Residential Plan Review 101

Spotsylvania County Building Safety Department

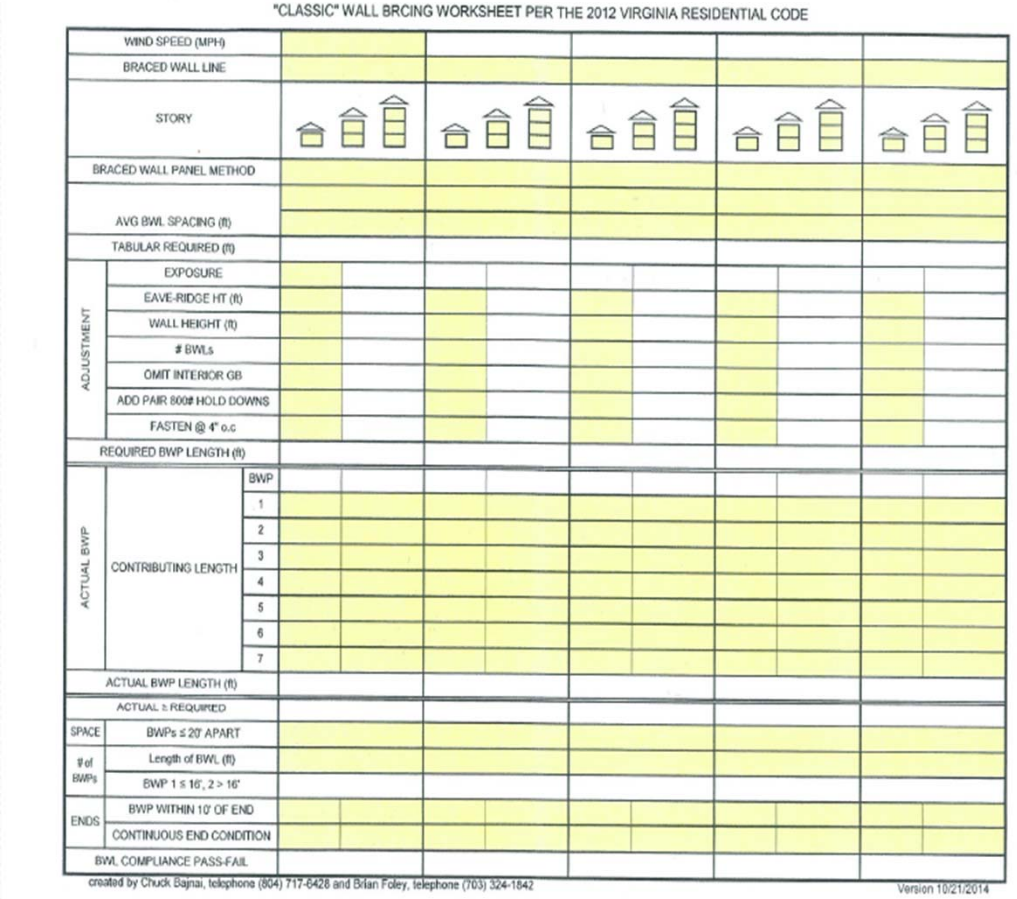
May 20, 2015

Overview

- Specific Forms
- Other Documents
- Checklists
- Top 25
- Electronic Plan Review
- Odds and Ends
- Questions

