

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0513565

Insp Area: 3

Thos Bros: 317E5

Site Address: 2536 34TH AV SAC

Parcel No: 025-0153-013

Sub-Type: RES

Housing (Y/N): N

CONTRACTOR
JC MAC HEATING AND AIR
2312 ANITA AV
SACRAMENTO, CA 95822

OWNER
LEUNG ELIZABETH
2536 34TH AV
SACRAMENTO, CA 95822

ARCHITECT

Nature of Work: NEW ROOF-MOUNT HVAC UNIT W/DUCTWORK

CONSTRUCTION LENDING AGENCY: I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name _____ Lender's Address _____

LICENSED CONTRACTORS DECLARATION: I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

X License Class C20 License Number 640612 Date 9/6/05 Contractor Signature [Signature]

OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.00);

I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such improvements with a contractor(s) licensed pursuant to the Contractors License Law).

I am exempt under Sec. _____ B & PC for this reason: _____

Date _____ Owner Signature _____

IN ISSUING THIS BUILDING PERMIT, the applicant represents, and the city relies on the representation of the applicant, that the applicant verified all measurements and locations shown on the application or accompanying drawings and that the improvements to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

X Date 9/6/05 Applicant/Agent Signature [Signature]

WORKER'S COMPENSATION DECLARATION: I hereby affirm under penalty of perjury one of the following declarations:

I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued.

I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier EXEMPT Policy Number _____ Exp Date _____

X (This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

X Date 9/6/05 Applicant Signature [Signature]

WARNING: FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.

PAID
CITY OF SACRAMENTO
SEP 06 2005

NEIGHBORHOODS PLANNING
AND DEVELOPMENT SERVICES

[Handwritten signature]

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 1 of 8) CF-4R

Project Address 2536 34th Av	Builder Name
Builder Contact	Telephone
HERS Rater Doug McCall	Telephone 916 226-6443
Compliance Method (Prescriptive)	Climate Zone
Certifying Signature <i>[Signature]</i>	Date 3/6/06
Firm HERATI	HERS Provider Doug McCall
Street Address PO Box 25	City/State/Zip Willow CA 95693

0513565

Copies to: BUILDER, HERS PROVIDER AND BUILDING DEPARTMENT

HERS RATER COMPLIANCE STATEMENT

The house was: Tested Approved as part of sample testing, but was not tested
 As the HERS rater providing diagnostic testing and field verification, I certify that the house identified on this form complies with the diagnostic tested compliance requirements as checked on this form. The HERS rater must check and verify that the new distribution system is fully ducted and correct tape is used before a CF-4R may be released on every tested building. The HERS rater must not release the CF-4R until a properly completed and signed CF-6R has been received for the sample and tested buildings.

- The installer has provided a copy of CF-6R (Installation Certificate).
- New Distribution system is fully ducted (i.e., does not use building cavities as plenums or platform returns in lieu of ducts).
- New systems where cloth backed, rubber adhesive duct tape is installed, mastic and draw bands are used in combination with cloth backed, rubber adhesive duct tape to seal leaks at duct connections.

MINIMUM REQUIREMENTS FOR DUCT LEAKAGE REDUCTION COMPLIANCE CREDIT
 Procedures for field verification and diagnostic testing of air distribution systems are available in RACM, Appendix RC4.3.

