for maintaining the finish.

Raised Nail Heads

Raised nail heads are the result of movements of the floor joist caused by natural shrinkage and deflection. We have used special nails and glued the underlayment to help minimize this movement. If a nail head becomes visible through resilient flooring, place a block of wood over it and hit the block with a hammer to reset the nail.

Scrubbing and Buffing

Frequent scrubbing or electric buffing is harder on floors than regular foot traffic. Use acrylic finishes if you scrub or buff.

Seams

Any brand or type of resilient flooring may separate slightly due to shrinkage. Seams can lift or curl if excessive moisture is allowed to penetrate them. You can use a special caulking at tub or floor joints to seal seams at those locations. Avoid getting large amounts of water on the floor from baths and showers.

Green Valley Builders, Inc. Limited Warranty Guidelines

We will confirm that resilient floor covering is in acceptable condition during your orientation. Green Valley Builders, Inc. limited warranty does not cover damage to resilient floors caused by moving furniture or appliances into the home. We can assist you in contacting professionals who can repair such damage if it occurs in your home. Green Valley Builders, Inc. is not responsible for discontinued selections.

Adhesion

Resilient floor covering should adhere. Green Valley Builders, Inc. will repair lifting or bubbling and nail pops that appear on the surface.

Ridges

Green Valley Builders, Inc. has sanded and filled the joints of underlayment to minimize the possibility of ridges showing through resilient floor coverings. Ridging is measured by centering a 6-inch straight edge perpendicular to the ridge with one end tight to the floor. If the opposite end of the straight edge is 1/8 inch or more from the floor, Green Valley Builders, Inc. will repair this condition.

Seams

Seams will occur and are sealed at the time of installation. Green Valley Builders, Inc. will correct gaps in excess of 1/16 inch where resilient flooring pieces meet or 1/8 inch where resilient flooring meets another material. Green Valley Builders, Inc. will correct curling at seams unless caused by excessive water.

Roof

Homeowner Use and Maintenance Guidelines

The shingles on your roof do not require any treatment or sealer. The less activity your roof experiences, the less likely it is that problems will occur.

Clean Gutters

Maintain the gutters and downspouts so that they are free of debris and able to quickly drain precipitation from the roof.

Ice Dam

On occasion, depending on conditions and exposure, as rising heat from inside your home melts snow on the roof, the water runs down and when it reaches the cold eaves, it may freeze. An accumulation of this type of ice dams the subsequent runoff and the water begins to back up, sometimes working its way up and under shingles, ultimately leading into your home through windows or ceilings.

If your home design or orientation makes it vulnerable to this occurrence, you may want to install an electric gutter heater strip in the susceptible areas.

Leaks

If a leak occurs, try to detect the exact location. This will greatly simplify finding the area that requires repair when the roof is dry.

Limit Walking

Limit walking on your roof. Your weight and movement can loosen the roofing material and in turn result in leaks. Never walk on the roof of your home when the shingles are wet—they are slippery.

Severe Weather

After severe storms, do a visual inspection of the roof for damages. Notify your insurance company if you find pieces of shingle in the yard or shingle edges lifted on the roof.

TROUBLESHOOTING TIPS: ROOF LEAK

Please keep in mind that roof leaks cannot be repaired while the roof is wet. However, you can get on the schedule to be in line when conditions dry out, so do call in your roof leak.

- ☐ Confirm the source of the water is the roof rather than from a
 - Plumbing leak
 - Open window on a higher floor
 - Ice dam
 - Clogged gutter or downspout
 - Blowing rain or snow coming in through code required roof vents
 - Gap in caulking
- ☐ Where practical, place a container under dripping water.
- ☐ If a ceiling is involved, use a screwdriver to poke a small hole in the drywall to release the water.
- ☐ Even if the troubleshooting tips do not identify a solution, the information you gather will be useful to the service provider you call.
- ☐ Remove personal belongings to prevent damage to them. If damage occurs, contact your homeowner insurance company to submit a claim.
- ☐ Report the leak to Green Valley Builders, Inc. during first available business hours.

Green Valley Builders, Inc. Limited Warranty Guidelines

Green Valley Builders, Inc. will repair roof leaks other than those caused by severe weather, such as hail damage, or some action you have taken, such as walking on the roof. Roof repairs are made only when the roof is dry.

Ice Dam

An ice build-up (ice dam) may develop in the eaves during extended periods of cold and snow. Your homeowner insurance may cover this damage which is excluded from warranty.

Inclement Weather

Storm damage is excluded from warranty coverage. Notify your homeowner insurance company if storm damage is discovered.

Rough Carpentry

Green Valley Builders, Inc. Limited Warranty Guidelines

Some floor and stair squeaks are unavoidable. Although Green Valley Builders, Inc. does not warrant against floor squeaks, a reasonable effort will be made to correct them.

Floor Deflection

Floors will deflect (bend) when walked on. This will be more noticeable next to hutches, bookcases, pianos, chairs, and other heavy furniture. This is not a structural deficiency and Green Valley Builders, Inc. will take no action for this occurrence.

Floor Level

Floors will be level to within 1/4 inch within any 32-inch distance as measured perpendicular to any ridge or indentation. Green Valley Builders, Inc. will correct floor slope that exceeds 1/240 of the room.

Plumb Walls

Green Valley Builders, Inc. will correct walls that are out of plumb more than 1/2 inch in an 8-foot distance or walls that are bowed more than 1/4 inch in any 32-inch measurement.

Shower Doors or Tub Enclosures

Homeowner Use and Maintenance Guidelines

Shower doors and tub enclosures require minimal care. Using a squeegee to remove water after a bath or shower will keep mineral residue and soap film to a minimum. A coating of wax can also help prevent build up of minerals and soap.

Use cleaning products suggested by the manufacturer to avoid any damage to the trim and hardware.

Avoid hanging wet towels on corners of doors; the weight can pull the door out of alignment and cause it to leak.

Check and touch-up caulking on an as needed basis.

Green Valley Builders, Inc. Limited Warranty Guidelines

During your orientation we will confirm the good condition of all shower doors and tub enclosures. Green Valley Builders, Inc. warrants that shower doors and tub enclosures will function according to manufacturer specifications.

Siding

Homeowner Use and Maintenance Guidelines

Siding expands and contracts in response to changes in humidity and temperature. Slight waves are visible in siding under moist weather conditions; shrinkage and separations will be more noticeable under dry conditions. These behaviors cannot be entirely eliminated.

Wood and Wood Products

Wood or wood-product siding will require routine refinishing. The timing will vary with climatic conditions. Maintain caulking to minimize moisture entry into the siding. Note that some paint colors will require more maintenance than others and some sides of the home may show signs of wear sooner based on their exposure to the elements. Some wood siding, such as cedar, is subject to more cracking and will require more maintenance attention.

Vinyl

Vinyl siding will occasionally require cleaning. Start at the top to avoid streaking and use a cleaning product recommended by your siding manufacturer. Follow directions carefully.

Cement Based Products

Cement based siding will require repainting and caulking just as wood products do.

See also Paint and Wood Trim.

Green Valley Builders, Inc. Limited Warranty Guidelines

Green Valley Builders, Inc. warrants all siding to be free of defects in material and workmanship. We will confirm the good condition of the siding during your orientation. Subsequent damage to the siding will be by your responsibility to repair.

Green Valley Builders, Inc. will caulk and apply touch-up paint to cracks that exceed 3/16 inch. We provide this repair one time only near the end of the first year. Paint or stain touch-up will not match.

We will correct any separation at joints or where siding meets another material if the separation allows water to enter the home. Green Valley Builders, Inc. will correct delaminating siding.

Smoke Detectors

Homeowner Use and Maintenance Guidelines

Read the manufacturer's manual for detailed information on the care of your smoke detectors.

Battery

If a smoke detector makes a chirping sound that is a sign that the battery needs to be replaced. Follow manufacturer instructions for installing a new battery. Most smoke detectors use a 9 volt battery.

Cleaning

For your safety, clean each smoke detector monthly to prevent a false alarm or lack of response in a fire. After cleaning, push the test button to confirm the alarm is working.

Locations

Smoke detectors are installed in accordance with building codes, which dictate locations. Green Valley Builders, Inc. cannot omit any smoke detector and you should not remove or disable any smoke detector.

Green Valley Builders, Inc. Limited Warranty Guidelines

Green Valley Builders, Inc. does not represent that the smoke detectors will provide the protection for which they are installed or intended. We will test smoke detectors during the orientation to confirm that they are working and to familiarize you with the alarm. You are responsible for obtaining fire insurance.

Stairs

Homeowner Use and Maintenance Guidelines

No known method of installation prevents all vibration or squeaks in a staircase. A shrinkage crack will develop where the stairs meet the wall. When this occurs, apply a thin bead of latex caulk and, when dry, touch up with paint.

Green Valley Builders, Inc. Limited Warranty Guidelines

Although Green Valley Builders, Inc. does not warrant against stair vibration and squeaks, a reasonable effort will be made to correct them.

Termites

Homeowner Use and Maintenance Guidelines

We treat the foundation of your home for termites and provide you with a certificate confirming that treatment. Plan to renew this treatment annually or as directed by the literature that accompanies the certificate. Treatment for other types of insects or animal infestations is your responsibility.

Regular Inspections

Regularly inspect your home for signs of termites or conditions that would allow their attack.

- ∞ Check for wrinkles or waves in wood trim.
- ∞ Tap wood to see if it sound or feels hollow.
- ∞ Inspect under the carpet tack strip by lifting the edge of carpet in the corner of a room. The tack strip is untreated and provides a convenient path for termites through your home.
- ∞ Watch for tubes of dirt, called mud tubes, that extend from the soil up to your home.
- ∞ Keep soil away from any wood parts of your home.
- ∞ Be certain all roof water and precipitation moves quickly away from your home's foundation.
- ∞ Avoid storing wood on the ground and against your home.
- ∞ Maintain a safe zone of at least two feet in width around the perimeter of your home. Avoid planting grass or shrubs, installing any sprinkler device, or digging of any kind in this area. If you disturb this area, have it re-treated to restore protection.
- ∞ Before installing stepping stones, river rock, concrete, or so on, against the home, chemically treat the area that will be underneath the new material.
- ∞ If you add onto or change the exterior of your home, be sure to have the areas treated first.

If you believe you see signs of termites or if you have any questions, contact your termite treatment company for guidance.

Green Valley Builders, Inc. Limited Warranty Guidelines

We certify treatment of your foundation for termites at closing. This is our final action for termites. Green Valley Builders, Inc. warranty excludes treatment for any other insect (such as ants) or animal (such as mice) infestations.

Ventilation

Homeowner Use and Maintenance Guidelines

Homes today are built more tightly than ever. This saves energy dollars but creates a potential concern. Condensation, cooking odors, indoor pollutants, radon, and carbon monoxide may all accumulate. We provide mechanical and passive methods for ventilating homes. Your attention to ventilation is important to health and safety. Building codes require attic and crawl space vents to minimize accumulation of moisture.

Attic Vents

Attic ventilation occurs through vents in the soffit (the underside of the overhangs) or on gable ends. Driving rain or snow sometimes enters the attic through these vents. Do not cover them to prevent this. Instead, cover the insulation in front of the vent. When you do this, precipitation that blows in safely evaporates and ventilation can still occur.

Crawl Space Vents

Green Valley Builders, Inc. builds unvented crawlspaces. We build them with the idea that no water or moisture will enter the crawl space.

Daily Habits

Your daily habits can help keep your home well ventilated:

- ∞ Do not cover or interfere in any way with the fresh air supply to your furnace.
- ∞ Develop the habit of running the hood fan when you are cooking.
- ∞ Ditto the bath fans when bathrooms are in use.
- ∞ Air your house by opening windows for a time when weather permits.

Proper ventilation will prevent excessive moisture from forming on the inside of the windows. This helps reduce cleaning chores considerably.

Green Valley Builders, Inc. Limited Warranty Guidelines

Green Valley Builders, Inc. warranty guidelines for active components (for example, exhaust fans) are discussed under the appropriate headings (such as electrical systems, heating system, and so on).

Water Heater: Electric

Homeowner Care and Maintenance

Carefully read the manufacturer's literature and warranty for your specific model of water heater.

Drain Tank

Review and follow the manufacturer's timetable and instructions for draining several gallons of water from the bottom of the water heater. This reduces build-up of chemical deposits from the water, thereby prolonging the life of the tank as well as saving energy dollars. Also drain the tank if it is being shut down during periods of freezing temperatures. Carefully follow the instructions in the manufacturer's literature.

Element Cleaning or Replacement

The heating elements in the water heater will require periodic cleaning. The frequency is determined in part by the quality of the water in your area. Again, refer to the manufacturer’s literature for step-by-step instructions and drawings, or contact an authorized service company.

Pressure Relief Valve

At least once each year, manually operate the pressure relief valve. Stay clear of the discharge line to avoid injury. See manufacturer's literature for diagrams and detailed instructions.

Safety

Keep the area around a water heater clear of stored household items. Never use the top of the water heater as a storage shelf.

Temperature

Temperature settings on an electric water heater will produce approximately the temperatures listed below:

Hot	120 degrees F
A	130 degrees F
B	140 degrees F
C	150 degrees F
Very Hot	160 degrees F

The recommended setting for operation of a dishwasher is B, or 140 degrees. Higher settings can waste energy dollars and increase the danger of injury from scalding. Hot water will take longer to arrive at sinks, tubs, and showers that are farther from the water heater.

TROUBLE SHOOTING TIPS: NO HOT WATER

Before calling for service, check to confirm that the

- ∞ Water heater breaker on your main electric panel is in the on position. (Remember if a breaker trips you must turn it from the tripped position to the off position before you can turn it back on.)
- ∞ Temperature setting is not on “vacation” or too low.
- ∞ Water supply valve is open.

Refer to the manufacturer's literature for specific locations of these items and possibly other troubleshooting tips.

Even if the trouble shooting tips do not identify a solution, the information you gather will be useful to the service provider you call.

Green Valley Builders, Inc. Limited Warranty

Refer to the manufacturer's limited warranty for complete information regarding warranty coverage on your water heater.

Water Heater: Gas

Rinnai Upgrade: Please refer to information from manufacturer.
You will notice the units fan turning on as a function of the hot water being used in the house. This fan can remain running for up to 2 minutes after the hot water is shut off

Homeowner Use and Maintenance Guidelines

Carefully read and follow the manufacturer's literature for your specific model of water heater.

Condensation

Condensation inside your new water heater may drip onto the burner flame. This causes no harm and in most cases will disappear in a short period of time.

Drain Tank

Review and follow manufacturer's timetable and instructions for draining several gallons of water from the bottom of the water heater. This reduces the build-up of chemical deposits from the water, prolonging the life of the tank and saving energy dollars.

Pilot

Never light a gas pilot when the water heater tank is empty. Always turn off the gas before shutting off the cold water supply to the tank.

To light the water heater pilot, first remove the cover panel on the tank to expose the pilot. Then rotate the on-off-pilot knob to the pilot position. When the knob is in this position, the red button can be depressed.

While depressing the red button, hold a match at the pilot. Once the pilot lights, continue to hold the red button down for 30 to 60 seconds. When you release the red button, the pilot should stay lit. If it does not, wait several minutes to allow the gas to dissipate from the tank and repeat the entire process. If it stays lit, rotate the on-off pilot knob to the on position.

Reinstall the cover panel and then adjust the temperature setting with the regulating knob on the front of the tank.

Water heaters sometimes collect small quantities of dirty water and scale in the main gas lines, which may put out the pilot light.

While away from home for an extended period of time, set the temperature to its lowest point and leave the pilot lit.

Safety

Vacuum the area around a gas-fired water heater to prevent dust from interfering with proper flame combustion. Avoid using the top of a heater as a storage shelf.

Temperature

The recommended thermostat setting for normal everyday use is "normal." Higher settings can result in wasted energy dollars and increase the danger of injury from scalding. Hot water will take longer to arrive at sinks, tubs, and showers that are farther from the water heater.

TROUBLESHOOTING TIPS: NO HOT WATER

Before calling for service, check to confirm that the:

- ∞ Pilot is lit. (Directions will be found on the side of the tank.)
- ∞ Temperature setting is not on "vacation" or too low.
- ∞ Water supply valve is open.

Refer to the manufacturer's literature for specific locations of these items and possibly other troubleshooting tips.

Even if the trouble shooting tips do not identify a solution, the information you gather will be useful to the service provider you call.

Green Valley Builders, Inc. Limited Warranty Guidelines

Refer to the manufacturer's limited warranty for information regarding coverage of the water heater.

See also Plumbing

Windows, Screens, and Sliding Glass Doors

Homeowner Use and Maintenance Guidelines

Contact a glass company for reglazing of any windows that break. Glass is difficult to install without special tools.

Acrylic Block

Clean during moderate temperatures with only a mild soap and warm water using a sponge or soft cloth and dry with a towel. Avoid abrasive cleaners, commercial glass cleaner, razors, brushes, or scrubbing devices of any kind. Minor scratches can often be minimized using by rubbing a mild automotive polish.

Aluminum

Clean aluminum metal surfaces with warm, clear water. Do not use powdered cleaner. After each cleaning, apply a silicone lubricant. Clean glass as needed with vinegar and water, a commercial glass cleaner, or the product recommended by the window manufacturer.

Condensation

Condensation on interior surfaces of the window and frame is the result of high humidity within the home and low outside temperatures. Your family’s lifestyle controls the humidity level within your home. If your home includes a humidifier, closely observe the manufacturer's directions for its use.

Screen Storage and Maintenance

Many homeowners remove and store screens for the winter to allow more light into the home. To make re-installation more convenient, label each screen as you remove it. Use caution: screens perforate easily and the frames bend if they are not handled with care. Prior to re-installing the screen, clean them with a hose and gentle spray of water.

Sills

Window sills in your home are made of wood, wood product, man-made marble, or marble. The most common maintenance activity is dusting. Twice a year, check caulking and touch-up as needed. Wax is not necessary but can be used to make sills gleam. Protect wood and wood product sills from moisture. If you arrange plants on a sill, include a plastic tray under the pot.

Sliding Glass Doors

Sliding glass doors are made with tempered glass which is more difficult to break than ordinary glass. If broken, tempered glass breaks into small circular pieces rather than large splinters which can easily cause injury.

Keep sliding door tracks clean for smooth operation and to prevent damage to the door frame. Silicone lubricants work well for these tracks. Acquaint yourself with the operation of sliding door hardware for maximum security.

Under certain lighting conditions, door glass may be hard to see. If you keep the screen fully closed when the glass door is open, your family will be accustomed to opening something before going through. You may want to apply a decal to the glass door to make it readily visible.

Sticking Windows

Most sliding windows (both vertical and horizontal) are designed for a 10-pound pull. If sticking occurs or excessive pressure is required to open or close a window, apply a silicone lubricant. This is available at hardware stores. Avoid petroleum-based products.

Tinting

Applying tinting or foil lining to dual pane windows can result in broken windows due to heat build-up. Some manufacturers void their warranty on the windows if you apply tinting or foil lining. Contact the manufacturer to check on their current policy before you apply such coatings.

Weep Holes

In heavy rains, water may collect in the bottom channel of window frames. Weep holes are provided to allow excess water to escape to the outside. Keep the bottom window channels and weep holes free of dirt and debris for proper operation.

Green Valley Builders, Inc. Limited Warranty Guidelines

We will confirm that all windows, screens, and sliding glass doors are in acceptable condition during the orientation. Green Valley Builders, Inc. will repair or replace broken windows or damaged screens noted on the orientation list. Windows should operate with reasonable ease and locks should perform as designed. If they do not, Green Valley Builders, Inc. will provide adjustments.

Condensation

Condensation on interior surfaces of the window and frame is the result of high humidity within the home and low outside temperatures. You influence the humidity level within your home; Green Valley Builders, Inc. provides no corrective measure for this condition.

Condensation that accumulates between the panes of glass in dual-glazed windows indicates a broken seal. Green Valley Builders, Inc. will replace the window if this occurs during the warranty period.

Infiltration

Some air and dust will infiltrate around windows, especially before the installation of landscaping in the general area. Green Valley Builders, Inc. warranty excludes this occurrence.

Scratches

Green Valley Builders, Inc. confirms that all window glass is in acceptable condition at the orientation. Minor scratches on windows can result from delivery, handling, and other construction activities. Green Valley Builders, Inc. will replace windows that have scratches readily visible from a distance of 4 feet. Green Valley Builders, Inc. does not replace windows that have scratches visible only under certain lighting conditions.

Tinting

If you add tinting to dual-glazed windows, all warranties are voided. Damage can result from condensation or excessive heat build-up between the panes of glass. Refer to the manufacturer's literature for additional information.

See also Ventilation

Wood Trim

Homeowner Use and Maintenance Guidelines

Shrinkage of wood trim occurs during the first two years or longer, depending on temperature and humidity. All lumber is more vulnerable to shrinkage during the heating season. Maintaining a moderate and stable temperature helps to minimize the effects of shrinkage. Wood will shrink less lengthwise than across the grain. Wood shrinkage can result in separation at joints of trim pieces. You can usually correct this with caulking and touch-up painting.

Shrinkage may also cause a piece of trim to pull away from the wall. If this occurs, drive in another nail close to, but not exactly in, the existing nail hole. Fill the old nail hole with putty and touch up with paint as needed. If the base shoe (small trim between base molding and the floor) appears to be lifting from the floor, this is probably due to slight shrinkage of the floor joists below. Again, you can correct this condition by removing the old nails and renailing. You may prefer to wait until after the first heating season to make any needed repairs at one time when redecorating.

See also Expansion and Contraction

Green Valley Builders, Inc. Limited Warranty Guidelines

During the orientation we will confirm that wood trim is in acceptable condition. Minor imperfections in wood materials will be visible and will require no action. Green Valley Builders, Inc. will correct readily noticeable construction damage such as chips and gouges listed during the orientation.

Exterior

Green Valley Builders, Inc. will caulk and apply touch-up paint to cracks in exterior trim components that exceed 3/16 inch. We provide this repair one time only near the end of the first year. Paint or stain touch-up will not match. We will correct any separation at joints that allows water to enter the home.

Raised Grain

Because of the effects of weather on natural wood, you should expect raised grain to develop. This is normal and not a defect in the wood or paint. Warranty coverage excludes this condition.



Building an EarthCraft House™

EarthCraft House recognizes that there are many ways to reduce pollution and the waste of natural resources when building. EarthCraft House gives home builders great flexibility by providing a point system. Builders can earn the necessary points by choosing the measures most practical for their specific homes.

As environmental building products and techniques constantly change, the EarthCraft House Technical Guidelines cannot be all inclusive nor always reflect the latest building science theory. Under the Innovative Points section, builders may submit measures which are not included in these guidelines. The EarthCraft House Technical Guidelines are intended to illustrate broad design and construction guidelines and are not to be used as design or construction specifications. These guidelines are not intended to substitute for manufacturer’s installation, or use recommendations, or building codes. However, the EarthCraft House Technical Guidelines often exceed the minimum requirements of a product manufacturer, installer, or building code.

