HOME PERFORMANCE WITH ENERGY STAR

New Jersey
Home Performance with ENERGY STAR®
Home Performance Audit/ Software Data Collection

New Jersey's
Clean Energy
PROGRAM™
Your Power to Save
njcleanenergy.com

Customer: _____

Street: _____

City: _____ Zip: _____

Phone: (Home): (_____) _____ - _____

Phone: (Work): (_____) _____ - _____

Owner: ❑Yes ❑No/ Name:_____

   Phone: (_____) _____ - _____

Multi-Fam Dev: _____

 Bldg: _____   Unit #: _____   #Units/Bldg: ____

Contractor: _____

Technician: _____

Date:_____

❑ Cash-back Incentive only

❑ Cash-back & 0% Loan

  ❑Air Seal, Insulation (may include duct seal, DHW & Insulation)

  ❑Air Seal, Insulation, HVAC- (must achieve 20%+ TES)

❑ Multi-Family Building Project

ling units- Whole building
ible for Auto-proceed

Fuel Billing Information: **Must submit 12 consecutive months of Utility/ Deliverable fuel bills (electric, natural gas, oil, and/or propane). Must submit 12 consecutive months, or extent of occupation if <12 months, of all energy usage for dwelling. Current Utility bill with 12-month usage graph acceptable to submit.**

BPI Health & Safety Requirements: ANY ISSUES IDENTIFIED BELOW, AS "NEEDS WORK" MUST BE ADDRESSED PRIOR TO INSTALLING ANY ENVELOPE MEASURES.   **Comments:**

No Unvented fossil fuel appliances	❑ OK	❑ Remove/ Disable	BPI does not allow unvented appliances
No Loose Asbestos Like Materials	❑ OK	❑ No Blower Door Tests	No blower door if may be disturbed
No Visible signs of Active Mold/ High Moisture	❑ OK	❑ Requires Remediation	<10 sq ft mold can be cleaned
No Exhaust fans vent to attic- vented outside with wall/ roof termination, pitched ¼ inch per ft, insulated R-7 in unconditioned	❑ OK	❑ Requires Repairs	May not vent to attic
Dryer Properly Vented to outside- vented to outside with semi-rigid metal, insulated R-7 in unconditioned space	❑ OK	❑ Requires Repairs	No foil or plastic flexible venting
Existing Carbon Monoxide Alarm	❑ OK	❑ Must Install	Must be at least one in home
No Fuel Leaks	❑ OK	❑ Requires Repairs	All leaks MUST be repaired
Passed CAZ Worst-Case Depressurization Testing	❑ OK	❑ Requires Repairs	Must not exceed BPI limits
Passed all Worst-Case Spillage, CO, and Draft Tests	❑ OK	❑ Requires Repairs	Must pass all BPI combustion testing

As per BPI- gas dryers venting MUST be metal and there must be at least one CO detector in the home or one must be installed as part of the Work Scope. If any of the above issues exist in the home, they must be addressed prior to installing air sealing and/ or insulation

Moisture Survey: This checklist is provided for evaluating the moisture load of a home:

   The Moisture Survey checklist is provided as a reminder for the auditor to look for these when performing the audit; it is not required to fill this section in. Some items on the checklist add to moisture loads and some help to mitigate moisture. BPI requires moisture issues to be addressed prior to performing any shell work; for example- an indoor hot tub should be considered a moisture issue and should be addressed as part of work scope by installing mechanical ventilation and a central dehumidification system.