Duct Diagnostic Leakage Testing Results

NEW CONSTRUCTION:			
	Duct Pressurization Test Results (CFM @ 25 Pa)	Measured Values	
1	Enter Tested Leakage Flow in CFM:	53	
2	Fan Flow: Calculated (Nominal: <input checked="" type="checkbox"/> Cooling <input type="checkbox"/> Heating) or <input type="checkbox"/> Measured Enter Total Fan Flow in CFM:	1200	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
3	Pass if Leakage Percentage ≤ 6% [100 x [(Line # 1) / (Line # 2)]]	4.42	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
ALTERATIONS: Duct System and/or HVAC Equipment Change-Out			
4	Enter Tested Leakage Flow in CFM from CF-6R: Pre-Test of Existing Duct System Prior to Duct System Alteration and/or Equipment Change-Out.		
5	Enter Tested Leakage Flow in CFM: Final Test of New Duct System or Altered Duct System for Duct System Alteration and/or Equipment Change-Out.	53	
6	Enter Reduction in Leakage for Altered Duct System [(Line # 4) Minus (Line # 5)] (Only if Applicable)		
7	Enter Tested Leakage Flow in CFM to Outside (Only if Applicable)		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
8	Entire New Duct System - Pass if Leakage Percentage ≤ 6% [100 x [(Line # 5) / (Line # 2)]]	4.42%	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
TEST OR VERIFICATION STANDARDS: For Altered Duct System and/or HVAC Equipment Change-Out			
Use one of the following four Test or Verification Standards for compliance:			
9	Pass if Leakage Percentage ≤ 15% [100 x [(Line # 5) / (Line # 2)]]	4.42%	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
10	Pass if Leakage to Outside Percentage ≤ 10% [100 x [(Line # 7) / (Line # 2)]]		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
11	Pass if Leakage Reduction Percentage ≥ 60% [100 x [(Line # 6) / (Line # 4)]] and Verification by Smoke Test and Visual Inspection		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
12	Pass if Sealing of all Accessible Leaks and Verification by Smoke Test and Visual Inspection		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
Pass if One of Lines # 9 through # 12 pass			<input type="checkbox"/> Pass <input type="checkbox"/> Fail

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 2 of 8) CF-4R

Project Address	Builders Name
-----------------	---------------

Copies to: BUILDER, HERS PROVIDER AND BUILDING DEPARTMENT

DIAGNOSTIC SUPPLY DUCT LOCATION, SURFACE AREA AND R-VALUE

Procedures for field verification and diagnostic testing for this group compliance credits are available in RACM, Appendix RC, RE & RH.

LESS THAN 12 LINEAL FEET OF SUPPLY DUCT OUTSIDE OF CONDITIONED SPACE COMPLIANCE CREDIT

<input checked="" type="checkbox"/> <input type="checkbox"/> Yes	<input type="checkbox"/> <input type="checkbox"/> No	Less than 12 lineal feet of supply duct outside of conditioned space.
Yes to this compliance credit is a pass		
<input checked="" type="checkbox"/>	<input type="checkbox"/> Pass	<input checked="" type="checkbox"/> Fail

SUPPLY DUCTS LOCATED IN CONDITIONED SPACE COMPLIANCE CREDIT

<input checked="" type="checkbox"/> <input type="checkbox"/> Yes	<input type="checkbox"/> <input type="checkbox"/> No	Ducts are located within the conditioned volume of building.
Yes to this compliance credit is a pass		
<input checked="" type="checkbox"/>	<input type="checkbox"/> Pass	<input checked="" type="checkbox"/> Fail

Duct System Design verification is required for a compliance credit for the following:

1. Supply duct surface area reduction
2. Buried supply ducts on the ceiling
3. Deeply buried supply ducts

DUCT SYSTEM DESIGN VERIFICATION

<input checked="" type="checkbox"/> <input type="checkbox"/> Yes	<input type="checkbox"/> <input type="checkbox"/> No	Adequate airflow verified
<input checked="" type="checkbox"/> <input type="checkbox"/> Yes	<input type="checkbox"/> <input type="checkbox"/> No	The duct system design plan meets the requirements specified in RACM, Appendix RE, Section RE.4.2
<input checked="" type="checkbox"/> <input type="checkbox"/> Yes	<input type="checkbox"/> <input type="checkbox"/> No	The duct system design plan exists on building plans
<input checked="" type="checkbox"/> <input type="checkbox"/> Yes	<input type="checkbox"/> <input type="checkbox"/> No	Duct sizes, duct system layout and locations of supply & return registers match the duct system design plan
Yes to all is a pass		
<input checked="" type="checkbox"/>	<input type="checkbox"/> Pass	<input checked="" type="checkbox"/> Fail

SUPPLY DUCTS SURFACE AREA REDUCTION COMPLIANCE CREDIT

Attic	Crawl Space	Basement	Covered	Deeply Covered	Other	Duct Diameter	R-4.2 Surface Area	R-6.0 Surface Area	R-8.0 Surface Area	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Total Surface Area for Each R-Value =										
<input checked="" type="checkbox"/> <input type="checkbox"/> Yes	<input type="checkbox"/> <input type="checkbox"/> No	Total Surface Area matches Performance's CF-1R?						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Yes to all is a pass								<input type="checkbox"/> Pass	<input type="checkbox"/> Fail	