Version November, 2006

These guidelines highlight all the requirements for the EarthCraft House single-family residential program. In addition, EarthCraft Multi-family guidelines are included and are keyed with the letter “M” in a black box throughout the publication. Multi-family builders should note that these guideline entries overlap and are in addition to the single-family residential program components.

M = Multifamily guideline



This document was printed by the FHLBank Atlanta.

FHLBank Atlanta serves the economic and housing needs of families by providing member financial institutions with flexible funding options for development initiatives. FHLBank Atlanta assists community lenders by providing technical assistance in addition to low-cost money. The Bank helps local lenders make loans they could not make otherwise, often because of a lack of funding resources.



The EarthCraft House program is a voluntary green building program for the Southeastern region of the United States that serves as a blueprint for healthy, comfortable homes that reduce utility bills and protect the environment. Any size and type of home can be certified EarthCraft House by following the technical guidelines in the program. The guidelines are flexible enough to allow for a variety of approaches to environmental construction. The program was created in 1999 as a partnership between the Greater Atlanta Home Builders Association and Southface Energy Institute, and is available in many different cities in the Southeast. Please contact an EarthCraft House staff member for availability in your area.

The technical guidelines in this book apply to all new construction in the EarthCraft House program, including single-family homes, duplexes, townhomes, and low-rise apartments and condominiums. These guidelines must be used in conjunction with the appropriate EarthCraft House Worksheet. Available worksheets can be obtained from the program website or at an EarthCraft House training. Please note that there are different worksheets for single family and multi-family housing, as well as different worksheets for different geographic areas in the Southeast.

In order to join the EarthCraft House program, the builder of the home must attend a one-day training. This training includes an overview of program requirements and detailed discussions about practical techniques for improving the energy efficiency, durability, comfort, air quality, and environmental sustainability of homes. For a list of upcoming trainings, please visit the EarthCraft House Virginia website.

In order to participate in the EarthCraft Multifamily program, the development team must conduct a charrette with EarthCraft Virginia staff specific to the project pursuing certification. This charrette will allow program specifics to be discussed and a strategy for certification to be agreed upon by all stakeholders involved in the project.

As part of the EarthCraft House certification process, the builder must complete the EarthCraft House worksheet to show that the home will score enough points to qualify, and every EarthCraft House is inspected and tested by an independent third-party inspector approved by EarthCraft House Virginia.

For technical assistance or scheduling information please contact:

Low-rise multifamily and townhomes

EarthCraft Virginia
Phone: 804/225-9843
Fax: 804/343-1043
operations@earthcraftvirginia.org
www.earthcraftvirginia.org
1840 W. Broad St., Suite 200
Richmond, VA 23220

Single family new construction

Virginia Sustainable Building Network
Phone: 703/486-2966
Fax: 703/486-8213
www.vsbnn.org
P.O. Box 6539
Arlington, VA 22206

EarthCraft House Virginia Technical Guidelines
Single Family and Low-rise Multifamily Dwellings

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SITE PLANNING <i>Required: Must comply with all federal, state, and local government erosion control and tree protection measures.</i> Erosion control site plan Builder shall follow guidelines set forth in the NAHB Research Center publication, "Storm Water and Nonpoint Source Pollution Control—Guide for Builders and Developers" or Virginia Department of Conservation and Recreation's "Virginia Erosion and Sedimentation Control Handbook". Builder shall submit documentation of a site plan for erosion and sedimentation control before site is cleared or graded including contours of slopes to be cleared, location and type of erosion control measures, stormwater and sediment management systems, and a vegetative plan for temporary and permanent stabilization.   Virginia Department of Conservation & Recreation National Association of Home Builders Research Center – www.nahbrc.org. Virginia Department of Conservation and Recreation - www.dcr.virginia.gov/sw Workshop on erosion and sediment control The site supervisor shall attend the "Basic Erosion and Sediment Control in Virginia" or the "Structural and Vegetative Design for Erosion and Sediment Control" workshop offered by your local Soil and Water Conservation district. Virginia Department of Conservation and Recreation - www.dcr.virginia.gov/sw Excavated topsoil protected from erosion Builder shall have a site plan that designates topsoil areas to be protected throughout all construction activities. Protected topsoil areas shall be clearly marked and the builder shall communicate protection measures to all subcontractors. Excavated topsoils shall be protected from erosion by wind or rain with tarps or other suitable material.	
Use of redundant mulch, compost, or straw bales for erosion control In addition to required silt fencing, builder shall install mulch, compost, or straw bale berms or blankets. These additional measures shall be installed on steep slopes, locations where silt fences do not hold up, and around storm drains. For specifications on using compost for these applications, please see the University of Georgia's Cooperative Extension Service's website at www.caes.uga.edu/publications. Grind stumps and limbs for mulch Builder shall grind a minimum of 80% of all tree stumps and limbs for mulch. Mulched material cannot be buried in a landfill. Mill cleared logs A minimum of 80% of logs that meet commercial sawmill standards shall be taken to a sawmill for processing into lumber, pulp or other use. Logs cannot be buried in a landfill, burned or chipped. Building With Trees program Builder shall participate in the Building With Trees program developed by the National Arbor Day Foundation in cooperation with NAHB. Builder shall complete the Build With Trees Pledge and comply with Planning and Design, Tree Protection During Construction, and Maintenance/Long-term Care requirements of the program.  Building With Trees www.arborday.org/programs/buildingwithtrees	

Tree preservation plan A tree expert (certified arborist, or individual with a professional degree in forestry, landscape architecture or related field) shall develop a site plan prior to clearing, grading, or construction that identifies existing trees with diameter at breast height dimensions exceeding 2 inches and which designates trees to be protected during all construction activities. Tree root zones (area extending in all directions from trunk) must be protected with physical barrier. Tree Preservation Plan shall be reviewed with subcontractors and posted on job site.	Individual trees fenced at drip line No soil from clearing, grading, or construction activity shall be placed on top of any root zone for trees that are designated on a site plan to be preserved. Trees must be fenced around the drip line throughout the construction process. Fences must be firmly set-if wood fence posts are used, they must be a minimum of 2x2 lumber.
Utilities in tree root zones tunneled or hand dug Trees that are marked to be preserved on a site plan and for which utilities must pass through their root zones shall not have surface-dug trenches. Tunnels shall be dug through the root zone in order to minimize root damage (one point per tree - maximum 5 trees).	Protected tree save area A minimum of 25% of the lot must be protected from all grading and tree clearing for lots 1 acre or smaller. These points can also be taken if 25% of the land in the community is protected, even if not every lot has 25% of its area protected. Lots larger than 1 acre must protect 75% of their area in order to take these points.
<i>Tunnel to minimize root damage (top) as opposed to surface-dug trenches in root zone</i>	Tree planting Site plan shall document that a minimum of 12 trees per acre are planted. For example, if the house is built on a ½ acre lot, 6 trees must be planted. Wildlife habitat The site shall have a wildlife habitat area that is approved by the National Wildlife Federation. Wildlife habitats can be established by planting native plants or by leaving tracts of land undisturbed and protected. Native plant lists can be obtained from organizations such as the the Virginia Department of Conservation and Recreation, available online at www.state.va.us/dcr/dnh/native.htm.

M Road/vehicle protocols A vehicle washing station shall be provided in close proximity to each construction entrance and protocols describing appropriate use shall be clearly posted both at the on-site office and at the washing station. Descriptions of washing station features and construction can be found in the NPDES reference book ("Green Book") in section "Co". Protocols for road sweeping and cleaning shall also be clearly posted at the on-site construction office and the construction budget include funds for implementation of such measures during construction. M Plant materials from disturbed site areas relocated Appropriate ornamental and native plants not included within tree-save or undisturbed areas of the site shall be relocated, stored and replanted, or made available for relocation by others prior to the area being disturbed. In Virginia, the Virginia Native Plant Society may help organize such relocation efforts. Information on plant "rescues" can be found at www.vnps.org. M On-call sedimentation/erosion control personnel Developer or contractor shall provide on-call personnel for inspecting erosion control measures and repairing erosion control failures during rain events that occur during non-working hours at the site. Site should automatically be inspected by designated personnel during rain events of 1/3" or greater in any 24-hour period.	M Downstream water quality testing Testing of surface water shall be conducted following National Pollution Discharge Elimination System (NPDES) standards. Standards can be found at www.co.henrico.va.us/works/NPDES.htm. M Phase I environmental testing and remediation Conduct a Phase I Environmental Site Assessment and additional assessments if required, and provide a plan for abatement of any hazards with documentation of its proper removal.
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ENERGY EFFICIENT BUILDING ENVELOPE AND SYSTEMS

The building envelope defines the conditioned and unconditioned spaces in the house. The building envelope consists of two parts: a thermal barrier (insulation) and an air barrier (any number of materials and approaches). For instance, an unfinished basement (without carpet, drywall, etc.) where the exterior walls are insulated and air sealed shall be considered “conditioned space” for the purposes of the EarthCraft House™ program. An unfinished basement where the insulation and air barrier are in the ceiling is considered “unconditioned space.”

ENERGY STAR



www.energystar.gov

Home must be certified ENERGY STAR in compliance with guidelines set by the U.S. Environmental Protection Agency and U.S. Department of Energy. Builder must provide verification of ENERGY STAR certification upon completion of construction. House must be rated “5 star” by a certified HERS rater; this evaluation requires a blower door and a duct pressurization test plus a certified software rating. Certified HERS raters can be found on the web at www.natresnet.org.

A builder option package (BOP) is a list of construction specifications that can qualify a builder for ENERGY STAR. The following example is for Virginia, Climate Zone 4. For a list of BOPs by state and county visit www.energystar.gov. Note: all specifications must be verified in the field.

- Maximum window area: 18%
- Window U factor less than 0.40
- Window SHGC less than 0.45
- Attic R-38
- Exterior walls R-13, except for marine climates
- Floor above unheated space R-19
- Basement/Crawlspace walls R-10 continuous/ R-13 cavity
- Slab insulation R10, 2ft.
- Gas furnace greater than 90 AFUE
- Duct leakage less than 4 cfm to outdoors/100 sq.ft
- Air infiltration less than 6 ACH₅₀/~.30 ACH_{nat}
- ENERGY STAR Programmable thermostat
- 5 ENERGY STAR lights and appliances

ENERGY MEASURES

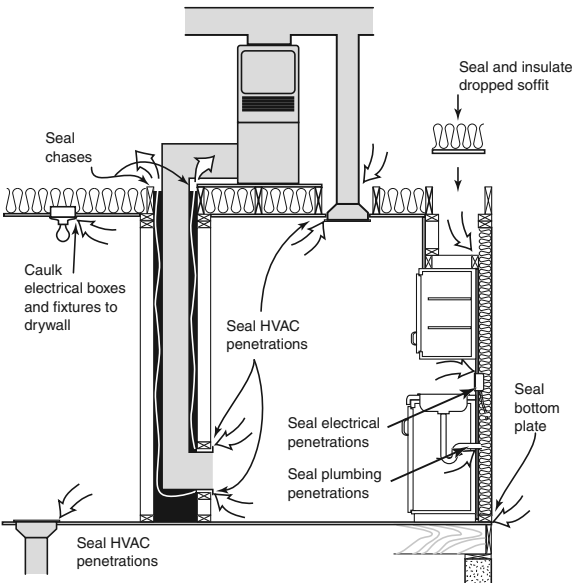
Required: Homes must meet or exceed all requirements of the 2000 International Energy Conservation Code or state energy code, whichever is more stringent. The following air sealing measures are required as part of the code.

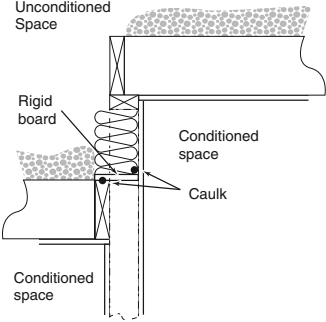
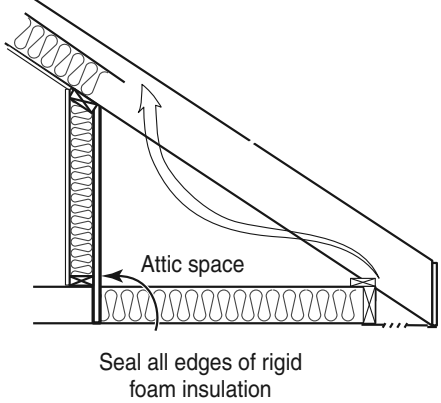
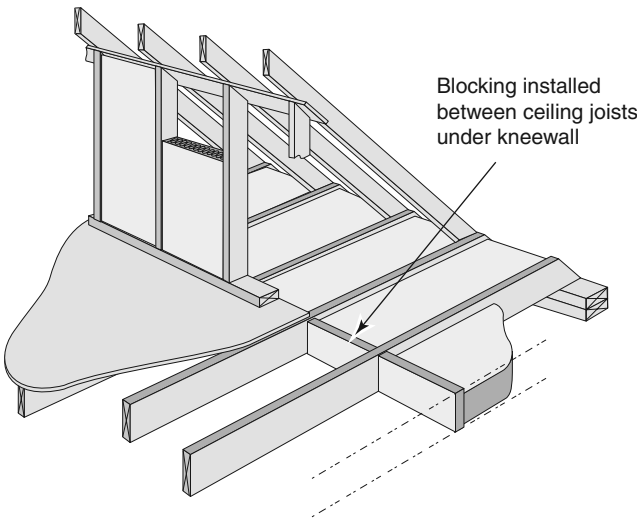
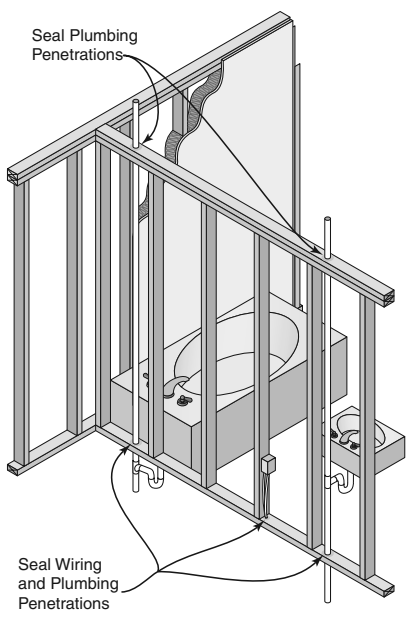
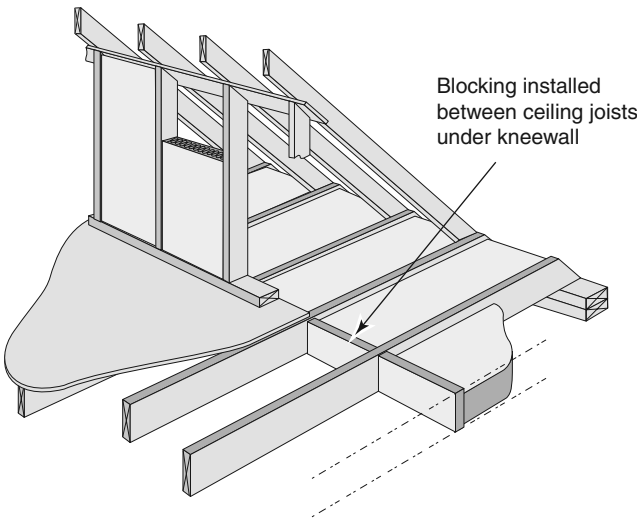
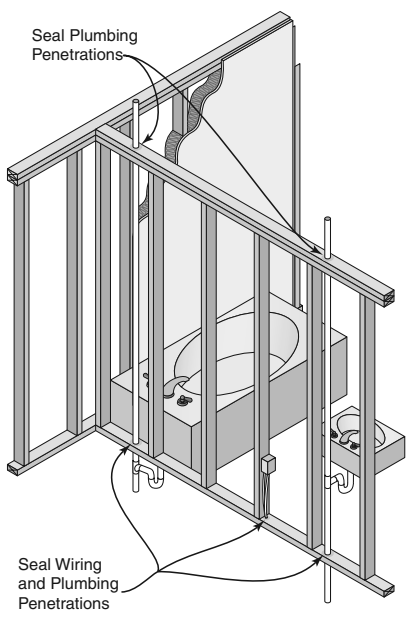
REQUIRED AIR SEALING MEASURES

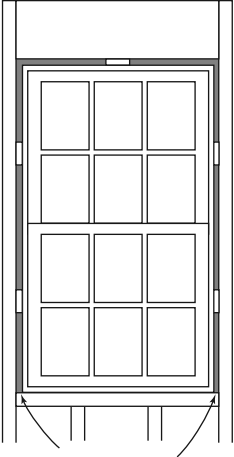
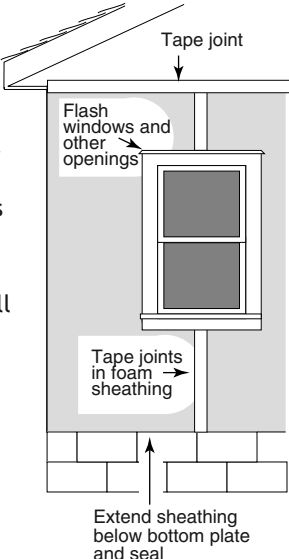
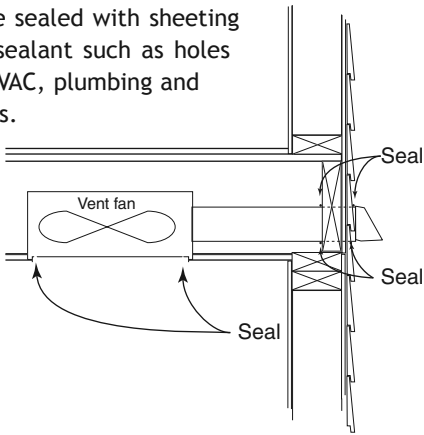
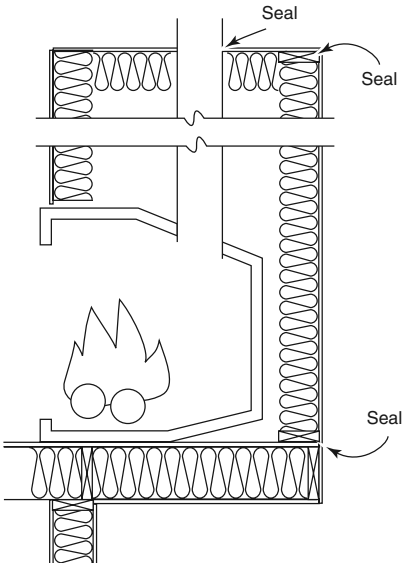
Required: Houses must meet or exceed the air sealing requirements of the Energy Code.

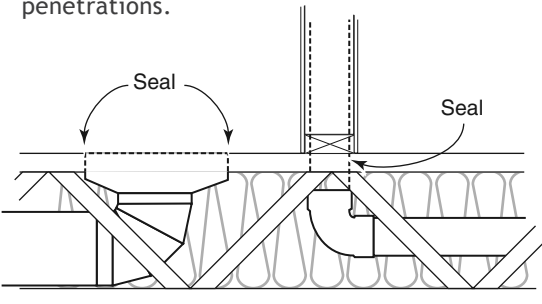
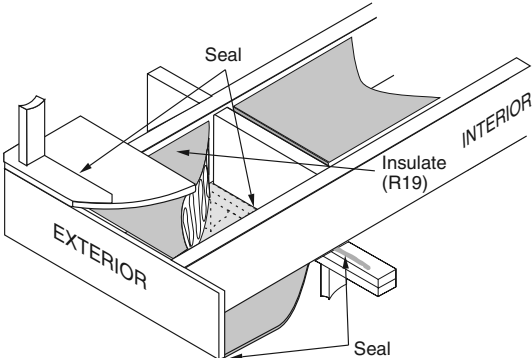
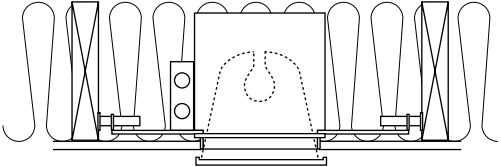
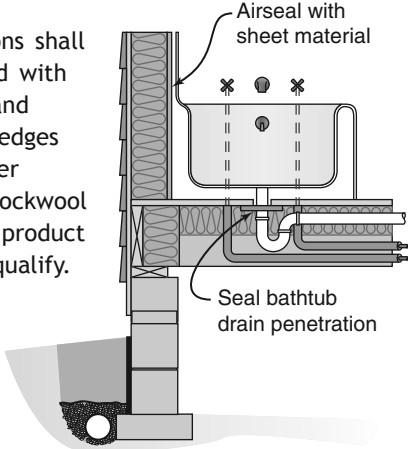
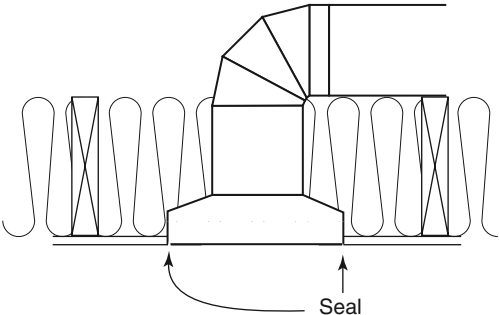
Chases sealed and insulated

Framed spaces that connect conditioned areas to unconditioned attics, basements or crawl spaces shall be sealed with sheet material and sealant. These areas include chases for plumbing, duct work, chimneys and flues. For chases with high temperature heat sources, noncombustible sheet materials, such as sheet metal and high temperature caulk, shall be used. Where the code prohibits sealing this gap (such as with fireplace flues) manufacturer-supplied sheet metal shall be used that fits the flue pipe as closely as allowed. Breaks in framing and interior finish materials, such as for dropped soffits and changing ceiling heights, that connect unconditioned and conditioned areas, shall be sealed with blocking or sheet material and sealant.