Braced Wall

- Worksheets required
- Training was May 7th
- Fairfaxcounty.gov



"CLASSIC" WALL BRCING WORKSHEET PER THE 2012 VIRGINIA RESIDENTIAL CODE

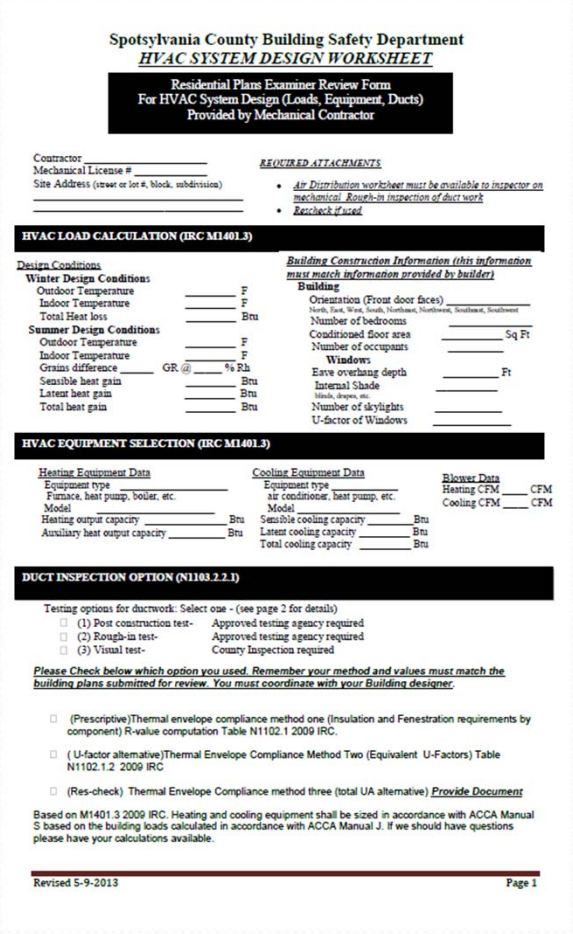
WIND SPEED (MPH)						
BRACED WALL LINE						
STORY						
BRACED WALL PANEL METHOD						
AVG BWL SPACING (ft)						
TABULAR REQUIRED (ft)						
ADJUSTMENT: EXPOSURE						
ADJUSTMENT: EAVE-RIDGE HT (ft)						
ADJUSTMENT: WALL HEIGHT (ft)						
ADJUSTMENT: # BWLs						
ADJUSTMENT: OMIT INTERIOR GB						
ADJUSTMENT: ADD PAIR 800# HOLD DOWNS						
ADJUSTMENT: FASTEN @ 4" o.c						
REQUIRED BWP LENGTH (ft)						
ACTUAL BWP: CONTRIBUTING LENGTH: BWP						
ACTUAL BWP: CONTRIBUTING LENGTH: 1						
ACTUAL BWP: CONTRIBUTING LENGTH: 2						
ACTUAL BWP: CONTRIBUTING LENGTH: 3						
ACTUAL BWP: CONTRIBUTING LENGTH: 4						
ACTUAL BWP: CONTRIBUTING LENGTH: 5						
ACTUAL BWP: CONTRIBUTING LENGTH: 6						
ACTUAL BWP: CONTRIBUTING LENGTH: 7						
ACTUAL BWP LENGTH (ft)						
ACTUAL ≥ REQUIRED						
SPACE: BWPs ≤ 20' APART						
# of BWPs: Length of BWL (ft)						
# of BWPs: BWP 1 ≤ 16', 2 > 16'						
ENDS: BWP WITHIN 10' OF END						
ENDS: CONTINUOUS END CONDITION						
BWL COMPLIANCE PASS-FAIL						

created by Chuck Bajnai, telephone (804) 717-6428 and Brian Foley, telephone (703) 324-1842

Version 10/21/2014

HVAC Design Worksheet

- Filled out by HVAC contractor
- Data from Manual J
- Must coordinate with builder and RECW
- Must match site plan
- Must specify testing option



Spotsylvania County Building Safety Department

HVAC SYSTEM DESIGN WORKSHEET

Residential Plans Examiner Review Form
For HVAC System Design (Loads, Equipment, Ducts)
Provided by Mechanical Contractor

Contractor _____
Mechanical License # _____
Site Address (street or lot #, block, subdivision)
_____
_____

REQUIRED ATTACHMENTS

- *Air Distribution worksheet must be available to inspector on mechanical Rough-in inspection of duct work*
- *Recheck if used*

HVAC LOAD CALCULATION (IRC M1401.3)

Design Conditions

Winter Design Conditions
Outdoor Temperature _____ F
Indoor Temperature _____ F
Total Heat loss _____ Btu

Summer Design Conditions
Outdoor Temperature _____ F
Indoor Temperature _____ F
Grains difference _____ GR @ ____ % Rh
Sensible heat gain _____ Btu
Latent heat gain _____ Btu
Total heat gain _____ Btu

Building Construction Information (this information must match information provided by builder)

Building
Orientation (Front door faces) _____
North, East, West, South, Northeast, Northwest, Southeast, Southwest
Number of bedrooms _____
Conditioned floor area _____ Sq Ft
Number of occupants _____

Windows
Eave overhang depth _____ Ft
Internal Shade _____
blinds, drapes, etc.
Number of skylights _____
U-factor of Windows _____

HVAC EQUIPMENT SELECTION (IRC M1401.3)