❑ *PROPER SIZED GUTTERS ON HOUSE*	❑ *NO INDOOR POOL, HOT TUB, POND, ETC.*	❑ *FOUNDATION DRAINAGE SYSTEM*
❑ *GUTTERS ARE NOT CLOGGED*	❑ *NO UNVENTED COMBUSTION APPLIANCES*	❑ *VAPOR BARRIER ON EXPOSED DIRT*
❑ *GUTTER RUN-OFFS EXTEND AWAY*	❑ *CENTRAL DEHUMIDIFCATION SYSTEM*	❑ *SUMP PUMP OPERABLE*

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❑ PROPER FOUNDATION GRADING	❑ WHOLE HOUSE VENTIALTION PRESENT	❑ SUMP PUMP PIT HAS TIGHT COVER
❑ ADEQUATE ATTIC PASSIVE VENTS	❑ PROPER CONTROL OF HUMIDIFER	❑ HVAC CONDENSATE DRAINS OUTSIDE
❑ ATTIC VENT HIGH & LOW, NOT BLOCKED	❑ HOMEOWNER PROPER USE OF HUMIDIFIER	❑ ADEQUATE CRAWL VENTIALTION
❑ EXHAUST FANS TERMINATE OUTSIDE	❑ SOURCE VENTILATION BATHROOM	❑ BSMT/ CRAWLMECHICAL VENTILATION
❑ NO ROOF LEAKS	❑ SOURCE VENTIALTION KITCHEN	❑ DRYER VENT TERMINATES OUTSIDE

Building Model- Program Software Building Model Data Collection

<table>
<tr>
<td rowspan="7">Building Layout</td>
<td>Orientation: Front entrance of house faces:</td>
<td>❑ North ❑NE ❑ East ❑SE ❑South ❑SW ❑ West ❑NW

Standing outside with your back to front door, which way are you facing</td>
</tr>
<tr>
<td>Attachment: There is another dwelling attached to the following building surfaces (e.g. Townhomes, Rowhomes, Duplex)</td>
<td>❑ N/A ❑Above ❑ Below
❑ Front ❑ Left ❑ Back ❑ Right
Standing outside looking at the front door, on which side is an attachment</td>
</tr>
<tr>
<td>Buffered Walls: The following walls are at least partially buffered by an unconditioned space (e.g., garage, sunroom)</td>
<td>❑ N/A ❑Front ❑ Left ❑ Back ❑ Right
Standing outside looking at the front door, on which side is a buffered wall</td>
</tr>
<tr>
<td>Walls: The building has <u>Above Grade</u> walls that are</td>
<td>❑ Wood Frame ❑ Balloon ❑Platform
❑ Masonry</td>
</tr>
<tr>
<td>Floors: Dwelling has floors that are over (check all that apply) (Uninsulated heating distribution in the basement = heated basement)</td>
<td>❑ Unheated Basement ❑ Unheated Crawlspace ❑ Slab
❑ Heated Basement ❑ heated Crawlspace ❑ Overhang
❑ Other unconditioned space (e.g. garage)</td>
</tr>
<tr>
<td colspan="2">Almost all basements are "heated", an unheated basement would be a basement that has no source of direct or indirect heating or the distribution system is sealed, insulated, <u>and</u> the ceiling of the basement is insulated.</td>
</tr>
<tr>
<td>
Conditioned Floors [____]
(Full Stories Above Grade)

Note: Software- Only include the above grade sq ft and above grade volume on the Building Model Layout screen.
</td>
<td>
Conditioned Area (sq. Ft)- Conditioned Volume (cu. ft.)-
Above Grade: [____] sq ft Above Grade: [____] cu ft
- -
Basement: [____] sq ft Basement: [____] cu ft
(Do not include the Basement sq ft or Basement Volume in the Software)
Total Volume (Use for BAS): [____] cu ft
</td>
</tr>
</table>

<table>
<tr>
<td>

<u># of Conditioned Floors</u>: is the number of full stories above grade that are directly or indirectly heated. Enter only above grade stories in RHA

<u>Conditioned Area Above Grade</u>: is the total square feet of floor area above grade that is directly or indirectly heated. Enter only above grade area in RHA

<u>Conditioned Volume Above Grade</u>: is the total above grade volume of the home that directly or indirectly heated. Enter only above grade area in RHA

<u>Total Volume</u>: is the total volume of the home above and below grade that directly or indirectly heated- DO NOT enter in RHA- this is used for the BAS calculation.