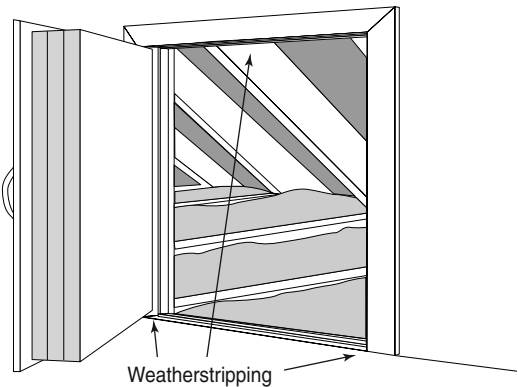
Stud cavities blocked at change in ceiling height Stud cavities shall be blocked at locations of varying ceiling height, such as in common walls between adjacent homes, to retard airflow through the wall cavities.  Attic kneewall has sealed exterior sheathing or netting for dense insulation Sheet material shall be sealed to the kneewall framing on the attic side of the kneewall to create an airtight seal using caulk or housewrap tape. Sheathing or blocking must extend down between the flat ceiling joists to seal the floor joist cavities. Sheathing on air impermeable insulation not required unless mandated by fire code.  Joist cavities under attic kneewalls blocked Sheeting material shall be installed between joist cavities underneath kneewalls and sealed at seams with proper sealant in any location in which attic air may enter the band area between conditioned floors. <td>  Blocking installed between ceiling joists under kneewall Penetrations through top and bottom plate sealed All holes in the floor assembly for plumbing, wiring, ductwork, and other purposes connecting conditioned and unconditioned (and exterior) areas shall be sealed. Penetrations for flues and other heat-producing items shall be sealed with noncombustible sheet materials and high temperature sealant.  </td>	 Blocking installed between ceiling joists under kneewall Penetrations through top and bottom plate sealed All holes in the floor assembly for plumbing, wiring, ductwork, and other purposes connecting conditioned and unconditioned (and exterior) areas shall be sealed. Penetrations for flues and other heat-producing items shall be sealed with noncombustible sheet materials and high temperature sealant. 
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Bottom plate sealed to floor or foundation Bottom plates shall be sealed to floor or foundation with a proper sealant. An optional strategy is a foam gasket beneath the bottom plate in combination with a suitable sealant. Window and door rough openings sealed The space between the framing for window or door (including attic access) rough openings and the installed units shall be sealed with non-expanding spray foam sealant, closed cell foam backer rod, spray applied insulation, or other suitable sealant. Cellulose, fiberglass or rock wool batt insulation is not acceptable as a sealant but can be used as a backing for a sealant (such as caulk). Thresholds for exterior doors shall be sealed to the subfloor.  Use backer rod to fill gaps between window and rough opening Gaps in exterior wall sheathing sealed All gaps in exterior sheathing, such as seams between adjacent sheets, shall be sealed with a proper sealant. All penetrations, such as holes drilled for condensation lines and utility boxes, shall be sealed with an expanding spray foam or equivalent.  Tape joint Flash windows and other openings Tape joints in foam sheathing Extend sheathing below bottom plate and seal	Sheathing penetrations sealed All sheathing penetrations including condensation lines, electrical outlets and locations with broken or missing sheathing shall be sealed with sheathing and a proper sealant. Penetrations through band sealed All penetrations through the band area shall be sealed with sheathing and proper sealant such as holes drilled for HVAC, plumbing and electric lines.  Seal Seal Seal Exterior walls of fireplace chase sealed All exterior walls of fireplaces shall be sealed with proper sealant and where permissible, a proper sealant shall be used at the junction between sheathing and flue pipe and comply with the fire code and the manufacturer's specifications.  Seal Seal Seal
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Penetrations through insulated subfloor sealed All penetrations through insulated floor systems over unconditioned areas (such as basements, crawlspaces, and garages) must be need sealed including duct, electrical and plumbing penetrations. 	 Air seal and insulate cantilevered floors. All recessed can lights in insulated ceilings must be air tight and IC rated Recessed lights in ceilings with an unconditioned area above must meet the Energy Code specification (2000 IECC section 502.1.3 section 1 or 3) for air tightness and must be Insulation Contact (IC) rated. 
Shower and tub drain sealed Plumbing penetrations shall be blocked with sheeting and sealed at edges with proper sealant. Rockwool or similar product does not qualify. 	Penetrations through insulated ceilings sealed (including HVAC boots) All penetrations through insulated ceilings shall be sealed with a proper sealant including HVAC boots, bathroom fans, light fixtures, security, and audio speakers. 
Cantilevered floor sealed above supporting wall For floors with conditioned area over unconditioned open areas, the floor joist cavity shall be sealed with sheet material or blocking and sealant above the top plate of the supporting wall and insulated to minimum R19, either with batt insulation between floor joists or with a combination of joist insulation and insulated sheathing on underside of floor joist.	

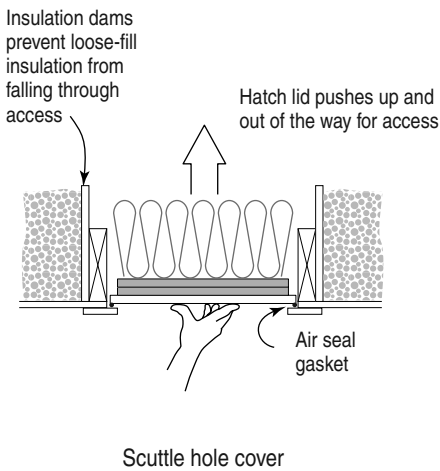
Attic kneewall doors and scuttle holes weather-stripped

Doors in kneewalls that connect conditioned space to unconditioned attic areas shall be weatherstripped and latched to provide an airtight seal against the door trim and wall drywall (EarthCraft House recommends insulation on attic access doors).



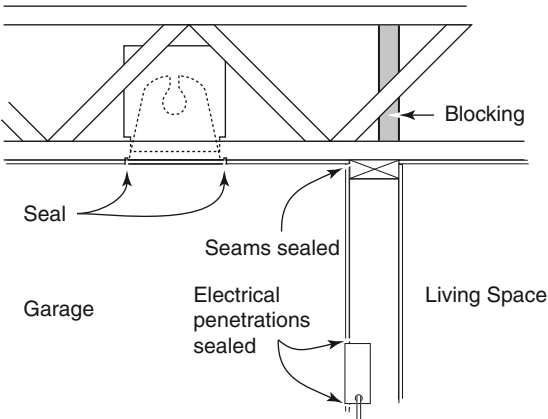
Attic pull-down stairs, scuttle holes and kneewall doors sealed at rough openings

Attic scuttle holes that are located in conditioned space shall be weatherstripped to provide an airtight seal against the ceiling trim and drywall.



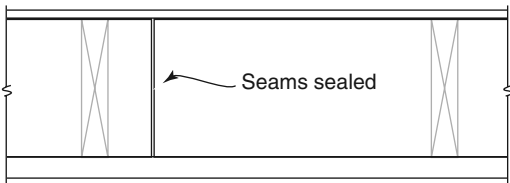
Penetrations through drywall in attached garage sealed

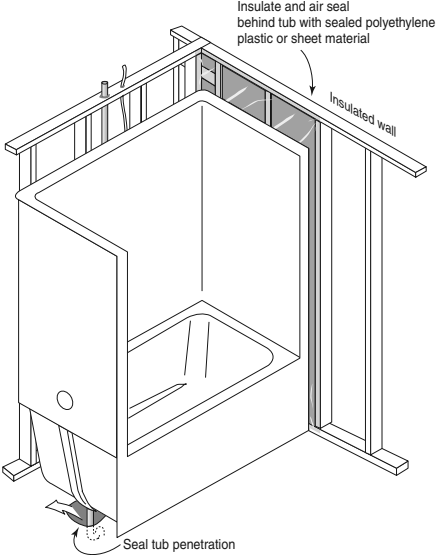
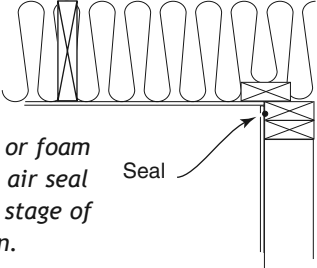
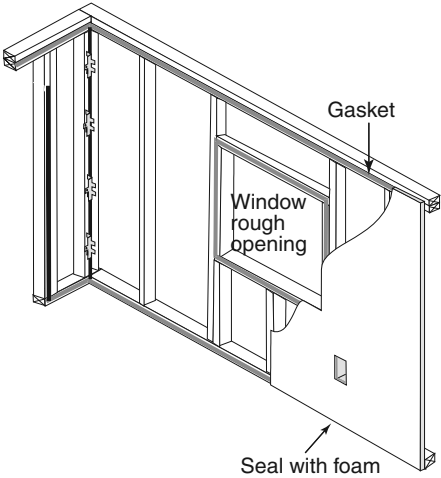
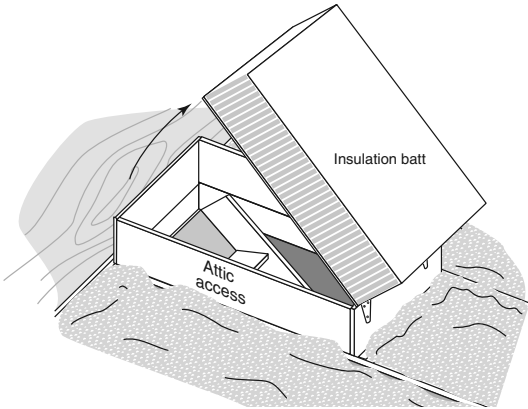
All penetrations through drywall in attached garage sealed. Band area shall be blocked and sealed between joists above interior garage partition walls.



M Seams in band joist between conditioned floors sealed

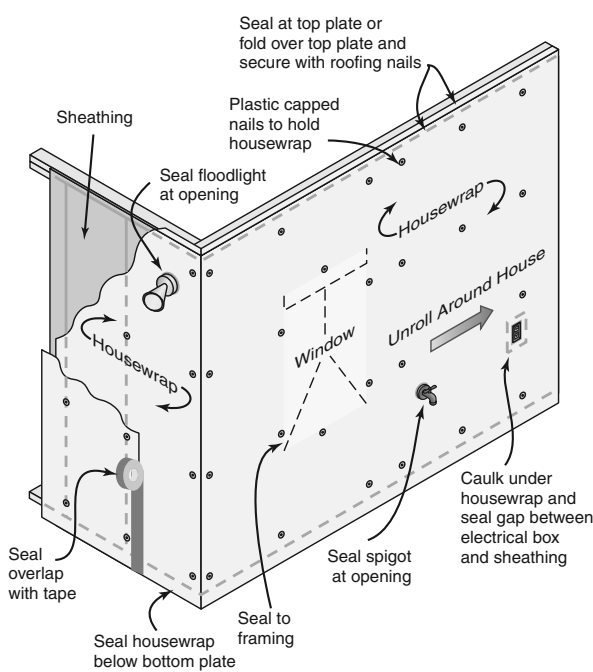
All seams shall be sealed in band joists between conditioned floors, since the band is part of the building envelope.



ADDITIONAL AIR SEALING MEASURES Air barrier installed behind tubs and showers on insulated walls A secondary air barrier shall be installed behind tubs and showers before installing bath and shower assemblies. The sheeting material must be sealed with a proper sealant and the exterior wall must be insulated to the requirements of the Energy Code.  Seams in band joist between conditioned floors sealed All seams shall be sealed in band joists between conditioned floors, since the band is part of the building envelope. (see illustration page 9) Ceiling drywall sealed to top plate Drywall shall be sealed to top plate on ceilings separating attic from conditioned space.  <i>Gaskets, caulk or foam can be used to air seal drywall at any stage of the installation.</i>	Drywall penetrations in insulated walls All penetrations in drywall in insulated walls shall be sealed with a proper sealant including wall switches, electrical outlets and kneewall door rough openings.  Insulated Attic Hatch An insulated attic hatch shall be built to open to the attic and form an airtight seal when closed. The attic hatch must accommodate the "hideaway stairs" and be insulated to at least R-5. Additional points may be earned if the attic hatch is insulated to R-19. 
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Housewrap installed with all seams and edges taped

Housewrap shall be installed according to the manufacturer’s specifications. All seams must be cut properly and all edges taped to ensure a continuous air barrier



M Gypcrete on all framed floors separating unit envelopes

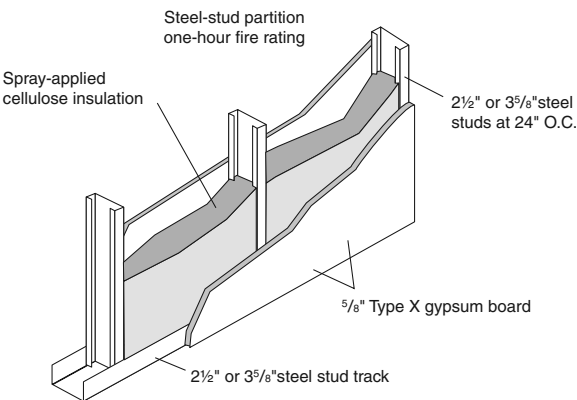
Gypcrete or other approved poured-floor system shall be installed at all framed floors with conditioned space below them. Application of the material shall be after all plumbing, electrical and mechanical systems have been roughed-in and drywall has been installed with at least one application of joint compound.

M Two-pour gypcrete application

Gypcrete or other approved poured-floor system is installed in areas that will be made inaccessible after drywall installation, such as underneath bathtubs and at party-wall separations. This is in addition to the above requirements and occurs prior to that installation. Temporary blocking or curbing may be necessary to achieve proper coverage in some areas such as underneath bathtubs.

M Firewalls/party walls that eliminate airspace

All walls separating unit envelopes shall be constructed using rated constructions that do not require the use of an airspace or “gap” between two independent walls. One such system is the U370 system.



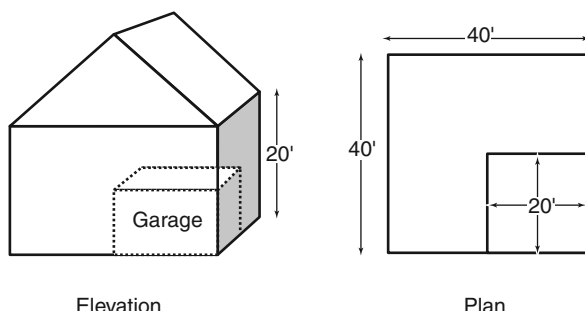
AIR LEAKAGE TEST-BLOWER DOOR

SFBE Building Envelope Leakage Test

The home must meet minimum criteria for air tightness. The standard ASTM test is a blower door test conducted at 50 Pascals. The results of the test for a single-family house must satisfy the following condition:

$$\frac{CFM_{50}}{SEBF} < 0.50$$

Where CFM_{50} is the volume of air in cubic feet per minute moved through the fan to maintain a 50 Pa pressure difference and SFBE is the square foot of building envelope between conditioned and unconditioned spaces.



EXAMPLE:

$$\text{SFBE} = \text{Slab} + \text{Walls} + \text{Room over Garage} + \text{Ceiling}$$

Slab = $(40 \times 40) - (20 \times 20) = 1600 - 400 = 1200 \text{ ft}^2$
Walls = $20 \times (160) = 3200 \text{ ft}^2$
Room Over Garage = $(20) \times (20) = 400 \text{ ft}^2$
Ceiling = $(40) \times (40) = 1600 \text{ ft}^2$
SFBE = $1200 + 3200 + 400 + 1600 = 6400 \text{ ft}^2$

BLOWER DOOR TEST RESULT:

2000 CFM₅₀ at 50 Pa pressure

CALCULATION:

2000 CFM₅₀ / 6400 SFBE = 0.32
since 0.32 < 0.40 testing criteria is fulfilled

M ACH Building Envelope Leakage Test

The housing units must meet minimum criteria for air tightness. The minimum required blower door test result shall be <0.35 ACH Natural with outside ventilation

$$ACH_{\text{natural}} = \frac{ACH_{50}}{N}$$

$$N=CxHxS$$

C=Climate correction factor

H=Height correction factor

S=wind Shielding factor

Equation:

$$ACH_{50} = (CFM_{50} \times 60) / \text{Volume}$$

$$ACH_{\text{natural}} = ACH_{50} / (H \times S \times C)$$

Where:

H = Height correction factor

# Stories	1	1.5	2	2.5	3
H =	1	0.9	0.8	0.75	0.7

S = wind **Shielding** factor

Extent of Shielding	Shielded	Normal	Exposed
S =	1.2	1	0.9

C = Climate correction factor
(use 21 for Atlanta)

C = 14-17	North Texas panhandle
C = 17-20	Most of Texas
C = 20-23	LA, AR, NC, SC, most of MS and GA
C = 23-25	Northeast MS, LA, south GA

Example:

2,000 sq ft unit with 8 ft. ceiling

Blower door test reveals 1,760 cfm₅₀

S = Normal

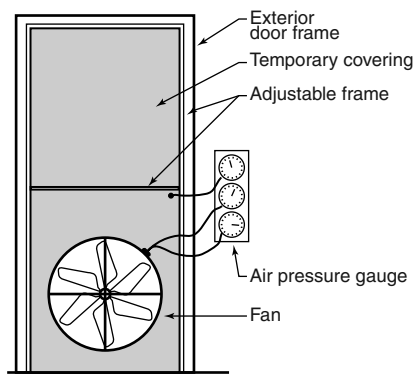
H = 1 story

C = 21

$$\text{So, } \text{ACH}_{50} = (1,760 \times 60) / 16,000 \text{ ft}^3$$
$$\text{ACH}_{50} = 6.6$$

$$\text{and, } ACH_{\text{natural}} = 6.6 / (1 \times 1 \times 21)$$

$$ACH_{\text{natural}} = .31$$

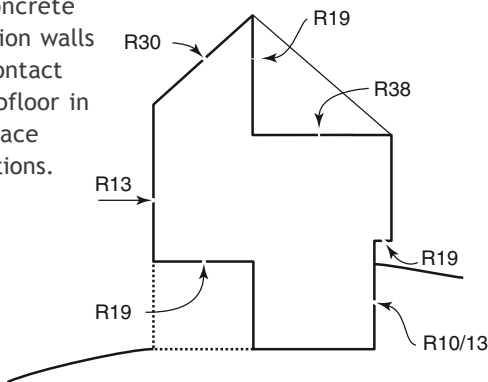


Blower door diagnostics determine building envelope leakage.

REQUIRED INSULATION

Exterior walls & band joist	R13
Flat ceilings	R38
Sloped ceilings	R30
Cantilevered floors	R19
Framed floors	R19
Foundation walls	R10/R13
Attic kneewalls	R19
Insulated sheathing on metal-framed exterior walls (thermal break)	R2.5
Slab	R5

The minimum insulation levels must meet or exceed those listed above. In addition, insulation must comply with the energy code, which may require insulation beyond the above requirements. The insulation shall be continuous (no gaps or missing pieces) and contiguous (in contact with the air barrier.) For example, in the floor of a room-over-garage, the insulation must be in continuous contact with either the garage ceiling or sub floor sheathing. No paper facing on batts allowed in contact with concrete foundation walls or in contact with subfloor in crawlspace applications.

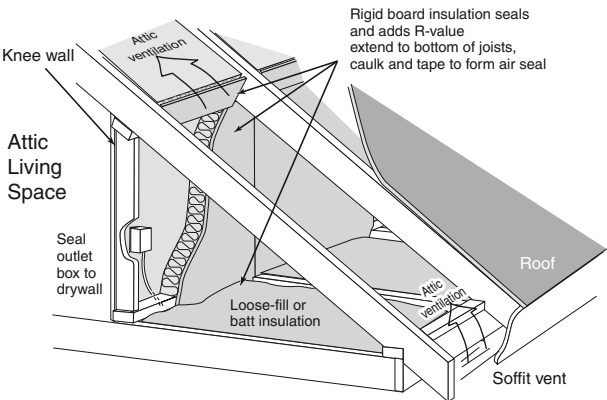


M Insulated sheathing on metal-framed exterior walls

In buildings where steel framing or studs are used in exterior walls, insulated sheathing equal to or greater than R2.5 shall be installed as a thermal break on a minimum of 80% of the exterior wall area.

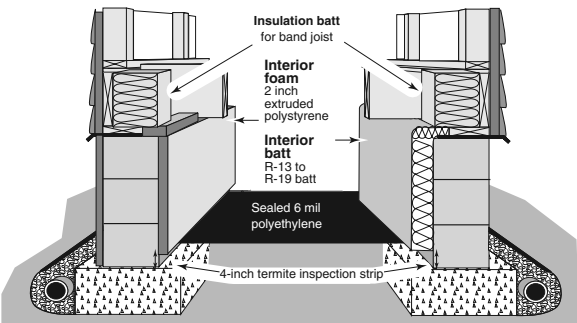
2 x 6 attic kneewalls with R19 cavity insulation and non-insulated sheathing

Kneewalls shall be constructed with non-insulated sheathing on the attic side properly sealed at the seams.