Heating Equipment Data
Equipment type _____
Furnace, heat pump, boiler, etc.
Model _____
Heating output capacity _____ Btu
Auxiliary heat output capacity _____ Btu

Cooling Equipment Data
Equipment type _____
air conditioner, heat pump, etc.
Model _____
Sensible cooling capacity _____ Btu
Latent cooling capacity _____ Btu
Total cooling capacity _____ Btu

Blower Data
Heating CFM ____ CFM
Cooling CFM ____ CFM

DUCT INSPECTION OPTION (N1103.2.2.1)

Testing options for ductwork: Select one - (see page 2 for details)

☐ (1) Post construction test-	Approved testing agency required
☐ (2) Rough-in test-	Approved testing agency required
☐ (3) Visual test-	County Inspection required

Please Check below which option you used. Remember your method and values must match the building plans submitted for review. You must coordinate with your Building designer.

☐ (Prescriptive)Thermal envelope compliance method one (Insulation and Fenestration requirements by component) R-value computation Table N1102.1 2009 IRC.

☐ (U-factor alternative)Thermal Envelope Compliance Method Two (Equivalent U-Factors) Table N1102.1.2 2009 IRC

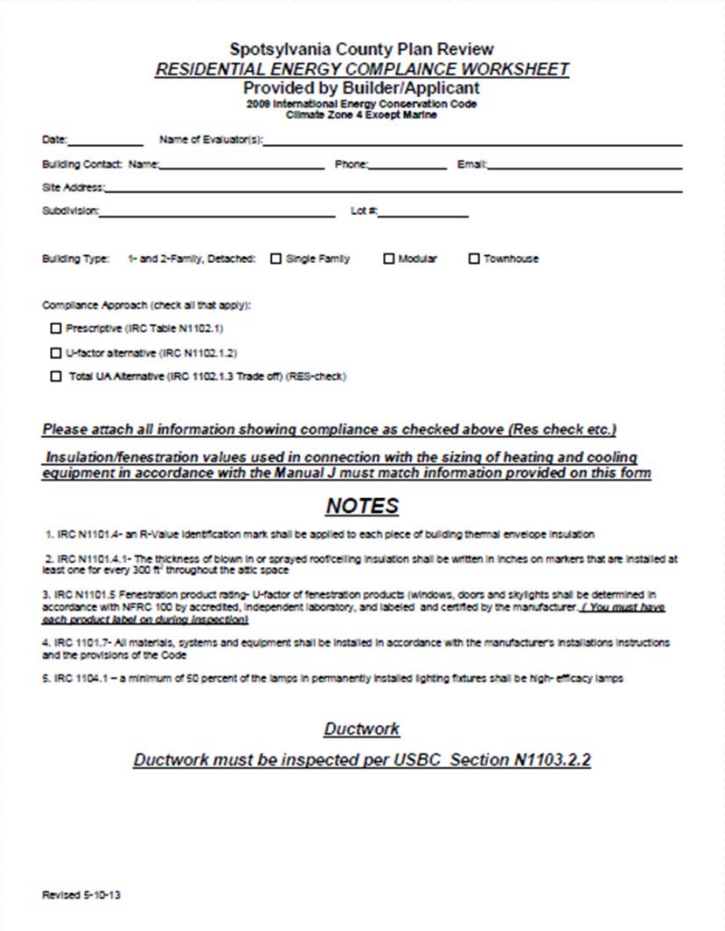
☐ (Res-check) Thermal Envelope Compliance method three (total UA alternative) ***Provide Document***

Based on M1401.3 2009 IRC. Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on the building loads calculated in accordance with ACCA Manual J. If we should have questions please have your calculations available.

Revised 5-9-2013 Page 1

Residential Energy Compliance Worksheet

- Filled out by builder
- Compliance Choice
- U-factor requires calcs
- ResChek may not work with 2012 Va Code



Spotsylvania County Plan Review

RESIDENTIAL ENERGY COMPLAINCE WORKSHEET

Provided by Builder/Applicant

2009 International Energy Conservation Code
Climate Zone 4 Except Marine

Date:_____ Name of Evaluator(s):_____

Building Contact: Name:_____ Phone:_____ Email:_____

Site Address:_____

Subdivision:_____ Lot #:_____

Building Type: 1- and 2-Family, Detached: ☐ Single Family ☐ Modular ☐ Townhouse

Compliance Approach (check all that apply):

☐ Prescriptive (IRC Table N1102.1)

☐ U-factor alternative (IRC N1102.1.2)

☐ Total UA Alternative (IRC 1102.1.3 Trade off) (RES-check)

Please attach all information showing compliance as checked above (Res check etc.)