</td>
</tr>
<tr>
<td>

Infiltration Assessment:
(Estimated from Visual Inspection or Measured by Blower Door)

❑ <u>L</u>ow infiltration (some attic air sealing already completed)
❑ <u>M</u>edium infiltration (typical NJ home- no attic air seal completed)
❑ <u>H</u>igh infiltration (Balloon framed- major attic bypasses)
❑ <u>M</u>easured [____] *CFM50 (from page #6)*

</td>
</tr>
</table>

Shell Basics

Windows: *(Predominant window type)*	Glazing:	❑ Single pane ❑ Single w/ storm ❑ Double pane ❑ Double w/ low-e
(Check only one Type & Frame)	Frame:	❑ Wood ❑ Vinyl ❑ Metal ❑

Select the predominant window type and frame material. This information is used for the RHA building model. The default window area in RHA is 18% of walls, this is good enough for building model, but if proposing to change HVAC you will need to submit a Manual J load calculation, for this you MUST measure windows.

Attic/ Roof:	Insulation:	❑ N/A ❑ None ❑ < R19 ❑ R19 – R38 ❑ R38+ ❑R-____
(Based on info recorded on page #7)	Condition:	❑Good, no noticeable voids ❑ Fair, small voids ❑ Poor, large voids
	Ventilation:	❑ None ❑ Low ❑ Code (default) ❑High ❑Don't know

The information entered here is for the RHA Building Modeling screens, the data should be based on info recorded on the last page of this Audit form. Use the following as a guideline:

≤5-inches of insulation use <R19   >5-inches of insulation use R19 – R38   >12-inches use R38+

Shell Details

Thermal Boundary Construction/ Insulation: *(Based on info recorded on page #7)*

Exposed wood frame walls (Above Grade)	❑ N/A	❑ None	❑ <R11	❑ R11+	❑R-____
Exposed masonry walls (Above Grade)	❑ N/A	❑ None	❑ <R11	❑ R11+	❑R-____
Buffered walls (Between House and Garage)	❑ N/A	❑ None	❑ <R11	❑ R11+	❑R-____
Exposed floors (overhangs)	❑ N/A	❑ None	❑ <R11	❑ R11+	❑R-____
Buffered floors (Room over Garage)	❑ N/A	❑ None	❑ <R11	❑ R11+	❑R-____

The information entered here is for the RHA Building Modeling screens, the data should be based on info recorded on the last page of this Audit form. Use the following as a guideline:

≤2-inches of insulation use <R11   >2-inches of insulation use R11+

Foundation Construction/ Insulation: *(Based on info recorded on page #7)*

Basement masonry walls	❑ N/A	❑ None	❑ <R11	❑ R11+	❑R-____
Crawlspace masonry walls	❑ N/A	❑ None	❑ <R11	❑ R11+	❑R-____
Slab	❑ N/A	❑ None	❑ <R11	❑ R11+	❑R-____

The information entered here is for the RHA Building Modeling screens, the data should be based on info recorded on the last page of this Audit form. Use the following as a guideline:

≤2-inches of insulation use <R11   >2-inches of insulation use R11+

Demographics: (# Occupants)	❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 ❑ 6 ❑ _____

Mechanical Systems:

Outdoor Temp: _____ °F	**Indoor Ambient CO: _____ppm**

Minimum Draft at Outdoor Temp:

20°/-**2.3pa**	30°/-**2.0pa**	40°/-**1.7pa**	50°/-**1.5pa**	60°/-**1.3pa**	70°/-**1.0pa**	80°-/**0.7pa**	90°/-**0.5pa**

From the BPI standards: Compare the measured Worst Case Draft pressure to these minimum drafts

CO Limits: 0 to 25ppm = OK   26 to 100ppm = Recommend Service   >100ppm= Required Service

Fuel Leaks? ❏ No ❏Yes: _____

_____

_____

As per BPI-any fuel leaks must be repaired prior to any installations

Combustion Appliance Testing: *(Other appliances: gas logs, space heater, ovens, etc.)*

Combustion Appliance *(Write-in)*	CO ppm Un-Diluted	Ambient CO ppm	Vented to Outside
	ppm ❏Pass ❏Fail requires repair	ppm	❏ No ❏ Yes
	ppm ❏Pass ❏Fail requires repair	ppm	❏ No ❏ Yes
Oven ❏ Electric ❏ Gas	ppm ❏Pass ❏Fail requires repair	ppm	❏ No ❏ Yes

Use this section to write in the testing of appliances that are not listed, such as gas fireplace, etc. Note: BPI does not allow any air sealing or insulation to be installed in homes with unvented gas appliances (excluding ovens).

