

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0610302

Insp Area: 3

Thos Bros: 297G7

Site Address: 1909 40TH ST SAC

Parcel No: 011-0031-014

Sub-Type: RES

Housing (Y/N): N

CONTRACTOR
WERNER & SONS
3479 ORANGE GROVE
NORTH HIGHLANDS, CA 95660

OWNER
SMITH MATTHEW NEVADA
1909 40TH ST
SACRAMENTO, CA 95819

ARCHITECT

Nature of Work: NEW HVAC PACKAGE ROOF MOUNT SYSTEM - NEW ELECTRIC CIRCUITS - COMPLIANCE DOCS
REQUIRED AT FINAL

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.

License Class C-20 License Number 406961 Date 10-31-07 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 projects 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 improvement to be constructed does not violate any law or private agreement relating to permissible or prohibited locations for such improvements. This building does not constitute an illegal location of any improvement or the violation of any private agreement relating to location of improvements.

PAID
CITY OF SACRAMENTO
MAY 21 2006
NEIGHBORHOODS PLANNING
AND DEVELOPMENT SERVICES

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.

Date 7-21-06 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: STATE FUND Policy Number 713-0007630 Exp Date 10/01/2006

(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.

Date 7-21-06 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.



CITY OF SACRAMENTO
PLANNING & BUILDING DEPARTMENT
 BUILDING DIVISION
 www.cityofsacramento.org
 Help Line: 1-916-808-5656 OR 1-866-EZ-PERMIT
 Inspection: 1-916-808-7622

Handwritten: Faxed 7/6/06



Fax # 916-808-1901 Downtown Permit Center, New City Hall
 915 I Street, 3rd Floor, Sacramento, CA 95814

North Permit Center
 2101 Arena Blvd., Suite 200, Sacramento, CA 95834

Fax # 916-808-8370

Activity # _____

FAXED PERMIT APPLICATION

(certain restrictions apply)

Date: 7/6/06

*Faxed request must be received in this office by 3:00 P.M. to be processed the following workday.
 Note: Contractors must have a current certificate of Worker's Compensation Insurance.*

Note: Work started before a Building Permit is issued will be subject to quad fee.

IN ORDER TO PROCESS THIS REQUEST, ALL THE FOLLOWING INFORMATION MUST BE PROVIDED:

RESIDENTIAL APARTMENTS (4+ units per building) COMMERCIAL (limited)
 Job Address: 1909 40th st. Unit # _____ Contract Price \$ 6660.00
 Contact Person: CORY LEWIS Contact Phone: (916) 257-2510
 Property Owner: MATHEW NEVADA SMITH Contractor: Werner & Sons License # 406961
 Address: 1909 40TH ST. Address: 3479-A Orange Grove Ave.
 City/State/Zip: SACRAMENTO, CA. 95819 City/State/Zip: North Highlands, CA 95660
 Phone: (916) 307-9728 Phone: (916) 971-9716 Fax: (916) 971-1062

Nature of Work: (Provide detailed description of work & indicate type of work in selections below).
 Description of Work: HVAC ROOF TOP CUT IN

<input type="checkbox"/> Reroof (excluding tile) <input type="checkbox"/> Tear-Off <input type="checkbox"/> Resheet <input type="checkbox"/> House <input type="checkbox"/> Garage # Stories: _____ # Squares: _____ Material: _____ <input type="checkbox"/> Siding <input type="checkbox"/> Wood <input type="checkbox"/> T-111 <input type="checkbox"/> Horiz <input type="checkbox"/> Vinyl <input type="checkbox"/> Stucco *Design Review approval may be required.	<input checked="" type="checkbox"/> HVAC Installations (Residential Only) <input type="checkbox"/> Change-out <input type="checkbox"/> New <input type="checkbox"/> Heat Pump <input checked="" type="checkbox"/> Package <input type="checkbox"/> Split system <input type="checkbox"/> Roof mount <input checked="" type="checkbox"/> Cut-in <input type="checkbox"/> Heat pump or elect. unit to gas. <input type="checkbox"/> Wall furnace <input type="checkbox"/> Other (describe below) Value of duct work: _____ Equipment: \$ <u>6,660.00</u> Cut-in: \$ _____ *Design Review approval may be required.	<input type="checkbox"/> Water Heater (Residential Only) <input type="checkbox"/> Gas <input type="checkbox"/> Electric <input type="checkbox"/> Change-out <input type="checkbox"/> Electric to Gas <input type="checkbox"/> Relocate <input type="checkbox"/> New <input type="checkbox"/> Dry Rot or Termitte Damage Repair (Describe Locations Below) *Design Review approval may be required.	<input checked="" type="checkbox"/> Minor Electric and/or Minor Plumbing (Residential Only) <input type="checkbox"/> Electric Service Change # amps <input checked="" type="checkbox"/> New electric circuits <input type="checkbox"/> Re-wire <input type="checkbox"/> Water Service Replacement <input type="checkbox"/> Sewer Service Replacement <input type="checkbox"/> Gas Line Replacement <input type="checkbox"/> Re-plumb <input type="checkbox"/> Water <input type="checkbox"/> Waste	<input type="checkbox"/> Public Utilities Safety Inspection (Residential and single apartment units Only) <input type="checkbox"/> SMUD <input type="checkbox"/> PG&E ◆ NOTE: Correction Notice items will require an additional building permit.
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CERTIFICATE OF COMPLIANCE: RESIDENTIAL		(Page 1 of 5)	CF-1R
Project Title Smith	Date 7/21/06	Building Permit # 0610302	
Project Address 1909 40th Street Sacramento, CA 9581		Plan Check / Date	
Documentation Author Bill Tierney	Telephone (916) 971-9716	Field Check / Date	
Compliance Method (Prescriptive) Acca-Manual J	Climate Zone 12	Enforcement Agency Use Only	