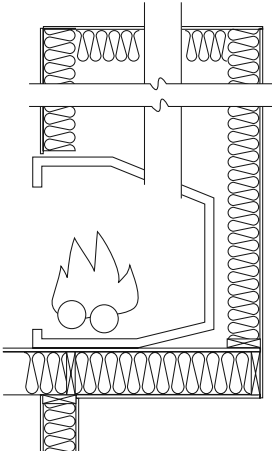
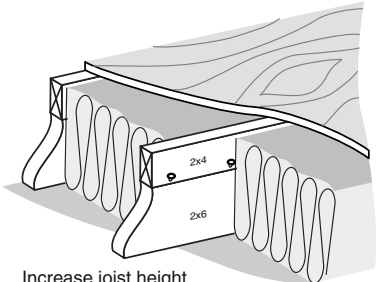
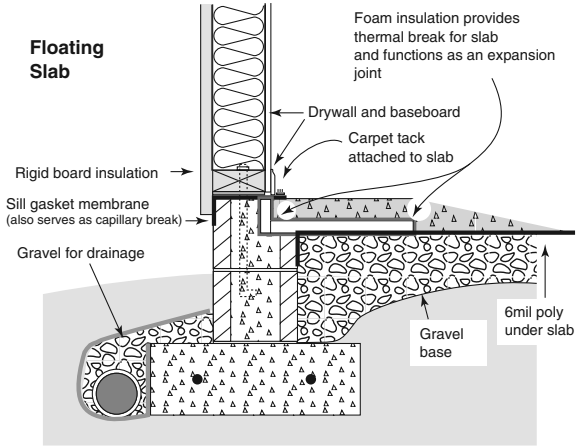


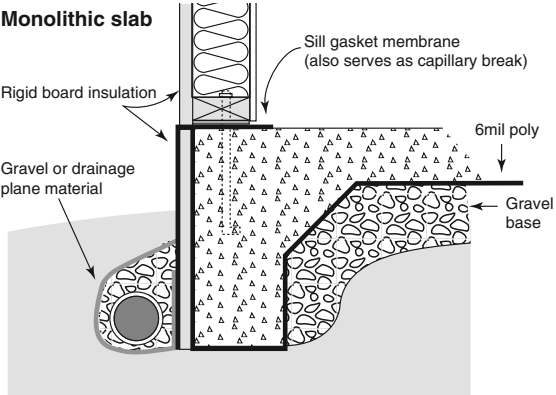
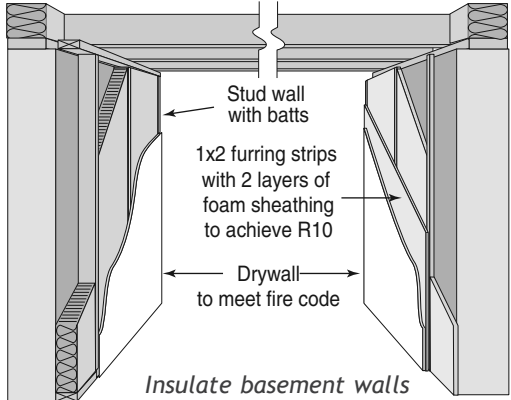
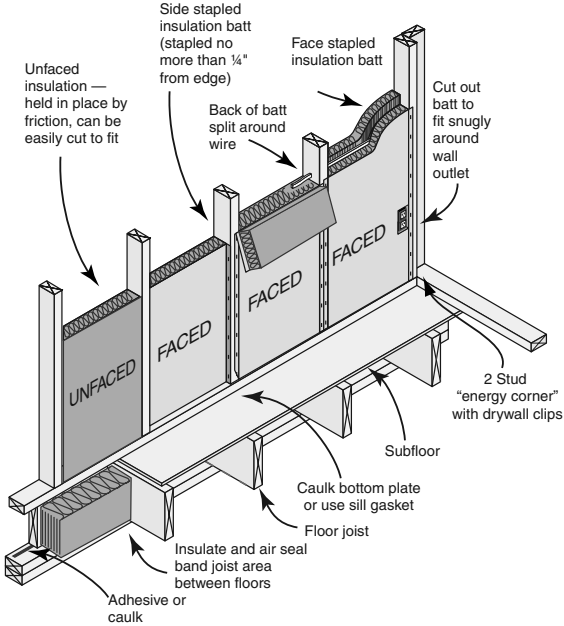
Sealed, insulated crawl space walls

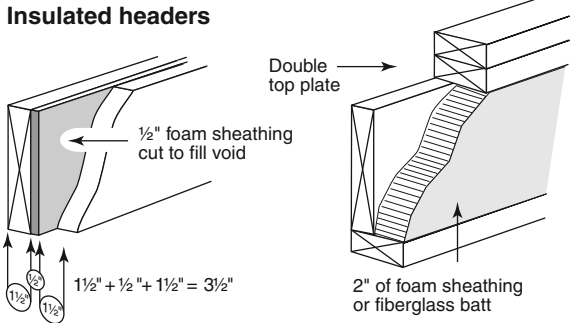
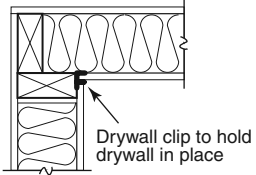
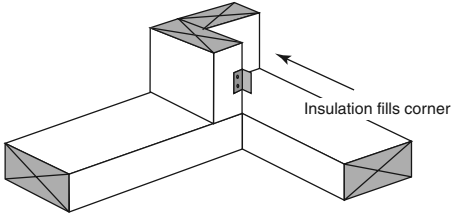
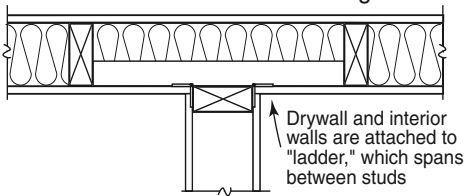
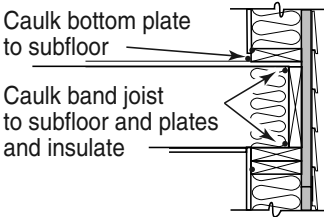
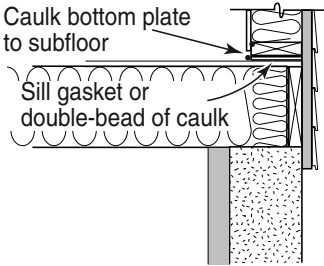
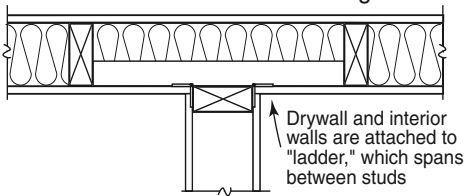
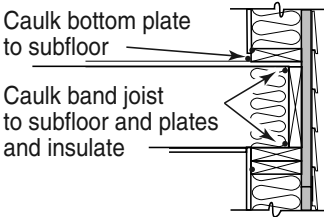
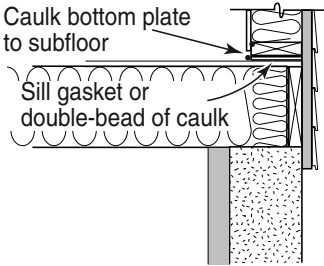
Crawl space walls shall be airtight and sealed with caulk, foam sealant, or gasket between the foundation stem wall and the sill plate, between the sill plate and the band joist, and between the band joist and subfloor. All penetrations in the crawl space wall shall be sealed and access doors weatherstripped. Walls shall be insulated to R8 or greater. Any vents must be closed and sealed.



Insulate crawl space walls

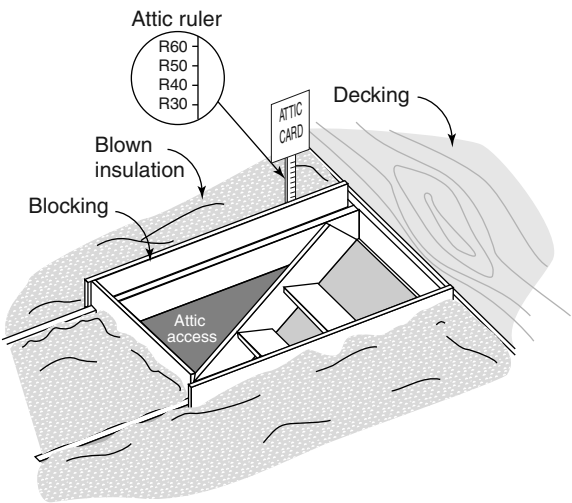
Insulate fireplace chase Exterior fireplace chase which connects to conditioned space shall be insulated to a minimum of R13. Insulation must be in continuous contact with exterior walls and ceiling above. Insulation shall be located no closer than 1 inch to the flue pipe, or according to local code. <i>These points are available for homes without fireplaces.</i>  Flat ceilings R38 Ceilings with unconditioned attic space above shall have complete coverage of attic insulation equal to or greater than R38. A maximum of 5% of ceiling area shall be R25 or greater to accommodate elevated attic flooring for storage and mechanical equipment.  Increase joist height under decking to raise R-value for ceiling <i>Increase height of joists for utility flooring in attic to add more insulation.</i> Vaulted and tray ceilings R30 Vaulted, tray, or cathedral ceilings shall be insulated to R30 or greater.	ADDITIONAL INSULATION 2 x 6 attic kneewalls with R19 cavity insulation and R3 insulated sheathing Kneewalls shall be constructed with R3 insulated sheathing such as ½-inch foam board on the attic side properly sealed at the seams. 2 x 4 attic kneewalls with R13 cavity insulation and R5 insulated sheathing Kneewalls shall be constructed with R5 insulated sheathing such as 1-inch foam board on the attic side properly sealed at the seams. Slab insulation (R10) R10 or greater exterior slab insulation, such as for monolithic slabs, may be installed with approved membranes (such as EPDM-type membranes) to protect against termites. Alternatively, non-monolithic slabs may use rigid insulation between the stem wall and the poured (floating) slab, using the protective membrane as a termite flashing and as a capillary break. 
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	Foundation walls insulated with continuous insulation Continuous insulation protects basement wood framing from condensation. Foam board between framing and foundation wall is one example. Cantilevered floors R30 For floors with conditioned area over unconditioned open areas, the floor joist cavity shall be insulated to minimum R30. <i>See description of minimum requirements and illustration on page 8.</i> Spray applied wall insulation Spray applied insulation shall be installed in a minimum of 80% of exterior wall stud cavities (plus walls adjacent to unconditioned spaces), including band joist areas between floors. Insulated wall stud cavity R15 Insulation in a minimum 80% of stud cavities insulated walls shall be equal to or greater than R15. Insulation shall be installed according to manufacturer's specifications and provide complete coverage.
M Bond break at breezeway and contiguous slab locations Concrete slabs in unconditioned areas that are in contact or may come into contact with slabs in conditioned areas due to settlement shall be separated with an insulating material covering the entire surface of potential slab contacts. Foundation walls insulated instead of the floor over basement Foundation walls shall be insulated to a minimum of R10 by a code approved assembly instead of insulating the joist cavities over the basement. Options include code-approved foil-faced foam board, foam with furring strips and drywall, fiberglass blankets, or framed 2 x 4 walls with R13 unfaced batts in the stud cavities. 	

Insulated headers Exterior walls featuring headers (over windows and door openings) shall be framed with at least ½ inch of rigid foam insulation between the 2x members. Other methods of achieving insulated headers, such as boxed headers with insulation batts, are also acceptable. Insulated headers  Insulated corners The intersecting corner of two insulated walls shall be framed such that insulation is continuous in the external wall (corners with unnecessary 2x4's are not permitted). A "California corner" or two-stud corner with drywall clips are methods of achieving this. Advanced corner   Insulated T-walls The intersection of an interior wall and an insulated wall shall be framed such that insulation is continuous in the external wall. A "ladder" type intersection is one method of achieving this. <td> Advanced ladder T-wall framing  Insulated wall sheathing R2.5 or greater The sheathing for exterior walls shall be equal to or greater than R2.5. Sheathing shall be installed with gaps no larger than 0.25 inch and provide complete coverage except for where structural sheathing is required by code (maximum of 25%). Insulated wall sheathing R5 or greater Homes with exterior wall sheathing equal to or greater than R5 qualify for these points. Band joist insulated R19 The band joist connecting two conditioned floors shall be insulated to R19 or greater.   </td>	Advanced ladder T-wall framing  Insulated wall sheathing R2.5 or greater The sheathing for exterior walls shall be equal to or greater than R2.5. Sheathing shall be installed with gaps no larger than 0.25 inch and provide complete coverage except for where structural sheathing is required by code (maximum of 25%). Insulated wall sheathing R5 or greater Homes with exterior wall sheathing equal to or greater than R5 qualify for these points. Band joist insulated R19 The band joist connecting two conditioned floors shall be insulated to R19 or greater.  
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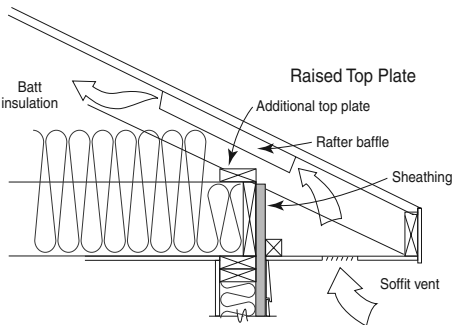
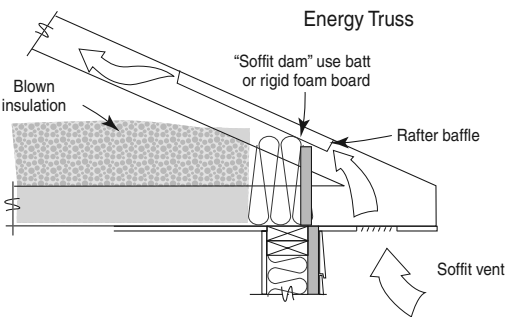
Loose-fill attic insulation card and rulers

Written documentation (an “attic card”) specifying the insulation type, coverage area, and R-value shall be provided if loose-fill insulation is installed in the attic. Attic rulers to verify insulation depth must be provided every 300 ft² and face the attic entrance. Insulation must be installed according to manufacturer’s specifications and provide for complete coverage and full R-value. A maximum of 5% of ceiling area shall be R19 or greater to accomodate attic flooring for storage and mechanical equipment.



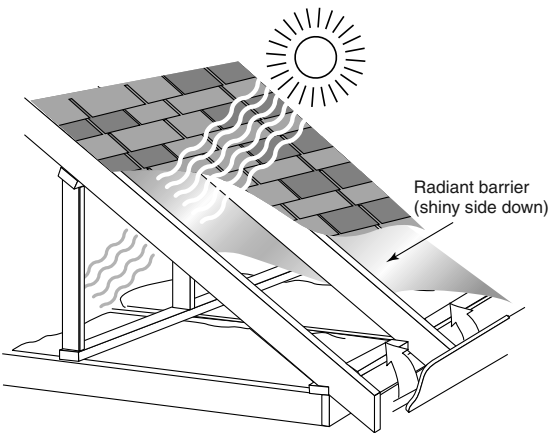
Energy heel trusses or raised top plates

To ensure full depth of attic insulation above exterior wall top plates, energy trusses with raised top chord or raised top plate for joist/rafter assemblies shall be used.



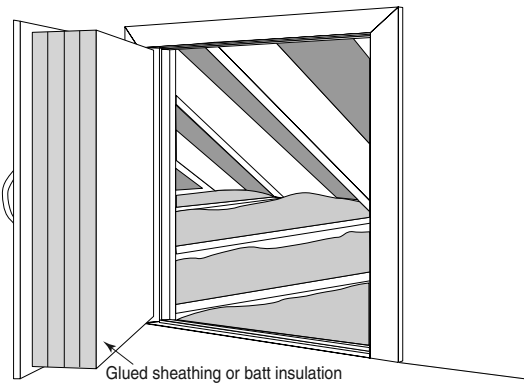
Attic radiant barrier

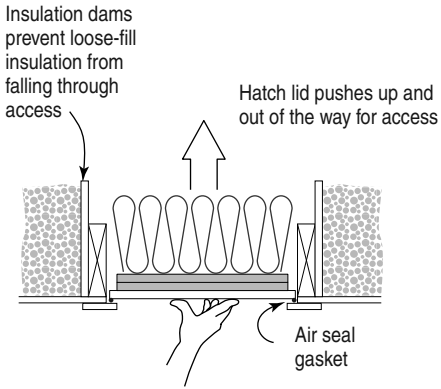
A radiant barrier must be installed over at least 80% of the vented attic space. The radiant barrier must have a reflective surface facing down towards a minimum 1 inch vented air space and have an emissivity rating of 0.05 or less.



Attic kneewall doors R8

Doors in kneewalls that connect conditioned space to unconditioned attic areas shall be insulated to R8 or greater.



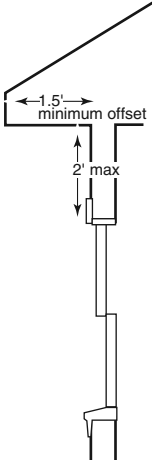
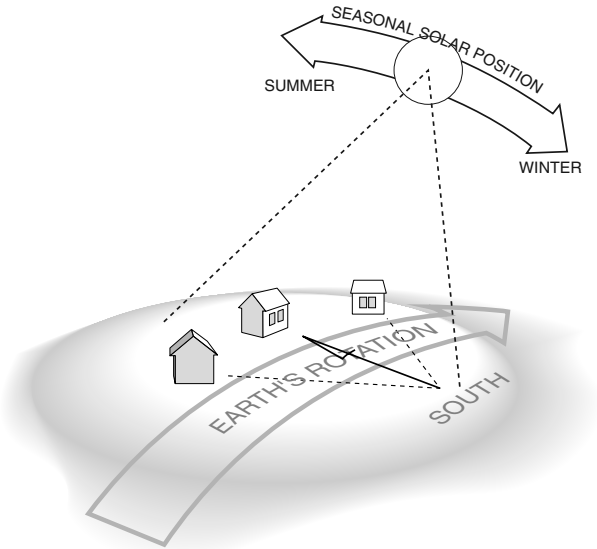
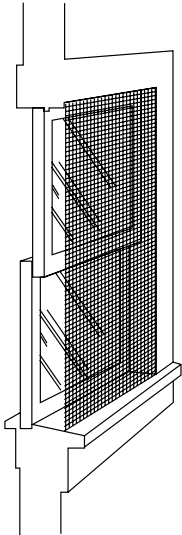
Attic pull-down or scuttle hole R5 Pull-down attic stairs located in conditioned space shall have an insulated box equal to or greater than R5. Scuttle holes that are located in conditioned space shall be insulated with batt insulation or rigid foam insulation to R5 or greater. Attic pull-down or scuttle hole R19 Pull-down attic stairs located in conditioned space shall have an insulated box equal to or greater than R19. Scuttle holes that are located in conditioned space shall be insulated with batt insulation or rigid foam insulation to R19 or greater. 	WINDOWS <i>Required: Window areas and U-factors or R-values must comply with Energy Code. 95% of all window area must have U<.40 (5% may be exempt).</i> NFRC rated windows Windows shall be rated by the National Fenestration Rating Council (NFRC) and labeled accordingly.  World's Best Window Co. Millennium 2000+ Vinyl Clad Wood Frame Double Glazing • Argon Fill • LowE Product Type: Vertical Slider <table><tr><th colspan="2">ENERGY PERFORMANCE RATINGS</th></tr><tr><td>U-Factor (U.S./1-P)</td><td>Solar Heat Gain Coefficient</td></tr><tr><td>0.35</td><td>0.32</td></tr><tr><th colspan="2">ADDITIONAL PERFORMANCE RATINGS</th></tr><tr><td>Visible Transmittance</td><td>Air Leakage (U.S./1-P)</td></tr><tr><td>0.51</td><td>0.2</td></tr><tr><td>Condensation Resistance</td><td></td></tr><tr><td>51</td><td>—</td></tr></table> Manufacturer stipulates that these ratings conform to applicable NFRC procedures for determining whole product energy performance. NFRC ratings are determined for a fixed set of environmental conditions and specific product sizes. www.nfrc.org	ENERGY PERFORMANCE RATINGS		U-Factor (U.S./1-P)	Solar Heat Gain Coefficient	0.35	0.32	ADDITIONAL PERFORMANCE RATINGS		Visible Transmittance	Air Leakage (U.S./1-P)	0.51	0.2	Condensation Resistance		51	—
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Window U-factor < 0.35

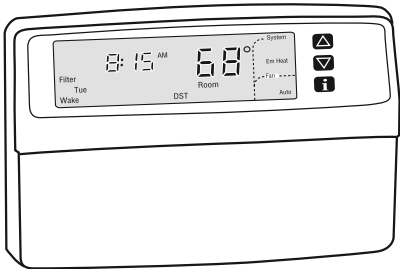
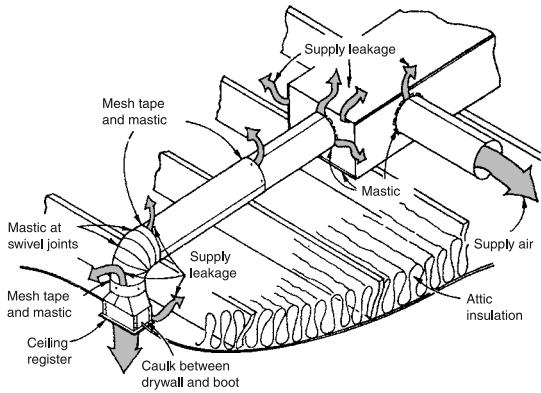
U factor of all windows shall be less than 0.35. 5% of glazing is excluded from this requirement.

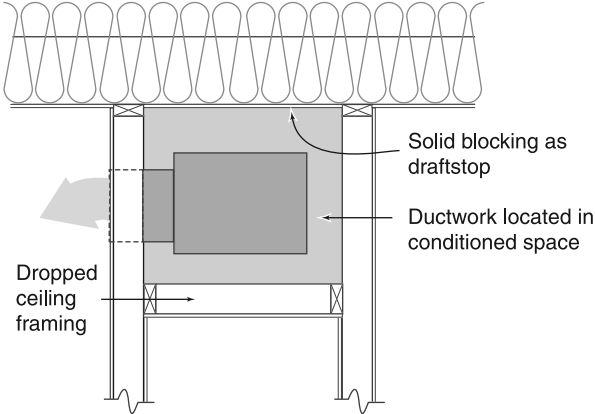
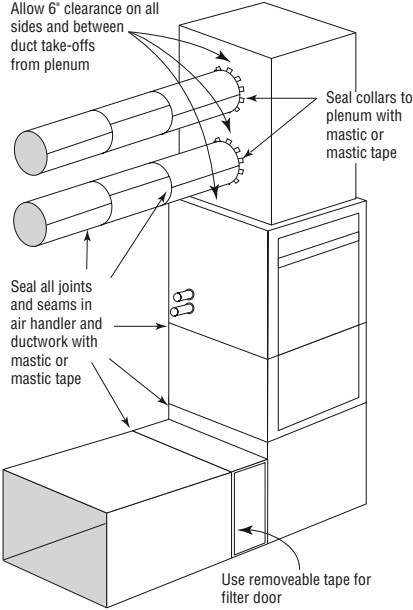
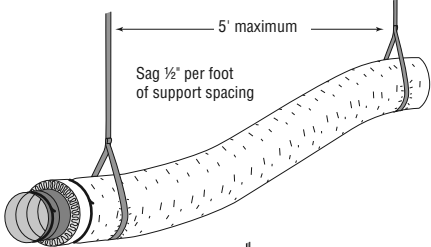
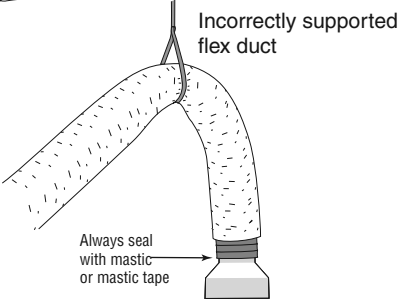
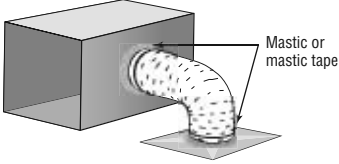
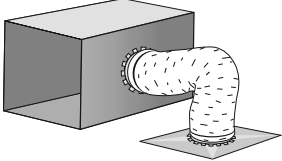
Window, skylight and glass door SHGC < 0.40

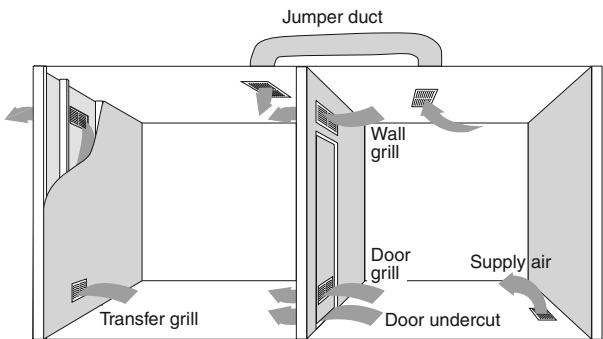
Weighted average SHGC of all windows shall be less than 0.40. 5% of glazing is excluded from this requirement. A free software program, REScheck (www.energycodes.gov) can perform this calculation.

Window, skylight and glass door SHGC < 0.35	East facing glazing less than 3% of floor area
Weighted average SHGC of all glazing shall be less than 0.35. 5% of glazing is excluded from this requirement.	The total window or door glazing area within 25 degrees of due east shall be less than 3% of the total floor area.
1.5-foot overhangs on all sides	Certified passive solar design
80% of all windows shall have a minimum 1.5-foot overhang to protect against moisture and solar gain. Installed gutters may contribute to the 1.5 ft. distance. 	Builder certifies that passive solar heating contribution shall reduce heating loads by 25% or greater and not increase cooling loads by more than 10%. Certification shall be based on Energy 10 or similar modeling program and included with EarthCraft House™ scoring worksheet. 
Solar shade screens	Seasonal location of the sun in the sky can determine window location, overhangs and landscaping considerations in passive solar homes. SBIC - Energy 10 www.sbicouncil.org
At a minimum, windows facing east and west shall have solar shade screening with a shading coefficient of 0.7 or greater. Shade screening shall be installed on exterior of window glazing. <i>Exterior shade screens reduce heat gain through windows by up to 70%</i> 	
West facing glazing less than 2% of floor area	
The total window or door glazing area within 25 degrees of due west shall be less than 2% of the total floor area.	