CAZ Depressurization Zone #1 Limit: Location: _____ (Circle the limit below)

*(Natural draft Individual DHW = **-2**) (Natural draft heater common with natural draft DHW = **-3**) (Induced draft heater common with natural DHW= **-5**)*

*(Natural draft Individual heater = **-5**) (Natural draft heater w/ vent damper common with natural draft DHW = **-5**) (Induced draft individual heater = **- 15**)*

*(Powered vented DHW = **-15**)   (Oil w/ barometric damper = -5)   (Oil w/ high-static burner= -50**)*

**Note*: If you propose to ORPHAN the DHW, the limit at time of Test-out will be -2.0*

The CAZ Depressurization Limits are from the BPI standards, compare the Net Pressure Change to these limits

Worst Case: ❏ Bath exhaust Fans   ❏Kitchen Exhaust   ❏Clothes Dryer   ❏ Attic Powered Ventilators   ❏Central Vacuum

❏Air Handler/s   ❏ Bed Doors (+ Closed/ - Open)   ❏ Basement Door   ❏ Other Interior Doors

Base Pressure Pascals (Fans off) CAZ WRT Outside	Worst Case Pres. Pa (Fans on) CAZ WRT Outside	Net Pressure Change Pascals (Worst-Case Pressure) **(Base to Worst Case)** (CAZ Depressurization)	
_____ Pa.	_____ Pa	_____ Pa.	❏Pass ❏Fail requires repair
A) House closed up for winter conditions, usually a negative number	B) Turn on all exhaust applicable as listed above , check pressure across doors	C) The Net Pressure Change = the difference between the Base and Worst Case **Net Pressure = B-A**	Compare to CAZ Depressurization Limits above

Water Heater (DHW):

Default Values: R-value = 5   Energy Factor: Gas = 0.54   Oil = 0.51   Elec = 0.88

Location	≅ Age	Condition	R-value	Gallons	Energy Factor	
Purely descriptive-has no impact of calculations	*Ask the homeowner or estimate based on*	❏ Good ❏ Fair ❏ Poor	*Use the default value of R5 if not labeled*		*Use the default values above for standard efficiency systems.*	

Type			Fuel	Venting	Common vented w/ heat?	DHW- Hot Water
	❏ Tank- standard	❏ Heat Pump	❏ Nat Gas	❏ Atmospheric		
	❏ Tank- High Effic.	❏ On demand	❏ Electric	❏ Power vented at unit	❏ No ❏ Yes	
	❏ Tankless	❏ Indirect	❏ Oil	❏ Power vented at ext.	Will Be Orphaned?	
	❏ Tankless back-up	❏	❏ Propane	❏ Sealed combustion	❏ No ❏ Yes (CAZ limit = -2.0)	

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Tank-standard= atmospheric draft or electric >5 years old.