Alternative Component Package Method: (check one) _____ C _____ D _____ D (Alternative)
 * Package C and Package D choices require HERS rater field verification and/or diagnostic testing (see CF-1R page 3)
 For Package D Alternative see Appendix B Table 151-C Footnotes 7-14

GENERAL INFORMATION

Total Conditioned Floor Area (CFA) _____ ft²

Average Ceiling Height: _____ ft

Maximum Allowed West Facing Fenestration Products Per Table 151-B or 151-C --- (5% X CFA) _____ ft²

Maximum Allowed Total Fenestration Products Per Table 151-B or 151-C --- (20% X CFA) _____ ft²

Building Type: (check one or more) Single Family _____ Multifamily _____ Addition Alteration
 (If adding fenestration fill out WS-4R, Fenestration Maximum Allowed Area Worksheet and see Section 8.3.2 for Additions and 8.3.3 for Alterations.)

Number of Stories: _____ Number of Dwelling Units: _____

Floor Construction Type: _____ Slab/Raised Floor (circle one or both)

Front Orientation: _____ North / South / East / West / All Orientations (input front orientation in degrees from True North and circle one).

RADIANT BARRIER (required in climate zones 2, 4, 8-15)

OPAQUE SURFACES INCLUDING OPAQUE DOORS

Component Type (Wall, Roof, Floor, Slab Edge, Doors)	Frame Type (Wood or Metal)	Cavity Insulation R-Value	Continuous Insulation R-Value	Assembly U-factor (for wood, metal frame and mass assemblies) ¹	Joint Appendix IV Reference	Roof Radiant Barrier Installed Yes or No	Location Comments (attic, garage, typical, etc.)

1) See Joint Appendix IV in Section IV.2, IV.3 and IV.4, which is the basis for the U-factor criterion. U-factors can not exceed prescriptive value to show equivalence to R-values.

CERTIFICATE OF COMPLIANCE: RESIDENTIAL (Page 2 of 5) CF-1R

<i>Project Title</i> Smith	<i>Date</i> 7/21/06
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FENESTRATION PRODUCTS – U-FACTOR AND SHGC

✓ FENESTRATION MAXIMUM ALLOWED AREA WORKSHEET WS-4R –must be included for New Construction, Additions and Alterations.

Fenestration #/Type/Pos. (Front, Left, Rear, Right, Skylight)	Orientation, N, S, E, W ¹	Area (ft ²)	U-factor ²	U-factor Source ³	SHGC ⁴	SHGC Source ⁵	Exterior Shading/Overhangs ^{6,7} ✓ box if WS-3R is included
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>
							<input type="checkbox"/>

- 1) Skylights are now included in West-facing fenestration area if the skylights are tilted to the west or tilted in any direction when the pitch is less than 1:12. See §151(f)3C and in Section 3.2.3 of the Residential Manual
- 2) Enter values in this column are either NFRC Rated value or from Standards default Table 116A.
- 3) Indicate source either from NFRC or Table 116A,
- 4) Enter values in this column from NFRC or from Standards Default Table 116B or adjusted SHGC from WS-3R.
- 5) Indicate source either from NFRC or Table 116B.
- 6) Shading Devices are defined in Table 3-3 in the Residential Manual and see WS-3R to calculate Exterior Shading devices.
- 7) See Section 3.2.4 in the Residential Manual.