HEATING AND COOLING EQUIPMENT	90% AFUE furnaces/ 7.5 HSPF heat pumps
<i>Required: Manual J calculation for each mechanical system used for heating and cooling as required by the Energy Code</i>	A minimum of 75% of the heating equipment shall meet these minimum efficiencies, 90% Annual Fuel Utilization Efficiency for gas combustion furnaces or 7.5 Heating Seasonal Performance Factor for heat pumps (indoor coil and condensing unit must be ARI verifiable).
Manual J calculation based on house orientation	SEER 14 cooling equipment
Manual J calculation shall be based on the actual orientation (for example southwest) to ensure the heating and cooling equipment are properly sized.	A minimum of 75% of all cooling system output shall have a Seasonal Energy Efficiency Ratio (SEER) of 14 or greater (indoor coil and condensing unit must be ARI verifiable).
Cooling equipment sized within 6,000 btu/h of Manual J	SEER 15+ cooling equipment
The size of all heat pump equipment shall be within 6,000 btu/h of the cooling load as determined by the Air Conditioning Contractors Association (ACCA) and American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Manual J guidelines. Builder must submit documentation of Manual J sizing with EarthCraft House™ scoring worksheet.	A minimum of 75% of all cooling system output shall have a Seasonal Energy Efficiency Ratio (SEER) of 15 or greater (indoor coil and condensing unit must be ARI verifiable).
Heating equipment sized within 25,000 btu/h of Manual J	Geothermal heat pump
All furnaces and heat pump equipment shall be within 25,000 btu/h of the heating load as determined by the Air Conditioning Contractors Association (ACCA) and American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) Manual J guidelines. Builder must submit documentation of Manual J sizing with EarthCraft House™ scoring worksheet.	All geothermal heat pumps shall have a cooling Energy Efficiency Ratio (EER) of 11.0 or greater and a heating Coefficient of Performance (COP) of 2.5 or greater as determined by the Air Conditioning and Refrigeration Institute (ARI) www.ari.org .
	Sensible Heat Fraction
	All air conditioners and heat pumps shall have a cooling Sensible Heat Fraction of 0.75 or less. Builder must submit documentation of Sensible Heat Fraction with EarthCraft House™ scoring worksheet. A specification sheet on the installed equipment can be used for documentation.
	$SHF = \frac{\text{Sensible Cooling}}{\text{Sensible} + \text{Latent}}$

Variable speed blower A variable speed blower shall be operable in one or more of the heating and cooling systems. Programmable thermostat All heating and cooling equipment shall have an automatic, programmable indoor thermostat installed according to manufacturer’s specifications.  Outdoor thermostat for heat pump All air source heat pumps shall have an outdoor thermostat installed according to manufacturer’s specifications that restricts electric resistance heating when outdoor air temperatures are above 40 degrees Fahrenheit. Cooling equipment has non-CFC and non-HCFC refrigerant All cooling equipment shall be charged with refrigerants not containing CFCs or HCFCs such as R-410A Zone control For multi-zoned HVAC systems, each zone must have a separate temperature control and wired damper controls.	DUCTWORK / AIR HANDLER <i>Required: All ductwork must be sealed and insulated according to the Energy Code (typically R6 or greater).</i> <i>Required: Duct blaster test result < 6cfm to outdoors/ 100 sq.ft. of floor area served or < 4cfm to outdoors/ 100 sq. ft. of floor area served if employing BOP. All unions between components of HVAC system including joints between ductwork and the air handler shall be sealed with mastic or mastic tape.</i> <i>Required: Flex-to-flex duct connections must have a metal collar connecting them and be sealed with mastic.</i> DUCT SEAMS AND AIR HANDLER SEALED WITH MASTIC All transverse seams in supply and return ducts, including supply and return plenums and leakage sites in the air handler, shall be sealed with duct mastic and fibrous reinforcing mesh according to SMACNA specifications. Duct tape is not a suitable sealant for ducts but may be used for sealing leakage sites at the air handler’s removable access panels and at filter access panels.  Air handler located within conditioned space All air handlers are located within conditioned space. Vented combustion closets are not considered conditioned space. Furnaces using room air for combustion (including unfinished basements) are not eligible. A sealed combustion, 90% furnace or heat pump would satisfy this requirement.
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Ducts located within conditioned space At least 90% of all supply and return ducts are located within conditioned space.  Duct design complies with Manual D Ductwork design shall comply with the ACCA Manual D guidelines. Builder must submit documentation of Manual D design with EarthCraft House™ final worksheet. All supply duct take-offs spaced 6” apart All supply duct take-offs shall be spaced at least 6 inches apart from each other with no duct take-offs originating from the cap of the supply plenum. Junction boxes with 4 take-offs or less are excluded. 	No duct take-offs within 6” of supply plenum cap No duct take-offs from supply plenum cap. All duct take-offs shall be located at least 6 inches away from the supply plenum cap. Rigid duct work or all flex duct pulled tight with no pinches All duct work shall be made of rigid duct materials (sheet metal or duct board) or all flex duct shall be pulled tight for optimal air flow with no pinches or kinks. Correctly supported flex duct  Incorrectly supported flex duct  Always seal with mastic or mastic tape Correct: flex duct installed with enough material, to create smooth turns with proper angles  Incorrect: flex duct installed with extra material, creating bunched turns with pinched angles 
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Return capacity 120% of supply capacity All duct work installed should provide capacity for at least 120% more return air than supply air for every system. As an example, a 2 ton system with a 0.09 friction rate has the following flex duct supply take-offs: Two 10” ducts = 570 cfm One 8” duct = 160 cfm One 6” duct = 75 cfm 805 cfm total supply side To achieve a return capacity that is at least 120% of the supply capacity, the system would need the following flex duct return take-offs: Two 10” ducts = 570 cfm Two 8” ducts = 320 cfm One 6” duct = 75 cfm 965 cfm total return side Airflow for each duct measured and balanced to within 15 cfm of design value Airflow for each duct run shall be measured and balanced to comply with Manual D specifications to within 15 cfm of design air flow. Builder must submit documentation of airflow measurement by independent third party testing agent. No ducts in exterior walls or vaulted ceilings No supply or return ducts, boots or registers shall be located in exterior walls. This includes vaulted ceilings and insulated walls between conditioned and unconditioned space such as the common wall between the garage and the rest of the house. Rigid supply trunk All duct systems shall feature at least one long supply trunk with multiple take-offs. An “octopus” system with all duct runs originating at the supply plenum is not acceptable.	Multiple return ducts or transfer grills Each bedroom shall have a dedicated return duct or, for homes with no return ducts located in bedrooms, all supply air shall have a direct path back to a return grill even when doors are closed. This path shall be through transfer grills. Houses with undercut doors to bedrooms do not qualify for these points.  Interior doors with 1-inch clearance to finished floor For homes with no return ducts located in bedrooms, all interior bedroom doors shall have a minimum clearance of 1 inch between the bottom of door when closed and the finished floor surface. This clearance is to allow for air to be drawn to the main return grill when the door is closed. Duct trunk lines that are outside conditioned space insulated to R8 All duct trunk lines located outside conditioned space shall be insulated to a minimum of R8. M No open return systems All air handlers shall be installed with a ducted return plenum sealed to the unit and any associated ducts with mastic or mastic tape.
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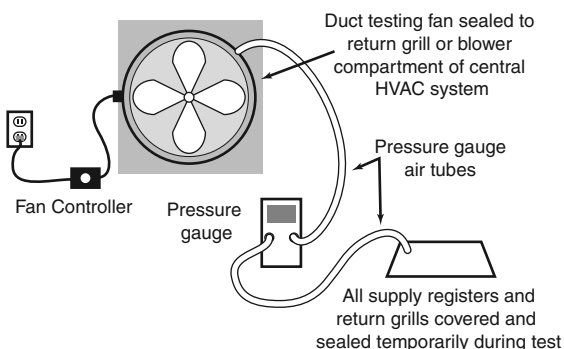
DUCT BLASTER TEST

Required: Duct blaster test result < 6cfm to outdoors/ 100 sq.ft. of floor area served or < 4cfm to outdoors/ 100 sq. ft. of floor area served if employing BOP.

Certify duct leakage less than 5%*

Certify that ducts have a maximum leakage in cubic feet per minute (cfm) of no more than 5 cfm/100 sq.ft. of floor area served using standard duct testing protocol set forth by ASTM for duct pressurization testing at 25 Pascals. As an example, a 1000 ft² house may have up to 50 cfm of duct leakage at 25 Pascals. This test measures duct leakage lost to unconditioned spaces and so may be run in conjunction with a blower door fan. Builder must submit verification of third party testing.

*unless employing BOP



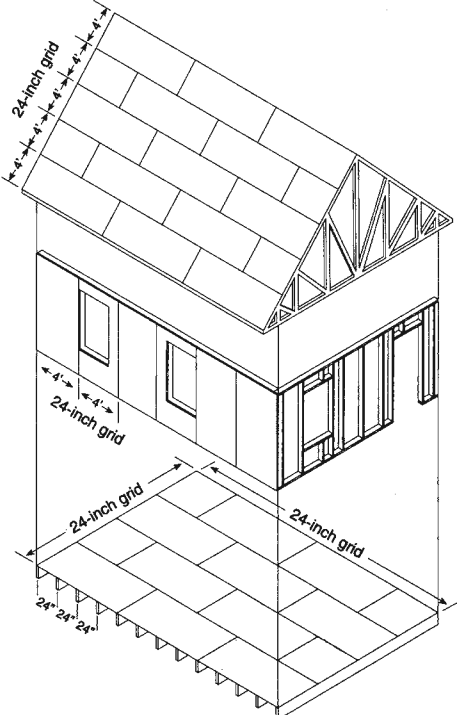
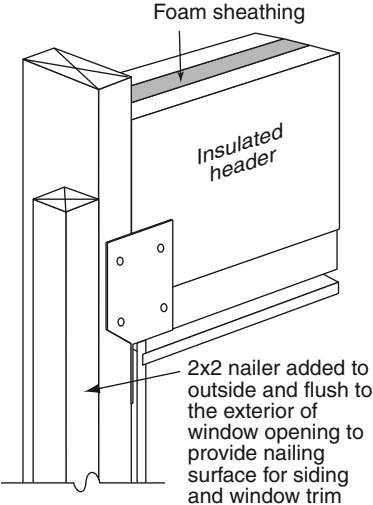
Duct blaster diagnostics can determine duct leakage in a HVAC system.

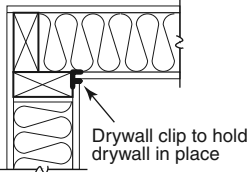
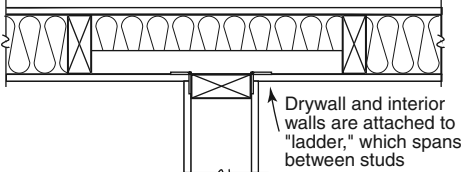
M Certify duct leakage less than 4%

Required: Duct blaster test result <6% of floor area served

Certify that ducts have a maximum leakage in cubic feet per minute (cfm) of no more than 4 cfm/100 sq. ft. of floor area served using standard duct testing protocol set forth by ASTM for duct pressurization testing at 25 Pascals. As an example, a 1000 ft² unit may have up to 40 cfm of duct leakage at 25 Pascals. This test measures duct leakage lost to unconditioned spaces and so may be run in conjunction with a blower door fan. Builder must submit verification of third party testing.

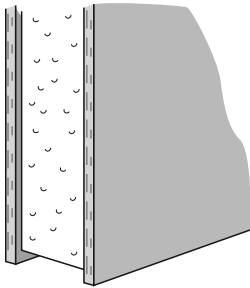
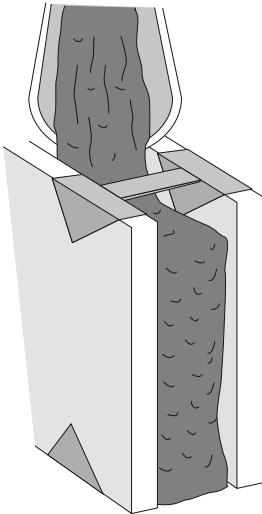
ENERGY EFFICIENT APPLIANCES AND LIGHTING Lighting installed in an enclosed garage shall be considered interior lighting for purposes of the EarthCraft House™ program. Lighting installed in an open-air garage (e.g. carport) shall be considered exterior lighting. Indoor fluorescent fixtures Interior lighting shall include a minimum of 200 watts of fluorescent lighting fixtures. These may include the kitchen overhead fixtures; under-cabinet fixtures do not qualify. The lighting fixtures must be hard-wired and have the ballast integrated into the fixture to ensure that the fluorescent lighting will remain permanent. M Flourescent or compact flourescent fixtures at foyer, hallways, main living and kitchen areas Lighting fixtures in above rooms shall be fluorescent or integrated-ballast compact fluorescent fixtures. Recessed light fixtures are compact fluorescents At least 80% of all recessed light fixtures shall be compact fluorescent. Automatic outdoor lighting controls All exterior lighting shall have automatic photo-cell, motion or timer controls.	
	M High efficiency parking area lighting Parking area lighting shall be high-pressure sodium or equivalent high efficiency. M High efficiency exterior/common area lighting Exterior, hallway and corridor lighting shall be fluorescent, high-pressure sodium or equivalent high efficiency. Any illuminated exit signage shall be LED type unit. High efficiency exterior lighting All exterior lighting shall be high pressure sodium, fluorescent, or equivalent high efficiency. A maximum of 100 watts of outdoor incandescent or halogen lighting shall be permitted. Energy efficient dishwasher Builder installed dishwasher shall be ENERGY STAR rated. Energy efficient refrigerator Builder installed refrigerator shall be ENERGY STAR rated. No garbage disposal Plumbing system shall not include a garbage disposal. Composting of food wastes is recommended in place of a garbage disposal.

Resource Efficient Design	
RESOURCE EFFICIENT DESIGN <i>Required: Framing design must comply with local building codes.</i> Total floor area of house less than 1800 sq. ft. The total conditioned floor area of the house shall be less than 1800 sq. ft. Total floor area of house between 1800 and 2100 sq. ft. The total conditioned floor area of the house shall be between 1800 and 2100 sq. ft. Total floor area of house between 2100 and 2500 sq. ft. The total conditioned floor area of the house shall be between 2100 and 2500 sq. ft. Outside dimensions of floor plan adheres to 2-ft dimensions The perimeter of the house shall comply with 2-ft dimensions to minimize material waste. 	Floor joists at 24-inch centers A minimum of 80% of all floor joists shall be spaced at 24 inches on center. Floor joists at 19.2-inch centers A minimum of 80% of all floor joists shall be spaced at 19.2 inches on center. Non-load bearing wall studs at 24-inch centers Non-load bearing wall studs shall be spaced at 24 inches on center. All wall studs at 24-inch centers All non-load and load bearing wall studs shall be spaced at 24 inches on center. Window rough openings eliminate jack stud Framing shall not include jack studs to support header. Header hangers or other support as required by code shall be used. 

Non-structural headers in non-load bearing walls Non-load bearing walls shall not have structural window and door headers. Single top plate with stacked framing Roof rafters and ceiling joists shall align within 2 inches of exterior wall studs such that a single top plate can transfer loads to the wall framing. 2-stud corners with drywall clips or alternative framing Corner framing shall eliminate non-structural studs and allow for full corner insulation through the use of drywall clips, horizontal nailers or other means to support drywall.	T-walls with drywall clips or alternative framing The intersection of exterior and interior walls shall eliminate non-structural studs and allow for full exterior wall insulation through the use of advanced ladder T-wall framing or other technique. Advanced corner  Advanced ladder T-wall framing  Advanced framing techniques allows for more complete insulation.
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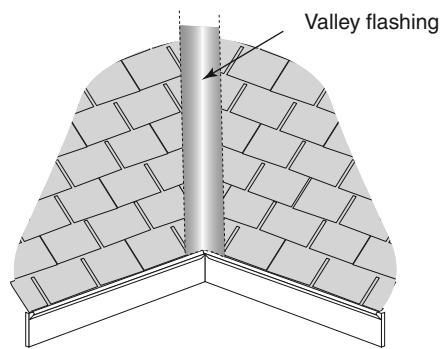
RESOURCE EFFICIENT BUILDING MATERIALS	
RECYCLED AND NATURAL CONTENT MATERIALS	Cork or bamboo flooring
<i>Required: All materials must be approved by local building code for use in residential construction.</i>	Home shall contain at least 10% of the floor area as cork or bamboo flooring, rapidly renewable and durable materials.
Sustainably harvested lumber (50%)	Carpet
The house shall be constructed of at least 50% lumber that meets criteria for sustainable harvesting as set by the Forestry Stewardship Council (FSC). The lumber shall come from forests that are managed to maintain ecological health and biodiversity. Builder must present documentation that the lumber meets the criteria of a sustainable harvest.	All floor carpeting shall have a minimum of 50% recycled material content for face fibers and backing.
Concrete with fly ash or slag	Biodegradable carpet
A minimum of 25% of the cement in all concrete used for footings, foundation and basement walls, and slabs shall be replaced with fly ash or slag.	The carpet shall be constructed of organic materials that readily biodegrade when exposed to moisture and sunlight.
Recycled concrete used as aggregate	Outdoor decking and porches
Demolished concrete shall be used as an aggregate in poured concrete structures.	A minimum of 80% of outdoor floor decking shall have a minimum of 40% recycled material content. Recycled content must be certified by Scientific Certification System or the manufacturer.
Insulation	M Natural flooring materials in kitchens and bathrooms
All insulation materials shall have a minimum of 25% recycled material content. Recycled content must be certified by Scientific Certification Systems (SCS) or the manufacturer. SCS is on the web at www.scs1.com .	Flooring in kitchens and bathrooms shall be natural material.
Reclaimed wood flooring	Air conditioner condensing unit pad
A minimum of 50% of wood flooring shall be re-used wood.	The outdoor pad for an air conditioner or heat pump condensing unit shall have a minimum of 50% recycled material content (such as plastic or rubber tires). Recycled content must be verified by the manufacturer.
Recycled content tiles	ADVANCED PRODUCTS
A minimum of 50% of tile floors shall contain a minimum of 30% recycled material content.	Engineered floor framing
	A minimum of 80% of floor joist framing shall be non-dimensional (engineered) structural wood, such as trusses or I-beams, or non wood material.

Engineered roof framing A minimum of 80% of roof framing shall be non-dimensional (engineered) structural wood, such as trusses or I-beams, or non wood material, such as steel. Oriented Strand Board (OSB) roof decking A minimum of 80% of roof decking shall be OSB. M Outdoor structures made from non-CCA pressure treated lumber Outdoor structures and amenities including picnic tables, mail kiosks, playground equipment, gazebos, etc. shall contain no CCA treated materials. M Outdoor structures made from materials with recycled content Outdoor structures and amenities including picnic tables, mail kiosks, playground equipment, gazebos, etc. shall contain a minimum of 40% recycled content. All beams are steel, engineered wood, or trusses A minimum of 80% of the total beams shall be manufactured from non-solid sawn wood, such as laminated wood, or steel beams. All headers are steel or engineered wood A minimum of 80% of the total headers shall be manufactured from non-solid sawn wood, such as laminated wood, or steel beams.	Engineered wall framing (25% of studs) A minimum of 25% of the total wall framing shall be manufactured from non-solid sawn wood, such as laminated or finger-jointed studs. Exterior steel studs are not eligible for this credit unless the entire exterior surface of the studs is covered with a minimum R5 insulated sheathing. M Engineered wall framing (50% of studs) A minimum of 50% of the total wall framing shall be manufactured from non-solid sawn wood, such as laminated or finger-jointed studs. Exterior steel studs are not eligible for this credit unless the entire exterior surface of the studs is covered with a minimum R5 insulated sheathing. Engineered wall framing (80% of studs) A minimum of 80% of the total wall framing shall be manufactured from non-solid sawn wood, such as laminated or finger jointed studs. Exterior steel studs are not eligible for this credit unless the entire exterior surface of the studs is covered with a minimum R5 insulated sheathing. Engineered interior trim A minimum of 80% of interior wood trim shall be non-solid sawn wood (such as finger-jointed) or non wood material. Engineered exterior trim A minimum of 80% of exterior trim, including soffit, fascia, and trim, shall be non-solid sawn wood or non-wood material. Steel interior walls While exterior steel walls suffer potential thermal bridging, interior walls can be framed using steel studs. Steel studs shall have a 30% recycled content. A minimum of 80% of interior walls is required.
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Structural Insulated Panels (exterior walls) A minimum of 80% of all exterior walls shall be structural insulated panels to a minimum of R15. Structural insulated panels must be installed according to manufacturer's specifications. 	DURABILITY Roofing (25-year warranty) Shingle or other exterior roofing material shall have a minimum 25-year manufacturer's warranty. Warranty documentation must be provided to the home buyer. Roofing (30-year warranty) Shingle or other exterior roofing material shall have a minimum 30-year manufacturer's warranty. Warranty documentation must be provided to the home buyer. Roofing (40-year warranty) Shingle or other exterior roofing material shall have a minimum 40-year manufacturer's warranty. Warranty documentation must be provided to the home buyer. Light roof color (tile or metal) Metal roofing or white tile roofing shall have a solar reflectance of 60% or more. Roof drip edge The outer edge of all roof decking shall be protected with a metal or plastic drip edge.
Structural Insulated Panels (roof) A minimum of 80% of all roof area shall be structural insulated panels with a minimum of R30. Structural insulated panels must be installed according to manufacturer's specifications. Precast Autoclaved Aerated Concrete A minimum of 80% of above grade exterior area shall be precast autoclaved aerated concrete. Walls must be installed according to manufacturer's specifications. Insulated Concrete Forms A minimum of 80% of foundation or exterior walls shall be insulated concrete forms with a minimum of R14. Walls shall be installed according to manufacturer's specifications and meet state termite protection guidelines for ground contact insulation. 	