Tank-high effic. = gas power vented, sealed combustion, or elec < 5 years old

Tankless and Tankless back-up= a coil for DHW located within a boiler

Heatpump= a standalone heatpump tank- not desuperheaters

On-Demand= a instantaneous tankless system

Indirect = a storage tank with a coil inside as a zone off the boiler

Common vented w/heat?= Is the existing DHW common vented into same chimney

Will be Orphaned?= Auditor should predict ahead as to what conditions will exist at time of test-out to avoid issues

❑ **N/A- PVC Vent**	**Spillage** (<1 minute)	**CO** (5 minutes) Undiluted	**Draft** (5 minutes) In Vent
Worst Case (Fans On)	❑Pass ❑Fail requires repair	___ ppm ❑Pass ❑Fail req repair	___ pa ❑Pass ❑Fail req repair
Natural (if fails worst-case)	❑Pass ❑Fail requires repair	___ ppm ❑Pass ❑Fail req repair	___ pa ❑Pass ❑Fail req repair
BPI Requires repeat any test that failed in Worst-Case (WC) in Natural. IF fails under WC and passes natural- the WC pressure is case of failure, if fails Natural- then vent connector/chimney is cause	*Any flue gas spillage must stop before 1-minute of run time*	*Fill in the ppm measured, measurement should be taken at steady state, typically after 5-minutes of run time*	*Fill in measured draft pressure in Pascals. Compare result to "Minimum draft at Outdoor Temp" listed above*

Note: You must record the CO ppm and draft pa pressure.

If any of the test results above do not PASS BPI standards, repairs must be included in the Work Scope or the homeowner must have repairs completed prior to any installations of measures. Confirm any repairs by homeowner have actually resolved issue before proceeding with work. Passing under Natural conditions does not negate a Failed Worst-Case test, any fail must be appropriately addressed.

Heating System #1:

Location	% Load	% Space	Btu (output)	Make/ Brand	Model #	≅ Age/ Year	
Purely descriptive-does not affect calculations	*If two systems – 50%, if three 33%, etc.*		*Use input if output not listed*			*Ask the homeowner or estimate based on condition.*	Heating / Cooling
Type ❑ Furnace ❑ Wall ❑ Boiler ❑ HTP ❑ Elect Resist ❑		**Fossil Fuel** ❑ Nat Gas ❑ Propane ❑ Oil	**Details** ❑Pilot (~71%) ❑Condensing (90%) ❑ <1974 Low speed (1725rpm)	❑Electronic Ignition (74%) ❑ Induced Draft (80%) (use-Power Combustion in RHA) ❑ >1974 High speed (3450rpm)		**Venting** ❑ Atmospheric ❑ Sealed combustion ❑ Induced Draft- (use Power vented at unit)	
Use as guidelines for (%) AFUE: <1988 = ~71%, 1988 – 1991= ~74%, 1992 to present non-PVC vented = 80%, PVC vent= 90% *For Oil systems: <1974 = Low speed burner, >1974 = High speed*							

Combustion Testing: Turn Heater On: *(Turn up t-stat +10 degrees)*

❑ **N/A- Power/ Sealed Vent**	**Spillage** (<1 minute)	**CO ppm** (5 minutes) Undiluted	**Draft pa** (5 minutes) In Vent
Worst Case (Fans On)	❑Pass ❑Fail requires repair	ppm ❑Pass ❑Fail requires repair	pa ❑Pass ❑Fail requires repair
Natural (if fails worst-case)	❑Pass ❑Fail requires repair	ppm ❑Pass ❑Fail requires repair	pa ❑Pass ❑Fail requires repair

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Heating Distribution System: Columns for supply/ return MUST total 100%

Type	Hydronic OR-	Air / Ducts -	% of Total DUCT System is Located in Following areas			% Supply	% Return	R-value	Heating/ Cooling- Ducts
	❑ Baseboard	❑Regular Velocity	DUCTS OUTSIDE	Attic	❑ Poorly vented ❑ Well vented			R-	
	❑ Radiator	❑ High velocity (3" ducts)		Vented Crawlspace	❑ Crawlspace Ceiling Insulated			R-	
	❑ Steam __ pipe	❑ ECM Motor		Enclosed crawlspace	❑ Crawlspace Ceiling Insulated ❑ Crawlspace Walls Insulated			R-	
	❑ Radiant	❑ Gravity		Garage				R-	
			DUCTS INSIDE	Conditioned Space- Basement				N/A	
For RHA– The Primary unconditioned duct location = the **Ducts Outside** line with the largest % in the supply and return columns.									
Duct Leak to Outside		❑ Software Defaults (25% of system airflow)			❑ Duct Blaster Result (Attach Testing results)				

Hydronic Distribution System*: only need to indicate type,*

Water based systems: indicate "baseboard" or "radiator" or "radiant",

Steam based systems: indicate whether "1 or 2 pipe". Look at radiators, do they have a supply and return pipe? If Yes this is 2-pipe, if no, this is 1-pipe. Two pipe systems should be upgraded to water system for increased distribution system efficiency.