HVAC SYSTEMS

Heating Equipment Type and Capacity (furnace, heat pump, boiler, etc.)	Minimum Efficiency (AFUE or HSPF)	Distribution Type and Location (ducts, attic, etc.)	Duct or Piping R-Value	Thermostat Type	Configuration (split or package)
Furnace 80K BTU	80%	Flex, Attic	4.0	Dig Set Back	Package

Cooling Equipment Type and Capacity (A/C, heat pump, evap. cooling)	Minimum Efficiency (SEER or EER)	Duct Location (attic, etc.)	Duct R-Value	Thermostat Type	Configuration (split or package)
A/C 36K BTU	14 seer 12 eer	Attic	4.0	Dig Set Back	Package

CERTIFICATE OF COMPLIANCE: RESIDENTIAL (Page 3 of 5) CF-1R

<i>Project Title</i>	Smith	<i>Date</i>	7/21/06
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SEALED DUCTS and TXVs (or Alternative Measures)

A signed CF-4R Form must be provided to the building department for each home for which the following are required.

<input checked="" type="checkbox"/>	Sealed Ducts (all climate zones) (Installer testing and certification and HERS rater field verification required.)
<input checked="" type="checkbox"/>	TXVs, readily accessible (climate zones 2 and 8-15 only) (Installer testing and certification and HERS Rater field verification required.)
<input type="checkbox"/>	Refrigerant Charge (climate zones 2 and 8-15 only) (Installer testing and certification and HERS Rater field verification required.)
OR	
<input type="checkbox"/>	Alternative to Sealed Ducts and Refrigerant Charge /TXVs (See Package D Alternative Package Features for Project Climate Zone in the RM Appendix B Table 151-C, Footnotes 7-14.
OR	
<input type="checkbox"/>	For additions and alterations, duct systems that are not documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Residential ACM Manual and duct systems with more than 40 linear feet in unconditioned spaces shall meet the requirements of Section 150(m) and duct insulation requirements of Package D.

WATER HEATING SYSTEMS

<input checked="" type="checkbox"/>	
<input type="checkbox"/>	Check box if system meets criteria of a "Standard" system. Standard system is one gas-fired water heater per dwelling unit. If the water heater is a storage type, 50 gallons is the maximum capacity and recirculation system is not allowed.
<input type="checkbox"/>	Check box when using Preapproved Alternative Water Heating table, Table 5-4 in Chapter 5 in the Residential Manual. No water heating calculations are required, and the system complies automatically.
<input type="checkbox"/>	Check box if system does not meet criteria of "Standard" system, and does not comply with the Preapproved Alternative Water Heating table. In this case, the Performance Method must be used and must be included in the submittal.
<input type="checkbox"/>	Check box to verify that a time control is required for a recirculating system pump for a system serving multiple units

Systems serving single dwelling units

Water Heater Type/Fuel Type	Distribution Type	Number in System	Rated Input ¹ (kW or Btu/hr)	Tank Capacity (gallons)	Energy Factor ¹ or Thermal Efficiency	Standby ¹ Loss (%)	Tank External Insulation R-Value

System serving multiple dwelling units

Water Heater Type	Distribution Type	Number in System	Rated Input ¹ (kW or Btu/hr)	Tank Capacity (gallons)	Energy Factor ¹ or Thermal Efficiency	Standby ¹ Loss (%)	Tank External Insulation R-Value

1) For small gas storage water heaters (rated inputs of less than or equal to 75,000 Btu/hr), electric resistance, and heat pump water heaters, list Energy Factor. For large gas storage water heaters (rated input of greater than 75,000 Btu/hr), list Rated Input, Recovery Efficiency, Thermal Efficiency and Standby Loss. For instantaneous gas water heaters, list Rated Input and Thermal Efficiencies.

Pipe Insulation (kitchen lines $\geq 3/4$ inches) All hot water pipes from the heating source to the kitchen fixtures that are $3/4$ inches or greater in diameter shall be thermally insulated as specified by Section 150 (j) 2 A or 150 (j) 2 B.

CERTIFICATE OF COMPLIANCE: RESIDENTIAL (Page 4 of 5) CF-1R	
Project Title Smith	Date 7/21/06

SPECIAL FEATURES NOT REQUIRING HERS VERIFICATION (add extra sheets if necessary)

Indicate which special features are part of this project. The list below represents special features relevant to the Prescriptive and Performance Method.