BURIED DUCTS ON THE CEILING COMPLIANCE CREDIT

<input checked="" type="checkbox"/> <input type="checkbox"/> Yes	<input type="checkbox"/> <input type="checkbox"/> No	Buried Ducts on the Ceiling
<input checked="" type="checkbox"/> <input type="checkbox"/> Yes	<input type="checkbox"/> <input type="checkbox"/> No	Verified High Insulation Installation Quality
Yes to duct system design, supply duct surface area reduction and this compliance credit is a pass		
<input type="checkbox"/>	<input type="checkbox"/> Pass	<input type="checkbox"/> Fail

DEEPLY BURIED DUCTS COMPLIANCE CREDIT

<input checked="" type="checkbox"/> <input type="checkbox"/> Yes	<input type="checkbox"/> <input type="checkbox"/> No	Deeply Buried Ducts
<input checked="" type="checkbox"/> <input type="checkbox"/> Yes	<input type="checkbox"/> <input type="checkbox"/> No	Verified High Insulation Installation Quality
Yes to duct system design, supply duct surface area reduction and this compliance credit is a pass		
<input type="checkbox"/>	<input type="checkbox"/> Pass	<input type="checkbox"/> Fail

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 3 of 8)		CF-4R
Project Address		Builder Name
Builder Contact	Telephone	Plan Number
HERS Rater	Telephone	Sample Group Number
Compliance Method (Prescriptive)		Climate Zone
Certifying Signature		Date
Firm		Sample House Number
Street Address:		HERS Provider
		City/State/Zip:

Copies to: BUILDER, HERS PROVIDER AND BUILDING DEPARTMENT

HERS RATER COMPLIANCE STATEMENT

The house was: Tested Approved as part of sample testing, but was not tested

As the HERS rater providing diagnostic testing and field verification, I certify that the house identified on this form complies with the diagnostic tested compliance requirements as checked on this form.

The installer has provided a copy of CF-6R (Installation Certificate).

THERMOSTATIC EXPANSION VALVE (TXV)

Procedures for field verification of thermostatic expansion valves are available in RACM, Appendix RI.

				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Access is provided for inspection. The procedure shall consist of visual verification that the TXV is installed on the system and installation of the specific equipment shall be verified.	<input type="checkbox"/>	<input type="checkbox"/>
			Yes is a pass	Pass	Fail

REFRIGERANT CHARGE MEASUREMENT

Verification for Required Refrigerant Charge for Split System Space Cooling Systems without Thermostatic Expansion Valves

Indoor Unit Serial #	
Location	
Outdoor Unit Make	
Outdoor Unit Model	
Cooling Capacity	Btu/hr
Date of Verification	
Date of Refrigerant Gauge Calibration	(must be checked monthly)
Date of Thermocouple Calibration	(must be checked monthly)

Standard Charge Measurement (outdoor air dry-bulb 55 °F and above):

Note: The system should be installed and charged in accordance with the manufacturer's specifications and installer verification shall be documented on CF-6R before starting this procedure. If outdoor air dry-bulb is below 55 °F rater shall use the Alternative Charge Measure Procedure

Procedures for Determining Refrigerant Charge using the Standard Method are available in RACM, Appendix RD2.

<input checked="" type="checkbox"/> <input type="checkbox"/> Yes <input type="checkbox"/> No	A copy of CF-6R (Installation Certificate) has been provided with refrigerant charge measurement documented.
--	--

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 4 of 8) CF-4R

Project Address	Builders Name
-----------------	---------------

Copies to: **BUILDER, HERS PROVIDER AND BUILDING DEPARTMENT**

Measured Temperatures

Supply (evaporator leaving) air dry-bulb temperature (Tsupply, db)		°F
Return (evaporator entering) air dry-bulb temperature (Treturn, db)		°F
Return (evaporator entering) air wet-bulb temperature (Treturn, wb)		°F
Evaporator saturation temperature (Tevaporator, sat)		°F
Suction line temperature (Tsuction, db)		°F
Condenser (entering) air dry-bulb temperature (Tcondenser, db)		°F