Air/ Ducts: Indicate type of system. Also need to indicate Locations; in the Supply and Return columns enter in the approx % of the total system that is located in the listed areas. For RHA, select the line from the "Ducts Outside" column that has the highest percentage for each column and enter as the "Primary Unconditioned Duct Location" in RHA. If 100% of ducts are in "Ducts Inside", enter as "No ducts in unconditioned spaces "in RHA.

Cooling System #1:

Type:	❑ Central A/C	❑ Heat Pump	❑ Mini-Split ductless	❑ None			Ht / Cool
Location of Indoor coil	**% Load**	**% Space**	**Capacity**	**Make/ Brand**	**Outdoor Model #**	**≅ Age/ Year**	
Purely descriptive-has no impact of calculations	*If two systems – 50%, if three 33%, etc*		*See below*			*Ask the homeowner or estimate based on condition*	

 The energy use associated with Window unit use cannot be easily modeled and should not be entered into RHA.

Capacity is located in the Model number of the outdoor section, within the model number, typically near the middle of the number will be 18, 24, 30, 36, 42, 48 or 60. This is the nominal capacity in 1,000 btuh

Cooling Duct System:

Shared with Heat System - ❑No ❑Yes-Skip this section   Columns for supply/ return MUST total 100%

Type	Air / Ducts -	% of Total DUCT System is Located in Following areas			% Supply	% Return	R-value	Heating/Cooling- Ducts
	❑Regular Velocity	DUCTS OUTSIDE	Attic	❑ Poorly vented ❑ Well vented			R-	
	❑ High velocity (3" ducts)		Vented Crawlspace	❑ Crawlspace Ceiling Insulated			R-	
	❑ ECM Motor		Enclosed crawlspace	❑ Crawlspace Ceiling Insulated ❑ Crawlspace Walls Insulated			R-	
	❑ Gravity		Garage				R-	
		DUCTS INSIDE	Conditioned Space- Basement				N/A	
For RHA– The Primary unconditioned duct location = the **Ducts Outside** line with the largest % in the supply and return columns.								
Duct Leak to Outside	❑ Software Defaults (25% of system airflow)			❑ Duct Blaster Result (Attach Testing results)				

If the cooling distribution system is shared with the heating system, you do not need to fill this in, otherwise fill in the same manner as the heating system
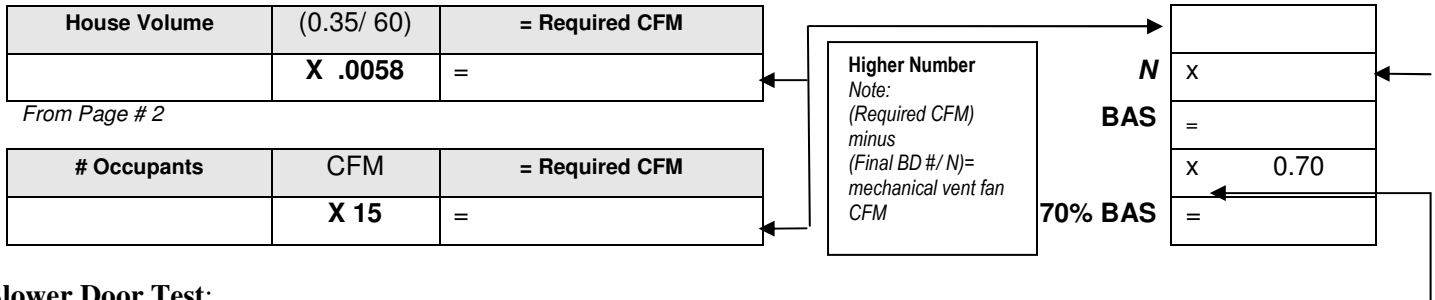
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Air Leakage- House Preparation for Blower Door Testing: (*Confirm that the following items have been addressed)*
(Note: This list may not be all-inclusive, check all areas of the home prior to blower door testing)