M Flashing or self-adhering underlayment at roof valleys and penetrations

All valleys and penetrations in the roofing system shall be reinforced with either metal flashing material or a self-adhering underlayment designed and approved for use with the installed roofing system. (graphics here)



M Freeze prevention for all water pipes

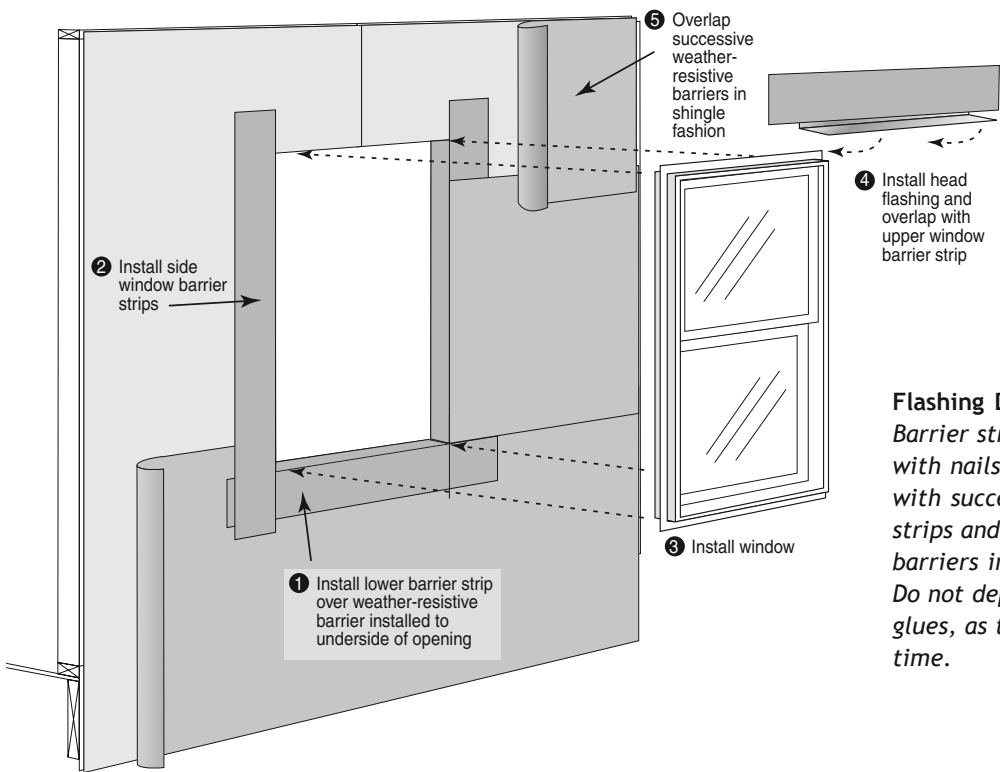
Insulate all water pipes in climates and building conditions susceptible to freezing temperatures and conditions. Avoid locating plumbing in exterior walls.

Exterior cladding

A minimum of three sides of exterior wall cladding shall have a 40-year manufacturer’s warranty or be a durable natural material such as masonry stucco, stone, brick or most fiber cement siding. Warranty documentation must be provided to the home buyer.

Walls covered with builder paper or housewrap

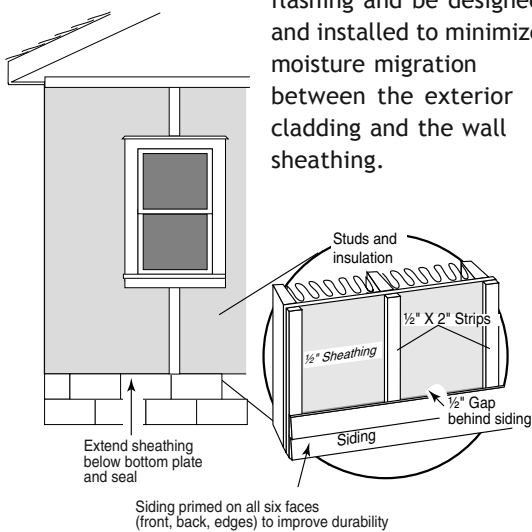
A minimum of 80% of exterior wall area shall have a building paper, housewrap or similar material. The material shall be installed shingle fashion, integrated with flashing, and be designed to protect the wall from water moving beyond the exterior cladding.



Flashing Detail
Barrier strips are attached with nails and overlapped with successive barrier strips and weather-resistant barriers in shingle fashion. Do not depend on tapes or glues, as they may fail over time.

Siding with vented rain screen

A minimum of 80% of exterior wall area shall have building paper, housewrap or similar material designed to protect the wall from water moving past the exterior cladding, and have an air space between the exterior cladding and wall sheathing. The system shall be integrated with flashing and be designed and installed to minimize moisture migration between the exterior cladding and the wall sheathing.



Vented rain screen

Back-primed siding and trim

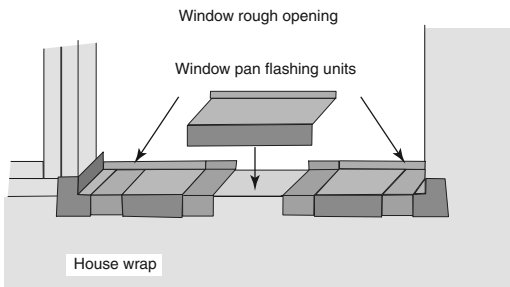
All six sides of painted or stained exterior siding and trim shall be primed prior to installation.

10-year warranty on insulated glazing

Insulated glazing units for exterior windows and doors shall have a minimum 10-year manufacturer’s warranty against sealed glass failure. Warranty documentation must be provided to the home buyer.

Window and door pan and sill flashing

All windows and exterior doors shall have a water-resistant flashing installed on the side and base of window and door rough openings to direct water leaks out of the framing.



Window and door head flashing

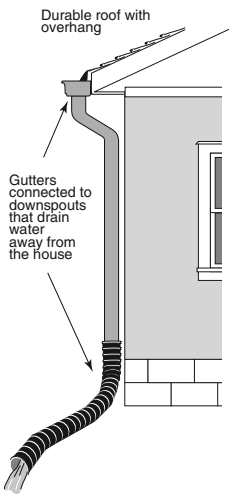
All windows and exterior doors shall have a metal or plastic flashing installed a maximum of six inches above the top of the window or door.

Continuous foundation termite shield

A continuous termite shield shall cover 100% of the foundation stem wall, piers, and other potential entry points. The termite shield can be fabricated from metal, rubberized membrane or similar material that forms a physical barrier to termites. All seams and penetrations in the termite shield shall be sealed to prevent termite entry.

Roof gutters that discharge water 5 feet away from foundation

All rain from the roof shall be collected in a roof gutter system and directed via downspouts such that water is discharged at least 5 feet away from the foundation. Gutters and downspouts that drain water to the base of the foundation are not eligible for these credits.

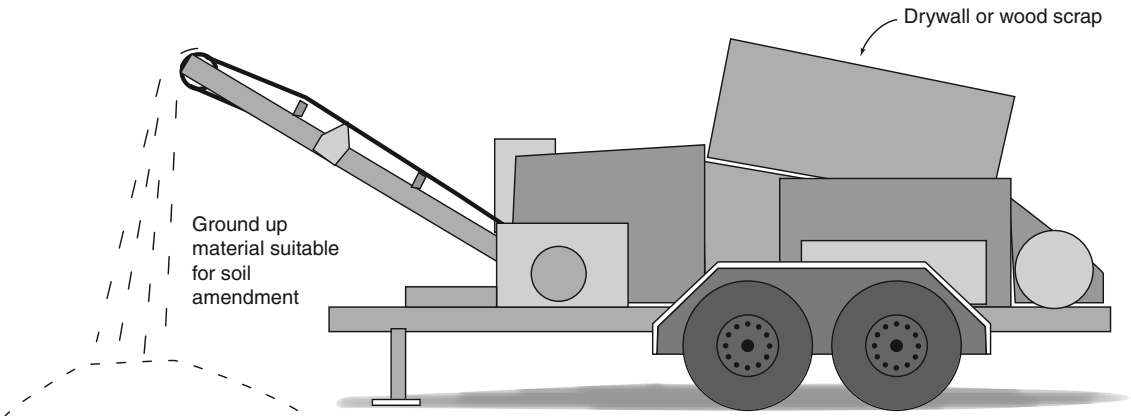


Covered entryways

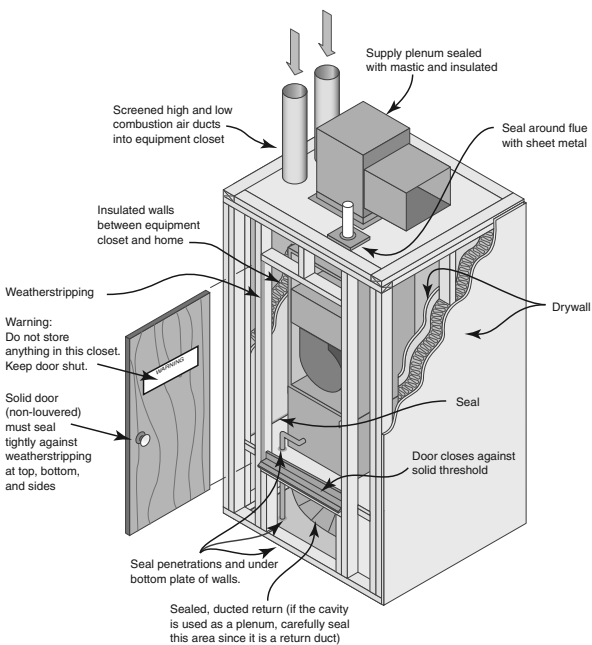
Home shall be equipped with covered entry ways that extend three feet out from every exterior door.

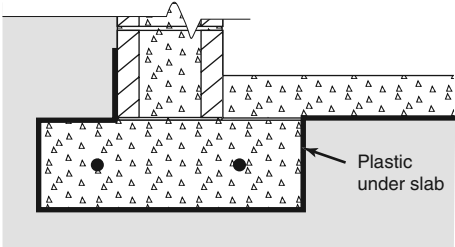
WASTE MANAGEMENT	Donation of excess materials or re-use
<i>Required: No construction materials shall be burned or buried on a job site or other area other than a state approved construction and demolition landfill.</i>	Builder shall avoid disposal of excess construction materials by donating excess to a nonprofit 501c(3) organization or by re-using the construction materials for another job. The value of donated or re-used materials must be \$500 or greater. <i>Builder must provide receipt of donation with EarthCraft House™ final worksheet</i>
WASTE MANAGEMENT PRACTICES	RECYCLE CONSTRUCTION WASTE
Job site framing plan and cut list	Posted job site waste management plan
A plan shall be submitted that designates all structural framing for two of the following: floors, roof, and walls. The plan shall be reviewed with framing crew to ensure minimization of unnecessary framing.	<i>A minimum of 75% of 3 of the following materials must be recycled. See NAHB Research Center’s “Builder’s Field Guide to Residential Construction Waste Management” publication for more information. Points for a “waste management plan” are in addition to points for each recycled material if 3 are recycled.</i>
Job site framing plan with stud locations, joist locations, and roof structure and cut list	Job site shall have a construction waste management plan posted and each subcontractor shall be educated on the aspects of the plan that pertains to their work and these measures shall be enforced by the general contractor. Waste management plan must either provide for on-site separation of materials to be recycled or provide for separation of recyclable materials by clean-up or waste hauling firms. See NAHB Research Center’s “Builder’s Field Guide to Residential Construction Waste Management” publication for more information. The NAHB Research Center is on the web at www.nahbrc.org
A plan that designates all structural framing for the roof, walls, and floors shall be prepared and reviewed with framing crew to ensure minimization of unnecessary framing. Builder must submit documentation of framing plan with EarthCraft House™ scoring worksheet.	
Central cut area	Wood
Framing contractor shall use a central cutting area and store wood end cuts for re-use.	Builder shall avoid disposal of a minimum of 75% of solid sawn wood by recycling at a state or county approved program or by on-site grinding and application of wood chips as mulch. Pressure treated wood shall be exempt from this requirement and may not be milled or applied as mulch.

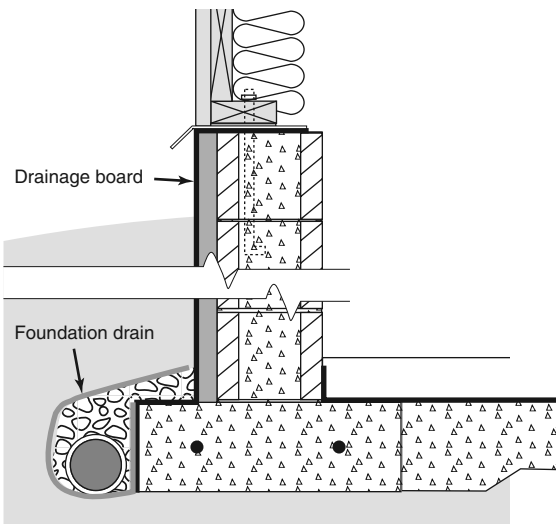
Cardboard	Plastics
Builder shall recycle a minimum of 75% of cardboard.	Builder shall recycle a minimum of 75% of construction plastic and beverage containers.
Metal	Shingles
Builder shall recycle a minimum of 75% metal generated from construction waste and beverage cans by recycling at a state or county approved recycling program.	Builder shall recycle a minimum of 75% of shingle waste.
Drywall	
Builder shall avoid disposal of a minimum of 75% of drywall through an approved recycling program, or by on-site grinding and application of drywall as soil amendment.	



Onsite grinding helps to reduce the amount of construction waste that goes to the landfill.
Consult your local jurisdiction for allowable materials and appropriate practices.

INDOOR AIR QUALITY	
COMBUSTION SAFETY	Sealed combustion furnace or furnace isolated from conditioned area
<i>Required: No unvented combustion fireplaces or space heaters are permitted by the EarthCraft House™ program.</i> <i>Required: No duct runs from house HVAC systems may serve garage.</i> Detached garage or no garage The garage shall be completely isolated by a minimum of 6 inches from the exterior walls or floor of any conditioned area of the house. Any connecting breezeway shall be sealed at both ends to prevent fire-spread. An open carport or no garage is eligible for these points. Attached garage—air sealing The bottom plate and all penetrations (such as plumbing or electrical lines) in the connecting wall between an attached garage and house shall be sealed with caulk, spray foam, gasket or construction adhesive to prevent air movement. Attached garage—exhaust fan An attached garage shall have an exhaust fan rated at a minimum of 100 cubic feet per minute of air flow and be controlled by a timer or motion detector if operated intermittently, or the fan shall be rated at a minimum of 25 cubic feet per minute if operated continuously. Direct vent, sealed combustion fireplace All fuel-burning fireplaces shall be sealed combustion, direct vent units, as rated by the American Gas Association (AGA), that draw in combustion air from outdoors and vent combustion by-products directly outdoors. AGA is on the web at www.aga.org Heat pumps located within conditioned space All heat pumps shall have their air handlers located within the conditioned space.	All furnaces shall be sealed combustion, installed in isolated contained closets, or outside the building envelope. Closets shall be sealed between the bottom plate and subfloor, contain sealed sheathing covering the interior walls and insulation in wall if loose, and ceilings separating the combustion closet from conditioned space, and have a solid (non-louvered) access door that has weatherstripping and a threshold. Combustion air for closets and sealed combustion furnaces shall be provided from outside the house in compliance with the mechanical code.  The diagram illustrates the required sealing for a combustion furnace closet. Key features include: screened high and low combustion air ducts entering the closet; a supply plenum sealed with mastic and insulated; insulation on the walls between the closet and the home; weatherstripping on the door; a solid, non-louvered door that seals tightly against weatherstripping at the top, bottom, and sides; a door that closes against a solid threshold; seals around the flue with sheet metal; and a sealed, ducted return (if the cavity is used as a plenum, it must be carefully sealed as it is a return duct). A warning label on the door states: 'Warning: Do not store anything in this closet. Keep door shut.' Power vented water heater If an atmospheric combustion water heater is located within conditioned space, the water heater shall have power venting.

Direct vent water heater or water heater isolated from conditioned space If an atmospheric combustion water heater is located within conditioned space, the water heater shall direct venting or be installed in an isolated, contained closet. The closet shall be sealed between the bottom plate and subfloor, contain drywall covering the interior walls, and have a solid (non-louvered) access door that has weatherstripping and a threshold. Combustion air for the closet shall be provided from outside the house in compliance with the mechanical code. <i>Water heaters in unconditioned spaces such as garages and attics are eligible for these points.</i> Carbon monoxide detector If the house has an attached garage or combustion appliance, a carbon monoxide detector shall be installed at a minimum of one per floor. Backdraft depressurization test A “worst case house depressurization test” shall be performed by an independent third party. The test shall verify that house mechanical equipment, including exhaust fans, clothes dryer, power vented water heater, and air handler, does not create negative indoor pressures (with respect to outdoors) of more than 3 Pascals. Differing atmospheric conditions or additional exhaust appliances may alter the results of this test.	
	MOISTURE CONTROL
	Plastic as footing wrap or capillary break between footing and foundation Plastic shall be installed to form a capillary break between the ground and the footing. The purpose of the plastic is to prevent groundwater from wicking into the concrete and evaporating into the conditioned space of the house. The plastic shall be continuous from the edge of footing to the slab with an overlapping seam. 
	Foundation drain on top of footing Foundation drain shall be installed around entire foundation and covered with silt protection fabric, gravel, or both. All drain lines shall be connected away and downhill from the foundation.
	Foundation drain at outside edge of footing Foundation drain shall be installed flush with the bottom of the footing and covered with silt protection fabric, gravel, or both. All drain lines shall be connected away and downhill from the foundation.

	
Drainage board for below grade walls	
All below grade walls shall be damp-proofed and feature a drainage plane material that channels water down to the drain tile.	
M Complete gutter system, all buildings	Vapor barrier beneath slab (above gravel) and in crawl space
All buildings shall have roof gutter systems that capture the bulk water from all roof surfaces and manage the release of that water away from the building foundations.	
M Roof gutters that discharge water 5 feet away from foundation	A minimum 6 mil polyethylene vapor barrier shall be continuously installed beneath all concrete floor slabs, and over all exposed earth in crawl spaces. 100% coverage is mandatory.
Gutter system discharges water a minimum of 5 feet from any foundation wall, or into a captured system, ie. rainbarrel or cistern.	
Gravel bed beneath slab	
A minimum four-inch deep gravel bed shall be installed beneath all concrete floor slabs. If plastic vapor barrier is installed, plastic must be on top of gravel.	
M Condensation prevention for cold water pipes	
Insulate cold water pipes in climates and building conditions susceptible to moisture condensation. Avoid locating plumbing in exterior walls.	
M Mold resistant materials at tub/shower enclosures	
Use highly durable moisture resistant materials in areas behind tub/shower enclosures, such as materials without a paper-facing. Alternative materials for tub and shower enclosures include cement board, fiber cement board, fiberglass-reinforced board, or cement plaster.	
M Water heater overflow and leaks captured by drains	
Water heaters with tanks are installed so that overflow or leaks are captured by drains.	

M Materials management plan posted and enforced

Protocols for the order, delivery, acceptance and on-site protection of materials shall be clearly posted and communicated to responsible representatives on-site. The intent of the management plan is to minimize the exposure of the building materials to moisture, UV and other factors that may degrade the materials or promote mold growth on the materials and in the building after installation.

The plan should, at a minimum, include proper storage descriptions for the materials that will be used on the project and maximum time limits for storing materials in unprotected and unconditioned areas on site.

M Roofing completion and penetration plan posted and enforced

A requirement of the completion of the roofing system to prevent bulk water intrusion prior to the installation of any insulation material, including HVAC ductwork, shall be implemented by the developer or its contractor.

Protocols for the immediate repair of any roof penetrations during the course of construction shall be posted, coordinated and enforced so as to prevent bulk water intrusion after “dried-in” conditions have been achieved in the building.

Capillary break between foundation and framing

A capillary break shall be installed between a concrete foundation wall and sill plate. A complete framed wall width sill gasket, EPDM-type rubber, sheet metal or other suitable membrane shall be installed to prevent moisture from wicking through the foundation into the framing.

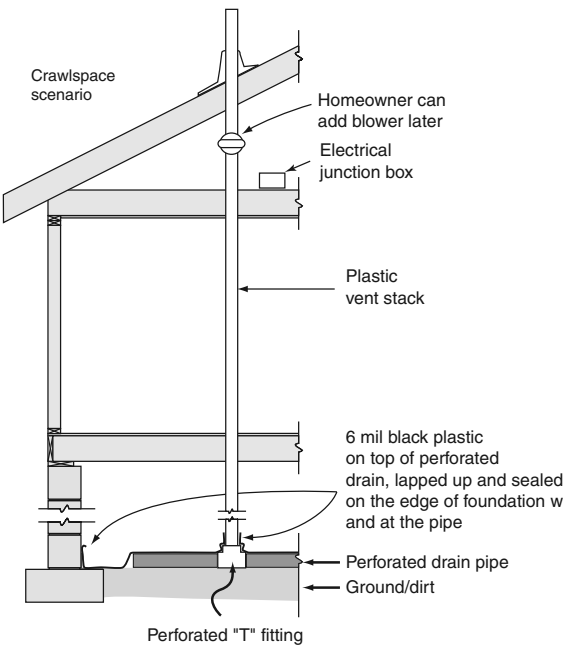
VENTILATION

Required: Bathroom exhaust fans and clothes dryers must be ducted to outside.

Multi-family requirement: Outside air intake with dampers (10 cfm/person)

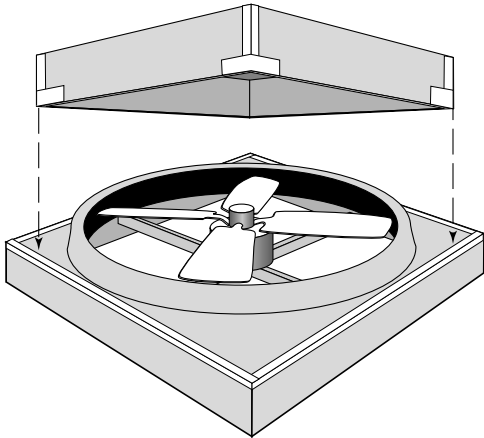
Radon/soil gas vent system

A passive radon vent system shall be installed in compliance with EPA guidelines for “Model Standards and Techniques for Control of Radon in New Residential Buildings.”



Radon test of home prior to occupancy

Builder shall conduct a radon test of house after final construction is complete and provide test results to home buyer. Radon test must comply with EPA guidelines. If test indicates greater than 4 picocuries per liter radon concentration, builder must follow EPA guidelines to reduce radon levels.