Superheat Charge Method Calculations for Refrigerant Charge

Actual Superheat = Tsuction, db - Tevaporator, sat		°F
Target Superheat (from Table RD-2)		°F
Actual Superheat - Target Superheat (System passes if between -5 and +5°F)		°F

Temperature Split Method Calculations for Adequate Airflow

Split Method Calculation is not necessary if Adequate Airflow credit is taken

Actual Temperature Split = T return, db - Tsupply, db		°F
Target Temperature Split (from Table RD3)		°F
Actual Temperature Split - Target Temperature Split (System passes if between -3°F and +3°F or, upon remeasurement, if between -3°F and -100°F)		°F

Standard Charge Measurement Summary:

System shall pass both refrigerant charge and adequate airflow calculation criteria from the same measurements. If corrective actions were taken, both criteria must be remeasured and recalculated

<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	System Passes
-------------------------------------	------------------------------	-----------------------------	---------------

Alternative Charge Measurement (outdoor air dry-bulb below 55 °F)

Note: The system should be installed and charged in accordance with the manufacturer's specifications and installer verification shall be documented on CF-6R before starting this procedure. If outdoor air dry-bulb is 55 °F or above, rater shall use the Standard Charge Measure Procedure:

Procedures for Determining Refrigerant Charge using the Alternative Method are available in RACM, Appendix RD3.

<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	A copy of CF-6R (Installation Certificate) has been provided with refrigerant charge measurement documented.
-------------------------------------	------------------------------	-----------------------------	--

Weigh-In Charging Method for Refrigerant Charge

Actual liquid line length:		ft
Manufacturer's Standard liquid line length:		ft
Difference (Actual - Standard):		ft

Manufacturer's correction (ounces per foot) _____ x difference in length = _____ ounces ("+" = add ounces) ("-" = remove ounces)

Alternative Charge Measurement Summary:

System shall pass both refrigerant charge and adequate airflow calculation criteria from the same measurements. If corrective actions were taken, both criteria must be remeasured and recalculated.

<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	System Passes
-------------------------------------	------------------------------	-----------------------------	---------------

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 5 of 8)		CF-4R
Project Address		Builder Name
Builder Contact	Telephone	Plan Number
HERS Rater	Telephone	Sample Group Number
Certifying Signature	Date	Sample House Number
Firm	HERS Provider	
Street Address:		City/State/Zip:

Copies to: BUILDER, HERS PROVIDER AND BUILDING DEPARTMENT

HERS RATER COMPLIANCE STATEMENT

The house was: Tested Approved as part of sample testing, but was not tested

As the HERS rater providing diagnostic testing and field verification, I certify that the house identified on this form complies with the diagnostic tested compliance requirements as checked on this form.

The installer has provided a copy of CF-6R (Installation Certificate).

ADEQUATE AIRFLOW VERIFICATION

Procedures for field verification and diagnostic testing of adequate airflow are available in RACM, Appendix RE4.1.

Method For Airflow Measurement				
<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Duct design exists on plans		
<input type="checkbox"/>	RE4.1.1	Diagnostic Fan Flow Using Flow Capture Hood		
<input type="checkbox"/>	RE4.1.2	Diagnostic Fan Flow Using Plenum Pressure Matching		
<input type="checkbox"/>	RE4.1.3	Diagnostic Fan Flow Using Flow Grid Measurement		
		Measured Airflow:		Total CFM
		Rated Tons:		cfm/ton
<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Measured airflow is greater than the criteria in Table RE-2	<input type="checkbox"/>	<input type="checkbox"/>
		Yes is a pass	Pass	Fail

MAXIMUM COOLING CAPACITY

Procedures for determining maximum cooling load capacity are available in RACM, Appendix RF3.