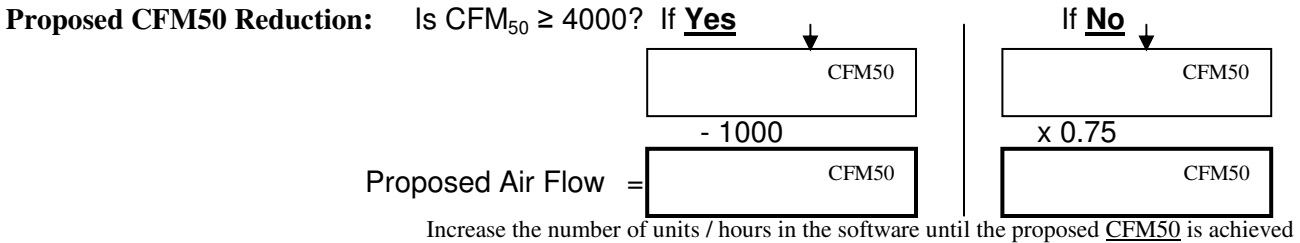|		
❑ *FIREPLACE/ WOODSTOVE ASH COVERED*	❑ *NO LOOSE DRYWALL/ PLASTER*	❑ *NO VERMICULITE INSULATION*
❑ *WATER HEATER TURNED TO PILOT*	❑ *SUSPENDED CEILING TILE DISPLACED*	❑ *NO LOOSE ASBESTOS LIKE MATERIALS*
❑ *T-STAT SET TO "OFF"/ FAN TO "AUTO"*	❑ *INTERIOR DOORS OPEN*	❑ *PETS SECURED*
❑ *EXHAUST FANS TURNED OFF*	❑ *CLOTHES DRYER TURNED OFF*	❑ *NO LOOSE SOOT PRESENT IN FLUES*

The above checklist is a reminder to check these areas before setting up the blower door. If the home has vermiculite insulation, you may not perform any air testing.

 # Full Stories Above Grade = *N* Factor: 1= 18.5   1.5= 16.5   2= 15   2.5= 14   3= 13.3

House Volume	(0.35/ 60)	= Required CFM
	X .0058	=

From Page # 2

# Occupants	CFM	= Required CFM
	X 15	=

Higher Number
Note:
(Required CFM) minus
(Final BD #/ N)= mechanical vent fan CFM

N	x	
BAS	=	
	x	0.70
70% BAS	=	

Blower Door Test:

Type of Testing	House Pressure	Pre- CFM$_{50}$
❑Depressurization ❑Pressurization	❑ 50 Pa ❑_____	

Proposed CFM50 Reduction: Is CFM$_{50}$ ≥ 4000? If **Yes**   If **No**

CFM50

- 1000

CFM50

x 0.75

Proposed Air Flow =

CFM50

CFM50

Increase the number of units / hours in the software until the proposed **CFM50** is achieved

Note: Maximum Proposed reduction for credit toward TES is 1000 CFM50. If the proposed Air Flow < Bas, you must recommend mechanical ventilation, if < 70% BAS you must propose and install mechanical ventilation as part of or before proceeding with any additional measures.
This is the BPI standard for minimum air flow, if the Proposed Air Flow is below BAS you must "Recommend installation of mechanical ventilation", if below the 70% BAS you must include the installation of mechanical ventilation in the Work Scope

In RHA, increase Air Sealing Units until Proposed under Air Flows is ≈ to above Proposed Air Flow result

Notes:

_____

_____

_____

_____

_____

_____

_____

_____

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Insulation/ Air Sealing:

(Must record details for minimum 1-Attic/ Ceiling, 1-Above Grade Wall, and 1-Foundation for Building Model)

Insulation Types:			Quality	Voids In Software
N = None	ICY = Icynene	CE = Cellulose	*Good* = No Gaps or Compression	None
FG = Fiberglass Batt	RF = Rigid Foam Board	P = Spray polyurethane	*Fair* = > 2 ½% to 5 % of area has no insulation	~0.25"
BFG = Blown FG	CR = Cross Batt	R= Rock/ Mineral wool	*Poor* = not enclosed in walls	~0.50"

Attic Venting Rate:

Code = 1 sq ft net free area of vent for each 300 sq ft of attic floor- (*Gross vent area / 2 ≈net free area*)

> **Attic Floor sq ft _____ / 300 = _____ x 144 = _____(A) Minimum REQUIRED square inches net free vent area**
>
> **Existing square feet of gross vent area= _____ x 72 = _____(B) Estimated square inches net free vent area**
>
> **(A) _____ ⁻ (B)_____ = [   ] required net free vent area square inches**

Attics/ Ceilings: Flats/ Slopes/ Kneewall

Location	Framing	Area Sq. Ft.	Ins. Type	Thickness	Quality	R- Value	
Purely descriptive-has no impact of calculations	2 x @ O.C. *Typical framing dimensions, most framing is 2-inches thick, by X-inches wide and are typically spaced at 16 or 24*	*The area in square feet*	*See table above*	*Actual measured typical minimum thickness of insulation*	G F *See table above*	R- *Rated R-value of the material installed*	**Ins.- Attic / Roof**

Insulated kneewalls are considered to be "poor" quality if the insulation is not enclosed on all six sides. BPI requires any insulation that is installed in walls to be enclosed on all six sides

✔ = NEEDS WORK

❑	SEAL TOPPLATES TO DRYWALL	❑	TIN & FIRE CAULK AT FLUE/ CHIMNEY CHASE
❑	SEAL TOPPLATE PENETRATIONS	❑	INSULATE AND SEAL ACCESS ❑PANEL ❑STAIR
❑	DRAFTBLOCK AT CHASES/ SOFFITS/ DROPS	❑	FIRE BOX RECESSED LIGHTS (DRYWALL, METAL)
❑	DUCT EXHAUST FANS TO OUTSIDE	❑	FIRE BLOCK GAP AT FIRE WALLS (REQUIRES CODE APPROVAL)

The above check boxes can be used to define a Work Scope and a material list.
Firebox recessed lights= Install an airtight box over the light fixture constructed of non-combustible materials (no foam). Fire rated walls between attached units should be sealed with fireproof materials (No foam).

Above Grade Walls: Siding Type: _____   **Insulation**

Location	Framing	NET Area Sq. Ft.	Ins. Type	Thickness	Quality	R- Value	
Exterior	2 x @ O.C.			In.	F	R-	

Framed Floors: **Insulation**

Location	Framing	Area Sq. Ft.	Ins. Type	Thickness	R- Value	
Over Garage (Buffered)	2 x @ O.C.			In.	R-	**Foundation /**
Over Crawlspace (Buffered)	2 x @ O.C.			In.	R-	
Band Joists (Buffered)	2 x @ O.C.			In.	R	

"Buffered?" is the wall a buffered wall? Buffered walls are walls between heated spaces and unheated unvented enclosed spaces (such as garages and some sunrooms).

Foundation Walls & Slabs: **Insulation**

Location/ Type	Length- Linear Feet	Area- Square Feet	Ins. Type	Thickness	R- Value	
Basement Walls (Buffered)				In.	R-	**Ins- Foundation**
Crawlspace Walls (Buffered)				In.	R-	

Basements are considered to be conditioned spaces and are typically inside the pressure boundary of the home, therefore homes with walk-out steps leading to bilco doors should have an exterior grade door framed out and installed at the basement wall. All dirt floors in crawl-spaces should have 6-mil plastic installed as a vapor barrier