ENERGY STAR bath fans All bath fans shall be ENERGY STAR rated. This rating requires that fans 75 cfm or smaller be no louder than 2.0 sones and move a minimum of 1.4 cfm/watt. Fans 76 cfm or larger must be no louder than 1.5 sones and move a minimum of 2.8 cfm/watt. Bath fans ducted with rigid duct All bath fans shall be ducted with rigid material. Automatic tub/shower room fan controls All bath fans installed in rooms with tubs or showers shall have timer or humidity controls. M Exhaust fan wired with lights in bathrooms The bathroom exhaust fans in each unit shall be wired so that the exhaust fans operate when the main lighting for the bathroom is turned on. Kitchen range hood or downdraft vented to exterior All kitchen range or downdraft hoods shall be vented directly to the outdoors. Intentional make-up air shall be provided for any kitchen vent fan rated at greater than 150 cfm. Ceiling fans A minimum of three (3) ceiling fans shall be installed. Each fan shall be installed in the center of the room with at least 6" fan-to-ceiling clearance and have a minimum diameter of 48".	Whole house fan Whole house fan shall be installed with an insulated cover. A cover shall be constructed to air seal and insulate the whole house fan. Homeowner shall be instructed to remove cover before operating the fan and replace cover during seasons when not in use. Attic ventilation must provide at least one square foot of net free vent area per 750 CFM of fan air flow (CFM= Whole House Fan ACM Capacity x Volume of House). A 3D perspective diagram of a whole house fan. The fan is a circular unit with four blades, mounted in a square ceiling. Above the fan is a separate, square, insulated cover with a hinged lid. Dashed lines indicate the cover is being lowered over the fan. The cover has a thick, shaded top surface representing insulation. A low-cost insulated whole house fan cover should be used during the off season. Basement or crawlspace dehumidification system A dedicated dehumidification system shall be operable in the basement. This system may be a stand alone, portable unit provided it is furnished new to the occupants. Vented garage storage room A separate storage room shall be provided in the garage with a lockable door and vented directly to the outdoors with a minimum of 100 square inches of net free vent area per 100 square feet of floor area. No combustion equipment or HVAC equipment shall be in the storage room. No power roof vents No electrically-powered roof exhaust vents shall be installed.
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M Vented storage room outside building envelope

A separate storage room shall be provided for each dwelling unit outside of the building envelope vented directly to the outdoors with a minimum of 30 square inches of net free vent area per 10 square feet of floor area.

M Outside air intake tied directly into return plenum

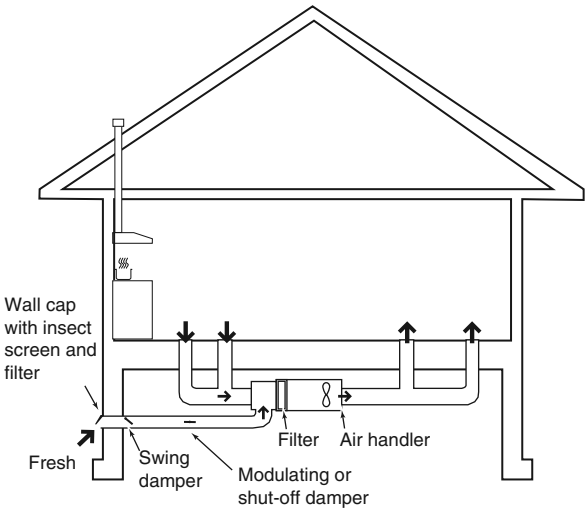
An outside air intake shall be connected to the return plenum. This detail is required in installations where air handlers have no open returns.

Outside air intake without damper

An outdoor air intake duct shall be connected to the return side of each air handler to bring in fresh outside air for ventilation. The air shall be filtered and the intake duct shall be sealed and insulated when run through unconditioned spaces. One way this can be accomplished is with a 4-inch duct attached to the return plenum of the air handler and connected to an outdoor inlet. The inlet must have a screen to deter birds, squirrels, etc.

Outside air intake with dampers

An outdoor air intake duct shall be connected to the return side of each air handler to bring in fresh outside air for ventilation. The air shall be filtered and a damper (barometric or motorized) should close automatically when the air handler fan is not operating. The intake duct shall be sealed and insulated when run through unconditioned space (such as attic or crawl space). One way this can be accomplished is with a 4-inch duct attached to the return plenum of the air handler and connected to an outdoor inlet. The inlet must have a screen to deter birds, squirrels, etc. Finally, the duct must have a damper to control the amount of fresh air.



Ventilation timer on outside air intakes

A control device shall be installed on a dampered outside air intake to allow the occupants to specify the desired operating time.

Energy Recovery Ventilator (ERV)

An Energy Recovery Ventilator shall be installed according to the manufacturer’s specifications. An ERV transfers heat and moisture between incoming and exhaust air streams.

MATERIALS

Required: Ducts in floor covered and protected until floor finishing

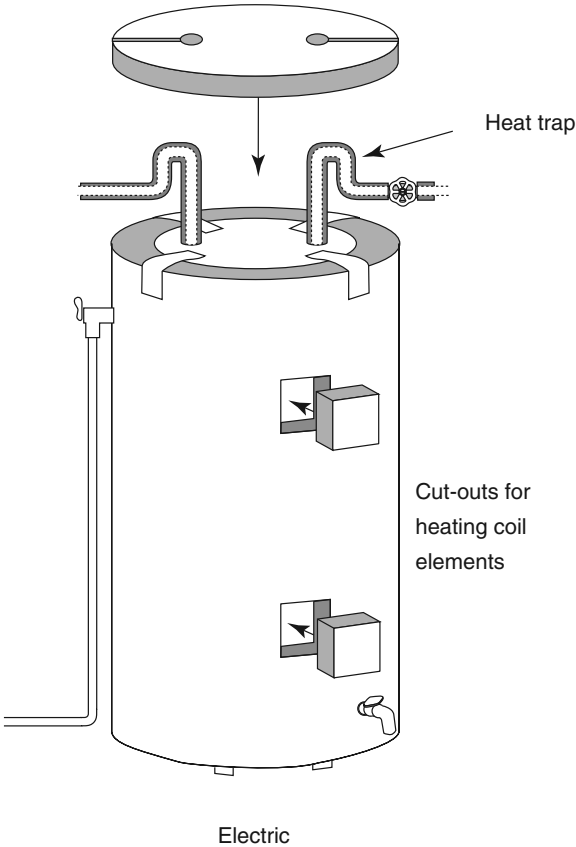
Subfloor urea-formaldehyde free

Subflooring shall not contain urea-formaldehyde.

All cabinets, shelves, and countertops urea-formaldehyde free

Cabinetry, shelves, and countertops shall not contain urea-formaldehyde.

All surfaces of particle board in house sealed with water-based sealant	Alternative termite treatment
If urea formaldehyde materials are used in conditioned space, all 6 sides must be coated with a water based polyurethane sealant or a specialty formaldehyde sealant. Sealant shall have a maximum VOC (Volatile Organic Compounds) content of 250 g/L.	Acceptable termite soil treatments include borate application, termite baiting, stainless steel mesh, or basaltic sand. Homeowner shall be educated to type of system installed and maintenance or monitoring requirements.
Reduced VOC paints (less than 250 g/L)	Alternative pest control system
All interior paints shall have a maximum VOC content of 250 g/L	Alternative pest control system shall be installed in the home according to manufacturer’s specifications.
Low VOC paints (less than 150 g/L)	Outdoor structures made from non-CCA pressure treated lumber
All interior paints shall have a maximum VOC content of 150 g/L	All outdoor decking and porches shall be constructed of lumber that has not been pressure treated with CCA (Copper Chromium Arsenate). Other types of pressure treated lumber or non-wood materials are eligible.
Reduced VOC stains and finishes on wood floors	Central vacuum system with outside collection receptacle
All interior wood floor stains and finishes shall have a maximum VOC (Volatile Organic Compound) content of 250 g/L.	A central vacuum system shall be installed with storage receptacle located outside of conditioned space or sealed to prevent dust from entering the home.
Reduced VOC sealants and adhesives	Filter/air cleaner with minimum MERV 8
All interior sealants and adhesives shall have a maximum VOC (Volatile Organic Compound) content of 250 g/L.	The installed air filter/cleaner on all systems shall have a minimum MERV of 8 or higher. (Ozone generators are not permissible as air cleaners.)
Low VOC carpet certified by the Carpet & Rug Institute	Filter, two-inch pleated or better
The builder shall provide a current letter from the Carpet and Rug Institute certifying that the specified carpet type to be supplied has been tested and meets all the requirements of the CRI Indoor Air Quality Carpet Testing Program.	The installed filter on all systems shall be at least a two-inch pleated media filter.
	Ducts protected until construction is completed
	Supply and return duct outlets shall be covered to stop construction trash and dust from contaminating new duct system.

WATER—INDOOR Required: All fixtures must meet National Energy Policy Act low flow standards. Required: Heat traps installed on all water heaters.  Heat trap Cut-outs for heating coil elements Electric M All units sub-metered Install individual or sub-metered water meters in multifamily housing units. Water filter Primary kitchen faucet shall be installed with a water filter that meets National Sanitation Foundation specifications.		Front loading clothes washer Installed clothes washer shall be a front-loading model. Low-flow showerheads At least 80% of all showerheads in the home must exceed the National Energy Policy Act (NEPA) by a minimum of 10% less flow. The NEPA requires flow of 2.5 gal/minute or less, so showerheads with 2.25 gal/minute or less qualify for this point. Low-flush toilets At least 80% of all toilets in the home must exceed the National Energy Policy Act (NEPA) by a minimum of 10% less flow. The NEPA requires flow of 1.6 gal/flush or less, so toilets with 1.45 gal/flush or less qualify for this point. M Faucets with tamper-resistant strainer or flow control in fixture Sink fixtures shall be equipped with tamper-resistant strainers or shall have flow controls incorporated into the fixture mechanism. Hot water demand re-circulation A hot water demand system shall be installed on the fixture furthest from the water heater. This recirculation pump will minimize wait time for hot water, thereby reducing waste. Remote switches to activate the system shall be installed on intermediate fixtures between the pump and water heater. Manifold distribution system A manifold distribution system shall be installed so that each plumbing fixture in the house, or unit has a dedicated water line back to the manifold. This design approach minimizes the diameter of the water pipes and reduces the amount of water wasted while waiting for hot water to reach the fixture.
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Shower drain heat recovery device	Water heater pipe insulation
A drain heat recovery device shall be installed on one shower in the home. This device recovers a minimum of 25% of the wasted heat from the shower drain water such a GFX.	The first two feet of cold and hot water pipe closest to the water heater tank shall be insulated with a minimum of ½ inch foam, preferably through the heat traps installed in the hot and cold water pipes.
High efficiency water heater	Heat recovery water heating
Tank type water heaters shall meet Energy Star standards or have an Energy Factor rating equal to or greater than 0.62 for natural gas, 0.62 for propane, or 0.92 for electric resistance.	A refrigerant-to-water desuperheating coil shall be used to recover waste heat from an air conditioner or heat pump to heat domestic water.
Tankless gas water heater	Solar domestic water heating
A tankless gas water heater shall be installed according to manufacturer’s specifications.	A solar domestic water heater shall be installed according to manufacturer’s specifications.
Water heater tank insulation	Heat pump water heater
Water heater tank shall have an insulating jacket equal to or greater than R5. Jacket must be installed according to manufacturer’s recommendations.	A heat pump water heater shall be installed according to manufacturer’s specifications.

WATER—OUTDOORS	No irrigation system installed
HBA Water Smart Program	No irrigation system shall be installed on the property.
Builder shall comply with the HBA Water Smart Program.	Drip irrigation system
Xeriscape™ guidebook given to homeowner	A minimum of 50% of landscape planting beds shall have a drip irrigation system.
A copy of Virginia Tech’s Virginia Cooperative Extension’s guide, “Creating a Water-Wise Landscape”.	Greywater irrigation
Xeriscape™ plan provided to homeowner	A greywater irrigation system shall be approved by local building and/or health departments, and at a minimum shall have a dedicated clothes washer box with 2-inch drain connected to a subterranean drain field. A separate clothes washer box shall be provided that connects to the sanitary drain system.
A drought tolerant landscape plan developed by a landscape architect, horticulturist or other professional shall be provided to the home buyer.	Rainwater harvest system
Soil tested and amended	Rain from the roof shall be collected and stored for irrigation use.
Soil shall be tested and amended to improve the growth of plants and grasses.	Permeable pavement
Drought tolerant plants incorporated	A minimum of 80% of paved surfaces for driveways, sidewalks, and patio areas shall have a pavement system that allows for infiltration of water.
Drought tolerant plants shall be incorporated into the landscape design. Adaptable plants withstand rainfall shortages and utilize less water for irrigation.	
Sod intentionally minimized	
Turf grass area shall be intentionally minimized to reduce the requirements for irrigation. The area shall be less than the home’s footprint.	

HOME BUYER EDUCATION	
Guaranteed energy bills	Household hazardous waste resources
The builder, utility or third party shall certify that the energy bills for a minimum two year period shall not exceed a baseline level. The guaranteed level shall be less than the energy use predicted for a home built to the standards of the current state energy code.	The builder shall provide the home buyer with information on the proper management of household hazardous waste.
Review energy operations	Environmental checklist
The builder shall review the proper use and maintenance of all energy using systems, such as bath fans, fireplaces, filters, ventilation filters, and thermostats, with the home buyer and provide a manual that summarizes these procedures.	Builder shall provide the home buyer a list of the selected environmental features for the EarthCraft House™.
Review irrigation system operations	
The builder shall review the proper use and maintenance of all irrigation systems with the home buyer and provide a manual that summarizes these procedures.	
Built-in recycling center	
The builder shall provide site-built or commercially manufactured recycling containers for newspaper, magazines, and at least one other material.	
Local recycling contact	
Builder shall provide the home buyer information on recycling facilities conveniently located to the home as well as a list of haulers that provide curbside service.	

BUILDER OPERATIONS	Certified Professional Home Builder
<i>Required: Builder must certify one (1) EarthCraft House every year.</i>	Builder shall be a member of the Home Builder Association (HBA) and Certified Professional Home Builder program.
Builder commits 80% of total homes to EarthCraft House™ standards	Uses HBA Homeowner Handbook for warranty standards
The builder shall commit to building and certifying a minimum of 80% of total houses to EarthCraft House™ standards within the upcoming twelve month period.	Builder shall use the HBA Homeowner Handbook for warranty standards.
M Uses EarthCraft Operations and Maintenance Manual in management contract	
Developer uses EarthCraft Operations and Maintenance Manual in its scope of work for the management of the property.	
Markets EarthCraft House™ program	
Builder shall include EarthCraft House™ logo in all print materials, advertisements and other promotional materials.	
Environmental checklist provided to all subcontractors	
Builder shall provide and review the relevant EarthCraft House™ measures with each subcontractor to ensure their compliance with the program guidelines.	
M Approved construction materials order and management plan	
Protocols for the order, acceptance, and timely installation of building materials shall be required by the developer to minimize material waste and prolonged storage on site. Plan shall include a schedule of anticipated material order, delivery and installation for all major building components and protocols for proper storage and protection of the materials while on site.	

BONUS POINTS	
Site located within ¼ mile of mass transit	
Bonus points shall be awarded for homes located within 0.25 mile of at least one type of mass transit, including bus, train, or ride share.	
Sidewalk connects house to business district	
Bonus points shall be awarded where continuous sidewalk connects the house to the local business district, including grocery store, restaurants, and entertainment – maximum 2 miles.	
M Street trees—minimum interval 40 ft.	
Plant or preserve shade trees at regular intervals along both sides of a least 75% of the total linear footage of streets.	
Plant a diversity of species and include regionally-native or -adaptive trees whenever possible. Plant trees at a minimum interval of 40 feet and in planting strips or tree wells with a minimum dimension of 6 feet by 6 feet. If this dimension is not desirable in a specific context, demonstrate that a sufficient root path is created through the use of structural soil beneath the sidewalk or through another proven technique.	
Brownfield site	
Bonus points shall be awarded for homes built on a brownfield site. A brownfield site is defined as being an abandoned, idle, or under used industrial or commercial facility where expansion or re-development is complicated by real or perceived environmental contamination. Technical assistance for building on brownfield sites may be obtained by contacting the EPA's Division of Waste Management (see references).	
	M Infill development
	Locate the project within an existing community or previously built on property that is contiguous to existing development. Infill sites refer to new development on vacant, bypassed, and underutilized land within built-up areas of existing communities where infrastructure is already in place.
	Solar electric system
	Bonus points shall be awarded for a solar electric system which is capable of producing 20% of the home's electrical load. All electrical inspections must meet the National Electric Code. The solar array must remain unshaded year round, be oriented to within 15 degrees of true south, and be angled horizontally within 15 degrees of latitude.
	M Solar electric system providing 10% of project requirements
	Bonus points shall be awarded for a solar electric system which is capable of producing 10% of the housing unit's electrical load. All electrical inspections must meet the National Electric Code. The solar array must remain unshaded year round, be oriented to within 15 degrees of true south, and be angled horizontally within 15 degrees of latitude.
	Alternative vehicles: electric charging station or natural gas pump
	Bonus points shall be awarded for a home equipped with an electric charging station or natural gas pump for refueling alternative fuel vehicles.
	M Alternative transportation accommodation
	Bike racks or other alternative transportation accommodations shall be provided for a minimum of 15% of number of dwelling units.

M Dedicated pedestrian and bicycle access to surrounding sites Provide sidewalks that link the residential units to public spaces, open spaces, and adjacent development. Provide cyclists with either dedicated lanes or paths that link the development to the surrounding community.	M Average density greater than 15 units per acre Total number of dwelling units after construction divided by the acreage of entire tract down to one decimal point, minus dedicated acreage of public street rights of way, buffered wetlands and dedicated open space down to one decimal point. The size and scale of roads and streets will be based on the smallest allowable for residential community design and will incorporate all necessary traffic calming devices to assure a pedestrian safe and friendly community.
M Infrastructure connectivity to surrounding sites Connect streets to existing stub streets and stub out streets for future connections. Connect trails with offsite trail network and connect streets with offsite street network in at least two places.	M Centralized community recycling center The developer shall construct an area protected from weather for the acceptance of multiple containers for resident drop-off of recycled materials including newspaper, aluminum/metal, plastic and glass at a minimum.
M Housing affordability 5% Develop 5% of all residential units as affordable housing for low-income households for a 10 year period. Definition of low-income: Low-income households earn less than 80% of median household income in the county (HUD) Definition of affordability: Housing cost less than 30% of household income (HUD)	M Community garden area The developer shall dedicate land to community garden use, and preserve the plot with an agricultural easement or permanent restriction to insure its use in this manner for a minimum of 10 years. To qualify, the area of dedicated land must be greater than 10 square feet/dwelling unit. In consultation with residents, community gardening plots shall be constructed, including soil improvements and raised accessible beds, and provide start-up gardening supplies. Encourage organic gardening techniques.
M Housing affordability 10% Develop 10% of all residential units as affordable housing for low-income households for a 10 year period. Definition of low-income: Low-income households earn less than 80% of median household income in the county (HUD) Definition of affordability: Housing cost less than 30% of household income (HUD)	M Handicapped visitability at least 50% more than code minimum The development shall have at least 50% more units that meet handicapped requirements than is required by local codes for the project type. Units that accommodate visually or hearing impaired residents or visitors also qualify towards this percentage.

M Exterior lighting designed to reduce light pollution Design outdoor lighting to eliminate light trespass from the building and site and to minimize impact on nocturnal environments. Use daylight sensors on all exterior lighting. Consult the Illuminating Engineering Society of North America Recommended Practice Manual: Lighting for Exterior Environments.	Certified as an ENERGY STAR Home Home shall be certified energy star according to the requirements of Department of Energy (DOE) ENERGY STAR program available at www.energystar.gov.
M Proximity to regional bike path--existing Locate the area of highest density in the community within ½ mile of a regional bike path and provide a continuous linkage and directional signage to the path.	Certified as a LEED-H home Home shall meet the standards for the “certified” level or higher in the USGBC’s LEED-H guidelines and be certified by a LEED-H Provider. For more information, please visit www.usgbc.org.
M Proximity to regional bike path—planned Locate the area of highest density in the community within ½ mile of a planned and funded regional bike path.	Exceeds ENERGY STAR One EarthCraft House bonus point shall be awarded for every 3 points of reduction in the HERS index, for a maximum of 5 points. For example, a HERS index of 85 qualifies for ENERGY STAR. A HERS index of 79 wil earn two points.
M Common areas use alternative energy Common area features, amenities, or fixtures use alternative energy sources to supplement their operation and demonstrate the technology. Examples include solar hot water heating for the community pool and photovoltaic systems for signage or parking area lighting.	Innovation points Builder shall submit specifications for innovative products or design features to qualify for additional points.
EasyLiving Home™ Program Builder shall be a member of the EasyLiving Home™ program and build homes that are accessible and earn the EasyLiving certification.	
American Lung Association Health House Bonus points shall be awarded for homes built according to the criteria and performance standards set forth by the American Lung Association® for the Health House Project.	



EarthCraft House™
Sensibly Built for the Environment

MIXED HUMID CLIMATE WORKSHEET
IECC 2000 Climate Zones 7 and 8

A worksheet must be submitted to EarthCraft House for each home to be certified. An EarthCraft House certification requires 150 points. In addition to having a completed worksheet, each home must also have appropriate documentation and a Final Inspection by an EarthCraft House Inspector.

Worksheets may be submitted via mail, fax, email or presented on-site to the inspector.

Mail: EarthCraft House
241 Pine St. NE
Atlanta, GA 30308
Fax: 404-872-5009
Email: worksheets@earthcrafthouse.com

Builder Group: _____
Contact Person: _____
Phone: _____
Fax: _____
Email: _____

House Address: _____
Lot #: _____
Community: _____

Builder - By accepting the EarthCraft House certification, I pledge that this house has been constructed to the standards listed on this Scoring Worksheet.

Builder Signature date

Home Buyer - I have reviewed the EarthCraft House measures with the homebuilder or sales agent.