✓	Feature	Required Forms (if applicable)	Description
<input type="checkbox"/>	Metal Framed Walls	CF-1R	
<input type="checkbox"/>	Radiant Barriers	CF-1R	
<input type="checkbox"/>	Exterior Shades	WS-4R	
<input type="checkbox"/>	Cool Roof	N/A; Performance Calculation Required. Attach CRRC Label to Forms.	
<input type="checkbox"/>	Dedicated Hydronic Heating System	Performance Calculation Required; Attach Run to Forms.	
<input type="checkbox"/>	Combined Hydronic System	Performance Calculation Required; Attach Run to Forms.	
<input type="checkbox"/>	Gas Cooling	N/A; Performance Calculation Required.	
<input type="checkbox"/>	Buried Ducts	N/A; Indicate on building plans.	
<input type="checkbox"/>	Kitchen Pipe Insulation	See Section 5.6.2 Distribution Systems in Residential Manual.	
<input type="checkbox"/>	Multiple Water Heaters Per Dwelling Unit	See Table 5-13 or use Performance Calculation and attach Run to Forms.	
<input type="checkbox"/>	Central Water Heating System Serving Multiple Dwellings	Performance Calculation and attach Run to Forms.	
<input type="checkbox"/>	Non-NAECA Large Water Heater	CF-1R	
<input type="checkbox"/>	Indirect Water Heater	See Table 5-13 or use Performance Calculation and attach Run to Forms	
<input type="checkbox"/>	Instantaneous Gas Water Heater	See Table 5-13 or use Performance Calculation and attach Run to Forms	
<input type="checkbox"/>	Solar Water Heating System	See Table 5-13 or use Performance Calculation and attach Run to Forms	
<input type="checkbox"/>	Wood Stove Boiler	Performance Calculation and attach Run to Forms	

SPECIAL FEATURES REQUIRING HERS RATER VERIFICATION

(add extra sheets if necessary) Indicate to the HERS Rater which credits are part of this project and need verification.

✓	Feature	Required Forms (if applicable)	Description
<input checked="" type="checkbox"/>	Duct Sealing	CF-6R part 4 of 12	
<input type="checkbox"/>	Refrigerant Charge	CF-6R part 5 of 12	
<input checked="" type="checkbox"/>	Thermostatic Expansion Valve	CF-6R part 6 of 12	

CERTIFICATE OF COMPLIANCE: RESIDENTIAL		(Page 5 of 5)	CF-1R
Project Title	Smith	Date	7/21/06

COMPLIANCE STATEMENT

This certificate of compliance lists the building features and specifications needed to comply with Title 24, Parts 1 and 6 of the California Code of Regulations, and the administrative regulations to implement them. This certificate has been signed by the individual with overall design responsibility. The undersigned recognizes that compliance using duct design, duct sealing, verification of refrigerant charge and TXVs, insulation installation quality, and building envelope sealing require installer testing and certification and field verification by an approved HERS rater.

Designer or Owner (per Business and Professions Code)		Documentation Author	
Name:	Bill Tierney	Name:	Bill Tierney
Title/Firm:	Werner & Sons	Title/Firm:	Werner & Sons
Address:	3479 Orange Grove Ave. Ste. A North Highlands, CA 95660	Address:	3479 Orange Grove Ave. Ste. A North Highlands, CA 95660
Telephone:	(916) 971-9716	Telephone:	(916) 971-9716
License #:	406961		
(signature)	(date)	(signature)	(date)

Enforcement Agency

Name:		Comments:	
Title:			
Agency:			
Telephone:			
(signature / stamp)	(date)		

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 1 of 8)		CF-4R
Project Address 1909 40th St Sacramento CA 95819	Builder Name	
Builder Contact Installing Contractor	Telephone	Plan Number
HERS Rater Home Enalasis	Telephone 760-768-3228	Sample Group Number 1
Compliance Method (Prescriptive)		Climate Zone 12
Certifying Signature (Electronically signed)	08/08/06 Date	Sample House Number 2496
Firm Enalasis Corp		HERS Provider CBPCA
Street Address 250 Campillo Ave		City/State/Zip Calexico CA 92231

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 CP-4R may be released on every tested building. The HERS rater must not release the CP-4R until a properly completed and signed CP-6R has been received for the sample and tested buildings.
- The installer has provided a copy of CP-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 R Cd. 3.