1	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Adequate airflow verified (see adequate airflow credit)		
2	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Refrigerant charge or TXV		
3	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Duct leakage reduction credit verified		
4	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Cooling capacities of installed systems are \leq to maximum cooling capacity indicated on the Performance's CF-1R and RF-3.		
5	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	If the cooling capacities of installed systems are $>$ than maximum cooling capacity in the CF-1R, then the electrical input for the installed systems must be \leq to electrical input in the CF-1R.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Yes to 1, 2, and 3; and Yes to either 4 or 5 is a pass				Pass	Fail

HIGH EER AIR CONDITIONER

Procedures for verification are available in RACM, Appendix RI.

1	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	EER values of installed systems match the CF-1R		
2	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	For split system, indoor coil is matched to outdoor coil		
3	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	Time Delay Relay Verified (If Required)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Yes to 1 and 2; and 3 (If Required) is a pass				Pass	Fail

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 6 of 8) CF-4R	
Project Address	Builder Name
Builder Contact	Telephone
HERS Rater	Telephone
Certifying Signature	Date
Firm	HERS Provider
Street Address:	City/State/Zip:

Copies to: BUILDER, HERS PROVIDER AND BUILDING DEPARTMENT

HERS RATER COMPLIANCE STATEMENT

The house was: Tested Approved as part of sample testing, but was not tested

As the HERS rater providing diagnostic testing and field verification, I certify that the house identified on this form complies with the diagnostic tested compliance requirements as checked on this form.

The installer has provided a copy of CF-6R (Installation Certificate).

FAN WATT DRAW

Procedures for measuring the air handler watt draw are available in RACM, Appendix RE3.2.

<input checked="" type="checkbox"/> Method For Fan Watt Draw Measurement	
<input type="checkbox"/> RE3.2.1	Portable Watt Meter Measurement
<input type="checkbox"/> RE3.2.2	Utility Revenue Meter Measurement
Measured Fan watt Draw: (enter watts here)	
Measured Fan Flow (Enter total cfm from airflow verification)	
Enter results of Watts/cfm:	
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Calculated fan watt/cfm is equal to or lower than the fan watt/cfm draw documented in CF-1R	
Yes is a pass	

HERS RATER COMPLIANCE STATEMENT

The house was: Tested Approved as part of sample testing, but was not tested

As the HERS rater providing diagnostic testing and field verification, I certify that the house identified on this form complies with the diagnostic tested compliance requirements as checked on this form.

The installer has provided a copy of CF-6R (Installation Certificate).

MINIMUM REQUIREMENTS FOR INFILTRATION REDUCTION COMPLIANCE CREDIT

Procedures for field verification and diagnostic testing of infiltration reduction are available in RACM Section 3.5.

		Diagnostic Testing Results		Building Envelope Leakage (CFM @ 50 Pa) as measured by Rater:	
1.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Is measured envelope leakage less than or equal to the required level from CF-1R?		
2.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Is Mechanical Ventilation shown as required on the CF-1R?		
2a.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If Mechanical Ventilation is required on the CF-1R (Yes in line 2), has it been installed?		
2b.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Check this box yes if mechanical ventilation is required (Yes in line 2) and ventilation fan watts are no greater than shown on CF-1R.		
3.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Check this box yes if measured building infiltration (CFM @ 50 Pa) is greater than the CFM @ 50 values shown for an SLA of 1.5 on CF-1R (If this box is checked no, mechanical ventilation is required.)		
4.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Check this box yes if measured building infiltration (CFM @ 50 Pa) is less than the CFM @ 50 values shown for an SLA of 1.5 on CF-1R, mechanical ventilation is installed and house pressure is greater than minus 5 Pascal with all exhaust fans operating.		
Pass if: a) Yes in line 1 and line 3, or b) Yes in line 1 and line 2, 2a, and 2b, or c) Yes in line 1 and line 4, Otherwise Fail.				<input type="checkbox"/> Pass	<input type="checkbox"/> Fail

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 7 of 8) CF-4R	
Project Address	Builder Name
Builder Contact	Telephone
HERS Rater	Telephone
Certifying Signature	Date
Firm	HERS Provider
Street Address:	City/State/Zip:

Copies to: BUILDER, HERS PROVIDER AND BUILDING DEPARTMENT

HERS RATER COMPLIANCE STATEMENT

The house was: Tested Approved as part of sample testing, but was not tested

As the HERS rater providing diagnostic testing and field verification, I certify that the house identified on this form complies with all applicable requirements of the "High Quality Installation of Insulation" protocols as specified in the Residential ACM, Appendix RH and as checked on this form. Note that to PASS and receive compliance credit, NONE of the BOXES below may be checked "No" and the first three boxes also must be checked. Check "NA" only if the item is not part of the design of the building (i.e., single story buildings do not have rim joists or there may be no recessed can lights installed, etc.).