Insulation/fenestration values used in connection with the sizing of heating and cooling equipment in accordance with the Manual J must match information provided on this form

NOTES

1. IRC N1101.4- an R-Value identification mark shall be applied to each piece of building thermal envelope insulation

2. IRC N1101.4.1- The thickness of blown in or sprayed roof/ceiling insulation shall be written in inches on markers that are installed at least one for every 300 ft² throughout the attic space

3. IRC N1101.5 Fenestration product rating- U-factor of fenestration products (windows, doors and skylights shall be determined in accordance with NFRC 100 by accredited, independent laboratory, and labeled and certified by the manufacturer. *(You must have each product label on during inspection)*

4. IRC 1101.7- All materials, systems and equipment shall be installed in accordance with the manufacturer's installations instructions and the provisions of the Code

5. IRC 1104.1 – a minimum of 50 percent of the lamps in permanently installed lighting fixtures shall be high- efficacy lamps

Ductwork

Ductwork must be inspected per USBC Section N1103.2.2

Revised 5-10-13

Residential Foundation Form

- Three parts
- Part 1 by Builder
- Part 2 by Soils Professional
- Part 3 if required by Part 2
- Soils policy borings

SPOTSYLVANIA COUNTY RESIDENTIAL FOUNDATION FORM

Effective: February 1, 2007

THIS FORM MUST BE COMPLETELY FILLED OUT IN ORDER TO PROCESS

PART 1

APPLICANT

To be filled out by applicant

Name of owner/builder: _____ RES ___ - _____

Site address: _____

Subdivision: _____ Lot Number: _____

Type of construction (new dwelling, addition, etc.): _____

Please provide the following information regarding the proposed project:

Foundation drain shall discharge by: ___ Gravity ___ Sump crock
Areaway drain shall discharge by: ___ Gravity ___ Sump crock ___ N/A
Rough-in plumbing to be installed into sewage ejector crock: ___ Yes ___ N/A
Step footings required: ___ Yes, location _____
___ N/A
Recessed brick ledge in wall: ___ Yes, attach design if exceeds 24 inches
___ N/A

All four sheets of this form are to be submitted together, along with all supplemental information, as one document

Applicant signature: _____ Date: _____

Other Documents

- Engineered Roof Truss Diagrams and Layout
- Engineered Floor Layout
- Engineered Beam Calculation sheets
- VDH Construction permit
- RDP Sheets

Checklists

- With application
- At Plan Review

Top 25

- No Foundation Report
- No VDH Construction permit
- Number of bedrooms exceed Health permit
- Missing Forms
- Options not marked or selected
- Rooms not identified
- Plans not to ANY scale
- Braced wall calcs not provided

Top 25 (continued)

- Application does not match plans
- Site plan does not match house plans
- Truss layout does not match house plan
- Truss details not sealed
- Manufacturers floor system does not match house plans
- ResChek does not match house plans

Top 25 (continued)

- Orientation of house different on site plan and HVAC worksheet
- Number of B/R differ on plans and HVAC worksheet
- 2 story wall does not have an engineer's design
- Columns supporting loads in excess of 4000# not called out on plans
- Basement bearing walls have no footings

Top 25 (continued)

- Framing layout from RDP and Manufacturer differ
- Posts under girder trusses and beams not specified
- Plans call 2000 psf soils – Foundation report says 1500
- Plans do not specify wall heights
- Engineered designs not supported by calculations
- Exterior wall finish not specified
- #26- Repetition of mistakes, plans not changed

Plan Review GOAL

- It is a GOAL
- It is not a GAURANTEE
- It varies with volume and quality of plans submitted
- Our GOAL is to have SFD reviewed in ten (10) business days

Electronic Plan Review

- Truss plans that can not be stamped
- Electronic and paper not the same
- Missing documents
- Pages not combined into one file

Odds and Ends

- Plan Review Notes Page
- Building Safety Roundtable Meetings
  - 1st Tuesday of odd numbered months 11:30 to 1pm
- 2012 VUSBC is mandatory for all plan submitted July 14th and later

QUESTIONS