Home Buyer Signature (required only for pre-sales) date

EarthCraft House Inspector

Inspector Signature date

Worksheet Score

	POINTS	SCORE	DOCUMENTATION
SITE PLANNING			
REQUIRED: Must comply with all federal, state, and local government erosion control and tree protection measures.	-		
erosion control site plan	2		site plan
workshop on erosion and sediment control	2		certificate
excavated topsoil protected from erosion	5		
use of redundant mulch, compost, or straw bales for erosion control	3		
grind stumps and limbs for mulch	2		
mill cleared logs	2		
registered BuildingWith Trees (NAHB Program) development	5		confirmation letter
tree preservation plan	3		tree plan
utilities in tree root zones tunneled or hand dug (1 point per tree, max 5 trees)	1 per tree		
individual trees fenced at drip line (1 point per tree, max 5 trees)	1 per tree		
protected tree save area (min 25% of development or lot)	2		
tree planting (min 12 trees per acre of developed land; min 2" caliper)	4		
wildlife habitat including shelter, food, and water	2		
SITE PLANNING TOTAL			
ENERGY EFFICIENT BUILDING ENVELOPE AND SYSTEMS			
REQUIRED: ENERGY STAR HOME CERTIFICATION. Note: Homes with all items marked★ will likely qualify as ENERGY STAR Homes using a Builder Option Package. See www.energystar.gov .			
REQUIRED AIR SEALING MEASURE¹			
chases sealed and insulated	-		
stud cavities blocked at change in ceiling height	-		
attic kneewall has sealed exterior sheathing and/or netting for dense insulation	-		
joist cavities under attic kneewall blocked	-		
penetrations through top and bottom plate sealed	-		
bottom plate sealed to floor or foundation	-		
window and door rough openings sealed	-		
gaps in exterior wall sheathing sealed	-		
sheathing penetrations sealed (including exterior light fixtures)	-		
penetrations through band sealed (including bathroom exhaust fan)	-		
exterior walls of fireplace chase sealed	-		
penetrations through insulated subfloor sealed (including HVAC boots)	-		
shower and tub drains sealed	-		
cantilevered floor sealed above supporting wall	-		
all recessed can lights in insulated ceilings must be airtight and IC-rated	-		
penetrations through insulated ceiling sealed (including HVAC boots)	-		
attic kneewall doors & scuttle holes weatherstripped	-		
attic pull-down stairs, scuttle hole, & kneewall doors sealed at rough opening	-		
penetrations through drywall in attached garage sealed	-		
no polyethylene shall be used on exterior walls or foundation walls	-		
ADDITIONAL AIR SEALING MEASURE¹			
air barrier installed behind tubs and showers	2		
ceiling drywall sealed to top plate	2		
drywall penetrations in insulated walls	1		
attic pull-down stairs with sealed attic-side cover	2		
housewrap installed with all seams and edges taped	1		
seams in band joist between conditioned floors sealed	2		
BLOWER DOOR TEST			
REQUIRED: Blower door test result <0.50 cfm ₅₀ / square foot of building envelope	-		test results
★ test result <0.40 cfm ₅₀ / square foot of building envelope	25		test results
test result <0.25 cfm ₆₀ / square foot of building envelope (ventilation required)	35		test results
AIR SEALING SUBTOTAL			

	POINTS	SCORE	DOCUMENTATION
REQUIRED INSULATION			
exterior walls & band joist R13	-		
flat ceilings R30 (requires baffles and blocking in vented attics)	-		
sloped ceilings R19	-		
cantilevered floors R19 (blocking between joists required)	-		
framed floors R19 (if basement/crawl is outside building envelope)	-		
foundation walls R5 (if basement/crawl is inside building envelope)	-		
attic kneewalls R19 (or U less than or equal to 0.061)	-		
ADDITIONAL INSULATION			
2x6 attic kneewalls with R19 cavity insulation & non-insulated sheathing (U=0.061)	2		
2x6 attic kneewalls with R19 cavity insulation & R3 insulated sheathing (U=0.051)	3		
2x4 attic kneewalls with R13 cavity insulation & R5 insulated sheathing (U=0.058)	3		
slab insulation R4	3		
foundation walls insulated instead of floor over basement (no paper faced batts)	5		
foundation walls insulated with continuous insulation	2		
sealed, insulated crawl space walls R8	4		
cantilevered floors R30 (blocking between joists required)	1		
insulate fireplace chase or no fireplaces on exterior walls	1		
spray applied wall insulation	5		
insulated wall stud cavities R15	1		
insulated headers	1		
insulated corners	1		
insulated T-walls (exterior/interior wall intersection)	1		
★insulated wall sheathing R 2.5 or greater (min. 75%)	2		
insulated wall sheathing R 5 or greater (min. 75%)	3		
band joist insulated R19	2		
loose-fill attic insulation card and rulers	1		
energy heel trusses or raised top plate	2		
flat ceilings R38 (requires baffles and blocking in vented attics)	2		
vaulted and tray ceilings R25	1		
vaulted and tray ceilings R30	2		
attic radiant barrier	2		
attic kneewall doors R8	2		
attic pull-down or scuttle hole R5	1		
attic pull-down or scuttle hole R19 (compressed batt not acceptable)	2		
INSULATION SUBTOTAL			
WINDOWS			
REQUIRED: Maximum window U-factor 0.65	-		
window is NFRC certified with label	1		window label
window U-factor <0.40	3		window label
★window U-factor <0.35	5		window label
window, skylight and glass door SHGC <0.40	3		window label
★window, skylight and glass door SHGC <0.35	5		window label
1.5-foot overhangs over 80% of windows (max 2 feet above windows)	1		
solar shade screens (min all east and west windows)	3		
west facing glazing less than 2% of floor area	2		
east facing glazing less than 3% of floor area	2		
certified passive solar design (25% load reduction)	10		computer print-out
WINDOWS SUBTOTAL			
HEATING AND COOLING EQUIPMENT			
REQUIRED: Manual J calculation for sizing heating and cooling equipment	-		
Manual J calculation based on actual house orientation	5		
installed cooling equipment within 6,000 btu/hr of Manual J (all units)	2		load calc + eqmt size
installed heating equipment within 25,000 btu/hr of Manual J (all units)	2		load calc + eqmt size
★90% AFUE furnaces / 7.5 HSPF heat pumps	6		energy guide label
SEER 12 cooling equipment	4		energy guide label
SEER 14 cooling equipment	6		energy guide label

	POINTS	SCORE	DOCUMENTATION
geothermal heat pump	8		
sensible heat fraction less than or equal to 0.75 (all air conditioners)	2		spec sheet
★programmable thermostat (all systems)	1		
outdoor thermostat for heat pump	1		
cooling equipment has non-CFC and non-HCFC refrigerant	3		product literature
zone control - one system services multiple zones	5		
HEATING AND COOLING SUBTOTAL			
DUCTWORK / AIR HANDLER			
REQUIRED: air handlers & duct systems sealed with mastic or mastic tape	-		
REQUIRED: code approved solid connector for all flex to flex connections	-		
air handler located within conditioned space (all units)	5		
ducts located within conditioned space (min 90%)	5		
duct design complies with Manual D on a room-by-room basis	5		sizing calculation
all supply duct take-offs spaced 6" apart (no ducts from cap)	2		
no duct take-offs within 6" of supply plenum cap	1		
rigid ductwork or all flex duct pulled tight with no pinches	1		
return capacity 120% of supply capacity	3		
airflow for each duct run measured and balanced to within 15 cfm of design value	4		test results
variable speed blower	5		
no ducts in exterior walls or vaulted ceilings	1		
rigid supply trunk	3		
multiple return ducts (min 1 in each bedroom) or transfer grills	2		
interior doors with 1 inch clearance to finish floor	1		
duct trunk lines outside conditioned space insulated to R8	2		
DUCT BLASTER TEST			
REQUIRED: Duct blaster test result <10% of floor area served	-		test results
★Duct blaster result <5%	20		test results
DUCTWORK / AIR HANDLER SUBTOTAL			
ENERGY EFFICIENT BUILDING TOTAL *			
*Builder must earn a minimum of 75 pts. No more than 85 pts. can be applied to the total score			
ENERGY EFFICIENT LIGHTING / APPLIANCES			
indoor fluorescent fixtures (min 200 watts)	2		
recessed light fixtures are compact fluorescents	2		
automatic outdoor lighting controls (e.g. motion sensor)	2		
high efficiency exterior lighting	2		product literature
ENERGY STAR dishwasher	1		product label
ENERGY STAR refrigerator	2		product label
no garbage disposal	1		
ENERGY EFFICIENT LIGHTING / APPLIANCES TOTAL			
RESOURCE EFFICIENT DESIGN			
total floor area of house <1800 square feet	6		
total floor area of house 1800-2100 square feet	4		
total floor area of house 2100-2500 square feet	2		
outside dimensions of floor plan adheres to 2-ft dimensions	2		
floor joists @ 24-in. centers (all floors)	5		
floor joists @ 19.2-in. centers (all floors)	3		
non-load bearing wall studs @ 24-in. centers	2		
all wall studs @ 24-in. centers	3		
window rough openings eliminate jack stud	2		
non-structural headers in non-load bearing walls	2		
single top plate with stacked framing	3		
2-stud corners with drywall clips or alternative framing	3		
T-walls with drywall clips or alternative framing	3		
RESOURCE EFFICIENT DESIGN TOTAL			

	POINTS	SCORE	DOCUMENTATION
RESOURCE EFFICIENT BUILDING MATERIALS			
RECYCLED AND NATURAL CONTENT MATERIALS			
sustainably harvested lumber (50%)	3		
25% of cement in concrete replaced with fly ash or slag	3		content print-out
recycled concrete used as aggregate	1		letter
insulation (min 25% recycled)	1		product literature
reclaimed wood flooring	2		letter
recycled content tiles (min 30% recycled)	2		product literature
cork or bamboo flooring (min 10% of total floor area)	2		
carpet (min 50% recycled)	2		product literature
biodegradeable carpet and backing (wool, hemp, etc.)	2		
outdoor decking and porches (min 40% recycled content)	3		
air conditioner condensing unit pad (min 50% recycled content)	1		
RECYCLED AND NATURAL CONTENT MATERIALS SUBTOTAL			
ADVANCED PRODUCTS			
engineered floor framing (80%)	4		
engineered roof framing	2		
OSB roof decking	1		
all beams are steel, engineered wood, or trusses	1		
all headers are steel or engineered wood	1		
engineered wall framing (25% of studs)	1		
engineered wall framing (80% of studs)	2		
interior trim finger jointed or MDF	1		
engineered exterior trim including soffit, fascia, and trim	1		
steel interior wall framing	1		
Structural Insulated Panels (exterior walls)	5		
Structural Insulated Panels (roof)	3		
Precast Autoclaved Aerated Concrete	5		
Insulated Concrete Forms	5		
ADVANCED PRODUCTS SUBTOTAL			
DURABILITY			
roofing (min 25-year warranty)	1		warranty
roofing (min 30-year warranty)	2		warranty
roofing (min 40-year warranty)	3		warranty
light roof color (tile or metal)	2		
roof drip edge	1		
exterior cladding (min 3 sides with 40-year warranty or masonry)	1		
walls covered with builder paper or housewrap (drainage plane)	1		
siding with vented rain screen	1		
back-primed siding and trim	1		
10 year warranty on all insulated glazing	1		warranty
window and door pan & sill flashing integrated with drainage plane	1		
window and door head flashing integrated with drainage plane	2		
continuous foundation termite flashing	1		
roof gutters that discharge water 5 feet away from foundation	1		
covered entryways (all doors)	2		
DURABILITY SUBTOTAL			
RESOURCE EFFICIENT BUILDING MATERIALS TOTAL			
WASTE MANAGEMENT			
WASTE MANAGEMENT PRACTICES			
Required: No construction materials shall be burned or buried on job site or anywhere but in a state-approved landfill.	-		
job site framing plan with cut list	1		frame plan + cut list
job site framing plan with locations of studs, joists, and roof structure with cut list	10		frame plan + cut list

	POINTS	SCORE	DOCUMENTATION
central cut area	3		
donation of excess materials or re-use (min \$500/job)	1		letter
WASTE MANAGEMENT PRACTICES SUBTOTAL			
RECYCLE CONSTRUCTION WASTE			
posted job site waste management plan - recycle 75% of 3 materials	5		management plan
wood	3		
cardboard	1		
metal	1		
drywall (recycle or grind and spread on site)	3		
plastics	1		
shingles	1		
RECYCLE CONSTRUCTION WASTE SUBTOTAL			
WASTE MANAGEMENT TOTAL			
INDOOR AIR QUALITY			
COMBUSTION SAFETY			
REQUIRED: No unvented combustion fireplaces or space heaters.	-		
REQUIRED: No duct runs from house system serving garage	-		
detached garage or no garage	5		
attached garage - seal bottom plate, penetrations, and band area	2		
attached garage - exhaust fan controlled by motion sensor or timer	2		
direct vent, sealed combustion fireplace (all units)	3		
heat pumps located inside conditioned space (all units)	2		
sealed combustion furnace or furnace isolated from conditioned space (all units)	4		
power vented water heater	2		
direct vent water heater or water heater isolated from conditioned space (all)	4		
carbon monoxide detector (one per floor required)	4		
backdraft depressurization test	4		test results
COMBUSTION SAFETY SUBTOTAL			
MOISTURE CONTROL			
plastic as footing wrap or capillary break between footing and foundation	2		
foundation drain on top of footing	1		
foundation drain at outside perimeter edge of footing	2		
drainage board for below grade walls	4		
gravel bed beneath slab	3		
vapor barrier beneath slab (above gravel) and in crawl space	1		
100% coverage of vapor barrier in crawl space all seams sealed to piers, walls	1		
capillary break between foundation and framing	1		
MOISTURE CONTROL SUBTOTAL			
VENTILATION			
REQUIRED: bathroom exhaust fans & clothes dryers must be ducted to outside	-		
passive radon/soil gas vent system	4		
radon test of home prior to occupancy	2		
ENERGY STAR bath fans (all units)	3		product literature
bath fans ducted with rigid duct (all units)	1		
automatic tub/shower room fan controls (e.g. timer)	1		
kitchen range hood or downdraft vented to exterior	3		
ceiling fans (minimum of 3 fans)	1		
whole house fan	2		
basement or sealed crawlspace dehumidification system	3		
vented garage storage room	1		
no power roof vents	1		
outside air intake without damper (10 cfm/person)	4		
outside air intake with dampers (10 cfm/person)	5		
ventilation timer on outside air intakes	3		
energy recovery ventilator	4		
VENTILATION SUBTOTAL			

	POINTS	SCORE	DOCUMENTATION
MATERIALS			
REQUIRED: Ducts in floor protected until floor finishing	-		
subfloor urea-formaldehyde free	1		product literature
all cabinets, shelves, and countertops urea formaldehyde free	3		product literature
all surfaces of particle board in house sealed with water-based sealant	1		
reduced VOC paints (less than 250 g/L)	1		product literature
low VOC paints (less than 150 g/L)	3		
reduced VOC stains and finishes on wood floors	1		product literature
low VOC sealants and adhesives (less than 250 g/L)	1		product literature
low VOC carpet certified by the Carpet & Rug Institute	2		product literature
alternative termite treatment	2		
alternative pest control	2		
outdoor structures made from non-CCA pressure treated lumber	1		product literature
central vacuum system with outside collection receptacle	1		
filter / air cleaner MERV 8 or better (e.g. pleated filter)	1		
2" pleated filter or thicker	2		
ducts protected until construction is completed	2		
MATERIALS SUBTOTAL			
INDOOR AIR QUALITY TOTAL			
WATER - INDOOR			
REQUIRED: All fixtures must meet National Energy Policy Act low flow standards.	-		
REQUIRED: heat traps on all water heaters	-		
water filter (NSF certified)	1		product literature
front-loading clothes washer	2		product label
low-flow showerheads (max 2.25 gal/min)	1		product literature
low-flush toilets (max 1.45 gal/min)	1		product literature
hot water demand re-circulation (not continuous circulation)	2		
manifold distribution system	2		
shower drain heat recovery device	2		
high efficiency water heater (min Energy Factor: gas 0.62 electric 0.92)	2		energy guide label
tankless gas water heater	2		
water heater tank insulation	1		
water heater pipe insulation on first two feet of pipe	1		
heat recovery water heating	1		
solar domestic water heating	10		
heat pump water heater	4		
WATER - INDOOR TOTAL			
WATER - OUTDOORS			
xeriscape™ guidebook given to homeowner	1		resource
xeriscape™ plan provided to homeowner	4		xeriscape plan
soil tested and amended	5		
drought-tolerant landscaping plants	5		
reduced sod area (less than the home's footprint)	5		
no irrigation system	3		
drip irrigation system	2		
greywater irrigation	3		
rainwater harvest system	3		
permeable pavement driveway / parking area	2		
WATER - OUTDOORS TOTAL			

	POINTS	SCORE	DOCUMENTATION
HOMEBUYER EDUCATION			
guaranteed energy bills	10		energy bill guarantee
review energy operations with homeowner	1		
review irrigation system operations with homeowner	2		
built-in recycling center	2		
local recycling contact	1		
household hazardous waste resources	1		
environmental features checklist for walk through	4		
HOMEBUYER EDUCATION TOTAL			
BUILDER OPERATIONS			
REQUIRED: Must build at least 1 EarthCraft House every year	-		
builder commits 80% of total homes to EarthCraft House standards	4		
markets EarthCraft House program	2		
environmental checklist provided to all subcontractors	2		
uses HBA Homeowner Handbook for warranty standards (or approved equiv.)	2		
BUILDER OPERATIONS TOTAL			
BONUS POINTS			
site located within 1/4 mile of mass transit	5		
sidewalk connects house to business district (max 2 miles)	5		
brownfield site	5		
solar electric system	25		
alternative fuel vehicles: electric charging station or natural gas pump	5		
Easy Living accessibility / visitability certification	2		
American Lung Association Health House	5		
certified as a LEED-H Home	10		
exceeds ENERGY STAR (1 point for each 5%) max 5 points			
Innovation points - Builder submits specifications for innovative products or design features to qualify for additional points			
BONUS POINTS TOTAL			
	MIN		
EARTHCRAFT HOUSE TOTALS			
SITE PLANNING	0		
ENERGY EFFICIENT BUILDING ENVELOPE AND SYSTEMS	75		(Max 85)
ENERGY EFFICIENT LIGHTING / APPLIANCES	0		
RESOURCE EFFICIENT DESIGN	0		
RESOURCE EFFICIENT BUILDING MATERIALS	0		
WASTE MANAGEMENT	0		
INDOOR AIR QUALITY	0		
WATER - INDOOR	0		
WATER - OUTDOORS	0		
HOMEBUYER EDUCATION	0		
BUILDER OPERATIONS	0		
BONUS POINTS	0		
GRAND TOTAL	150		

Insert Completed EarthCraft Documents

GREEN VALLEY BUILDERS

Dear Homeowner,

We want our Homeowner Manual to be relevant and useful to the needs of our customers and homeowners. We revise this material once each year and would appreciate your feedback and comments.

1. Please indicate how you used this manual:

- ☐ Read it from cover to cover
- ☐ Briefly looked it over
- ☐ Looked up answers to specific questions on occasion
- ☐ Did not use it at all

1. Did you find the information:

- ☐ Useful
- ☐ Easy to understand
- ☐ Accurate

2. What sections were most helpful?

- ☐ Purchasing Your Home
- ☐ Arranging Your Loan
- ☐ New Home Selections
- ☐ Construction of Your Home
- ☐ Homeowner Orientation
- ☐ Closing on Your Home
- ☐ Caring for Your Home

3. What topics should we add?

4. Are there any topics we need to clarify, or any item that was confusing?

5. Do you have any additional comments?

Please fill in your name, address, and phone number below (optional):

Name _____

Address _____

Phone Number _____

Please check here if you would like us to call you _____

Thank you,

Green Valley Builders, Inc.

What Homeowners Should Know About Mold

1. Mold. Mold is a type of fungus that occurs naturally in the environment and is found everywhere life is supported. It spreads by means of microscopic spores carried on air currents. In order to grow, mold requires (a) a food source, (b) a temperate climate (i.e. between 40 and 100 degrees Fahrenheit), and (c) moisture. In a residence, a number of food sources can be found – fabric, carpet, wallpaper, drywall, wood and insulation, to name a few. Of critical importance, however, is moisture – moisture is the only mold growth factor that can be controlled in a residential setting. By minimizing moisture, a homeowner can reduce or eliminate mold growth. Moisture in the home can have many causes. Spills, leaks, overflows, condensation and high humidity are common sources of home moisture. Good housekeeping and home maintenance practices are essential in the effort to prevent or eliminate mold growth. If moisture is allowed to remain on the growth medium, mold can develop within 24 to 48 hours. Furthermore, mold that is not properly and adequately removed may reappear.
2. Consequences of Mold. All mold is not necessarily harmful. For susceptible persons, mold is just one of many number of indoor quality irritants including, for example, pet dander and dust mites. Experts disagree, however, about the level of mold exposure that may cause health problems, and as yet there are no state or federal standards that establish acceptable levels of exposure to mold.
3. What the Homeowner Can Do. The homeowner can take positive steps to reduce and/or eliminate the occurrence of mold growth in and around the home and thereby minimize the possibility of adverse effects that may be caused by mold. The following suggestions have been compiled from the recommendations of the U.S. Environmental Protection Agency, the Consumer Product Safety Commission, the American Lung Association, and the National Association of Home Builders, among others, but they are not meant to be all-inclusive.
 - (a) Before bringing items into the home, check for signs of mold. Potted plants (roots & soil), furnishings, stored clothing, and bedding material as well as many other household goods could already contain mold which can then be spread to other areas of the home.
 - (b) Regular vacuuming and cleaning will help reduce mold levels. Mild bleach solutions and most tile cleaners are effective in eliminating or preventing mold growth.
 - (c) Keep the humidity in the home low. Vent clothes dryers to the outside. Ventilate kitchens and bathrooms by opening the windows, by using exhaust fans, and/or by running air conditioning equipment to remove excess moisture in the air and to facilitate evaporation of water from wet surfaces.
 - (d) Raise the temperature in areas where moisture condenses on surfaces, and open doors between rooms to increase air circulation in the home including doors to closets.
 - (e) Have major appliances (e.g., furnaces, heat pumps, central air conditioners, window air conditioners, ventilation systems, and humidifiers) inspected, cleaned and serviced regularly by a qualified professional.
 - (f) Clean and dry refrigerator, air conditioner and dehumidifier drip pans and filters regularly and be certain that your refrigerator and freezer doors seal properly.
 - (g) Inspect for condensation and leaks in and around the home on a regular basis. Look for discoloration or wet spots. Take notice of musty odors and any visible signs of mold. Fix leaky plumbing and leaks in the exterior and interior surfaces of the home and all other sources of moisture problems immediately.
 - (h) Promptly clean up spills, condensation and other sources of moisture. Thoroughly dry wet surfaces and materials. Do not let water pool or stand in your home. Promptly replace materials that cannot be thoroughly dried such as drywall or insulation.
 - (i) Do not let water pool or stand around the foundations or under the home in a crawl space or beneath any structural sub-floor. Maintain required slopes and adequate drainage away from the foundation and keep plantings and sprinklers the proper distance from your home. If you find standing water, seek professional help to remove it.
 - (j) Perform routine visual inspections. Respond promptly when you see signs of moisture or mold. Thoroughly clean the affected area with a mild solution or bleach after first testing to determine if the affected material or surface is color safe. After cleaning, dry the affected surfaces completely. Porous materials such as fabric, upholstery or carpet should be discarded. Should the mold growth be severe, qualified trained professionals may be needed to assist in the remediation effort.
 - (k) Regularly maintain your home. For example, regularly caulk the windows, faucets, drains, tubs and showers as needed. Maintain roofs in good repair. Refer to your homeowner manual for additional areas of suggested maintenance.

EMERGENCY PHONE NUMBERS

The following are the phone numbers to call if any emergencies occur after moving into your new home:

Heating and Air Conditioning System

Accord Air: 1-540-641-3233

Plumbing

8 a.m. - 5 p.m.

NR Contracing: 1-540-230-2273

24 Hour Emergency Service

Blacksburg Plumbing: 1-540-552-5864

24 Hour Emergency Service

David Stephens Plumbing: 1-540-808-8019

Electrical

Farmer Electric: 1-540-921-4486

Note: If no one above can be reached, please notify Green Valley Builders, Inc. at 1-540-552-1004, and leave a message if after hours.