REQUIREMENTS FOR "HIGH QUALITY INSTALLATION OF INSULATION" COMPLIANCE CREDIT

- The building is wood frame construction with wall stud cavities, ceilings, and roof assemblies insulated with mineral fiber or cellulose insulation in low-rise residential buildings.
- Description of insulation, (CF-6R, formerly IC-1) signed by the installer stating: insulation manufacturer's name, material identification, installed R-values, and for loose-fill insulation: minimum weight per square foot and minimum inches.
- Installation Certificate, (CF-6R) signed by the installer certifying that the installation meets all applicable requirements as specified in the High Quality Insulation Installation Procedures (ACM, Appendix RH).

FLOOR

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All floor joist cavity insulation installed to uniformly fit the cavity side-to-side and end-to-end
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Insulation in contact with the subfloor or rim joists insulated
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Insulation properly supported to avoid gaps, voids, and compression
Yes	No	NA	
<input checked="" type="checkbox"/> WALLS			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Wall stud cavity insulation uniformly fills the cavity side-to-side, top-to-bottom, and front-to-back
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No gaps
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No voids over ¼" deep or more than 10% of the batt surface area.
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Hard to access wall stud cavities such as; corner channels, wall intersections, and behind tub/shower enclosures insulated to proper R-Value
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Small spaces filled
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Rim-joists insulated
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Wall stud cavities caulked or foamed to provide an air tight envelope
Yes	No	NA	

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 8 of 8) CF-4R

Project Address	Builders Name
-----------------	---------------

✓ ROOF/CEILING PREPARATION			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All draft stops in place to form a continuous ceiling and wall air barrier
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All drops covered with hard covers
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All draft stops and hard covers caulked or foamed to provide an air tight envelope
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	All recessed light fixtures IC and air tight (AT) rated and sealed with a gasket or caulk between the housing and the ceiling
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Floor cavities on multiple-story buildings have air tight draft stops to all adjoining attics
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Eave vents prepared for blown insulation - maintain net free-ventilation area
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Knee walls insulated or prepared for blown insulation
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Area under equipment platforms and cat-walks insulated or accessible for blown insulation
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Attic rulers installed
Yes	No	NA	

✓ ROOF/CEILING BATTS			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No gaps
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	No voids over ¼ in. deep or more than 10% of the batt surface area
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Insulation in contact with the air-barrier
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Recessed light fixtures covered
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Net free-ventilation area maintained at eave vents
Yes	No	NA	

✓ ROOF/CEILING LOOSE-FILL			
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Insulation uniformly covers the entire ceiling (or roof) area from the outside of all exterior walls
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Baffles installed at eaves vents or soffit vents - maintain net free-ventilation area of eave vent
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Attic access insulated
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Recessed light fixtures covered
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Insulation at proper depth – insulation rulers visible and indicating proper depth and R-value
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Loose-fill mineral fiber insulation meets or exceeds manufacturer's minimum weight and thickness requirement for the target R-value. Target R-value _____ Manufacturer's minimum required weight for the target R-value _____ (pounds-per-square foot). Sample weight _____ (pounds per square foot).
Yes	No	NA	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Manufacturer's minimum required thickness at time of installation _____ (inches) Manufacturer's minimum required settled thickness _____ (inches). Number of days since loose-fill insulation was installed _____ (days). At the time of installation, the insulation shall be greater than or equal to the manufacturer's minimum initial insulation thickness. If the HERS rater does not verify the insulation at the time of installation, and if the loose-fill insulation has been in place less than seven days the thickness shall be greater than the manufacturer's minimum required thickness at the time of installation less 1/2 inch to account for settling. If the insulation has been in place for seven days or longer the insulation thickness shall be greater than or equal to the manufacturer's minimum required settled thickness. Minimum thickness measured (inches).
Yes	No	NA	