Duct Diagnostic Leakage Testing Results

NEW CONSTRUCTION:		
	Duct Pressurization Test Results (CFM @ 25 Pa)	Measured Values
1	Enter Tested Leakage Flow in CFM:	
2	Fan Flow: Calculated (Nominal: <input checked="" type="checkbox"/> Cooling <input type="checkbox"/> Heating) or <input checked="" type="checkbox"/> Measured Enter Total Fan Flow in CFM:	1302
3	Pass if Leakage Percentage $\leq 6\%$ $[100 \times [\text{Line # 1}] / \text{Line # 2}]$	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
ALTERATIONS: Duct System and/or HVAC Equipment Change-Out		
4	Enter Tested Leakage Flow in CFM from CP-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.	
6	Enter Reduction in Leakage for Altered Duct System $[\text{Line # 4}]$ Minus $[\text{Line # 5}]$ (Only if Applicable)	
7	Enter Tested Leakage Flow in CFM to Outside (Only if Applicable)	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
8	Enter New Duct System - Pass if Leakage Percentage $\leq 6\%$ $[100 \times [\text{Line # 5}] / \text{Line # 2}]$	<input 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 $\leq 15\%$ $[100 \times [\text{Line # 5}] / \text{Line # 2}]$	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
10	Pass if Leakage to Outside Percentage $\leq 10\%$ $[100 \times [\text{Line # 7}] / \text{Line # 2}]$	<input type="checkbox"/> Pass <input type="checkbox"/> Fail
11	Pass if Leakage Reduction Percentage $\geq 60\%$ $[100 \times [\text{Line # 6}] / \text{Line # 4}]$ 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 checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	Pass if One of Lines #9 through #12 pass	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

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

Project Address 1909 40th St Sacramento CA 95819	Builders Name 1
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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"/> 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"/> Pass	<input checked="" type="checkbox"/> Fail
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- SUPPLY DUCTS LOCATED IN CONDITIONED SPACE COMPLIANCE CREDIT**

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

- 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"/> No	uct Surface Area matches Performance's CF-1R?						<input checked="" type="checkbox"/> Pass	<input checked="" type="checkbox"/> Fail
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"/> No	Buried Ducts on the Ceiling	<input checked="" type="checkbox"/> Pass	<input checked="" type="checkbox"/> Fail
<input checked="" type="checkbox"/> <input type="checkbox"/> Yes	<input type="checkbox"/> No	Verified High Insulation Installation Quality	<input checked="" type="checkbox"/> Pass	<input checked="" type="checkbox"/> Fail
Yes to duct system design, supply duct surface area reduction and this compliance credit is a pass			<input type="checkbox"/> Pass	<input type="checkbox"/> Fail

- DEEPLY BURIED DUCTS COMPLIANCE CREDIT**

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

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 3 of 8)		CF-4R
Project Address 1909 40th St Sacramento CA 95819		Builder Name
Builder Contact	Telephone	Plan Number
HERS Rater Home Enalaysys	Telephone 760-768-3228	Sample Group Number 1
Compliance Method (Prescriptive)		Climate Zone 12
Certifying Signature (Electronically signed) 	08/08/06 Date	Sample House Number 2496
Firm Enalaysys Corp	HERS Provider CBPCA	
Street Address: 250 Campillo Ave		City/State/Zip: Calxico CA 92231

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 EXPANSTION VALVE (TXV)

Procedures for field verification of thermostatic expansion valves are available in RACM, Appendix R1.

<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 checked="" type="checkbox"/>	<input checked="" 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	Attic	
Outdoor Unit Make	Rheem	
Outdoor Unit Model	RRPL-B036JK06X	
Cooling Capacity	54000	Btu/hr
Date of Verification	08/02/06	
Date of Refrigerant Gauge Calibration	07/15/06	(must be checked monthly)
Date of Thermocouple Calibration	07/15/06	(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 checked="" 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 1909 40th Sacramento CA 95819	Builder's Name 1
--	---------------------

Copies to: BUILDER, HERS PROVIDER AND BUILDING DEPARTMENT

Measured Temperatures

Supply (evaporator leaving) air dry-bulb temperature (T _{supply} , db)		°F
Return (evaporator entering) air dry-bulb temperature (T _{return} , db)		°F
Return (evaporator entering) air wet-bulb temperature (T _{return} , wb)		°F
Evaporator saturation temperature (T _{evaporator} , sat)		°F
Suction line temperature (T _{suction} , db)		°F
Condenser (entering) air dry-bulb temperature (T _{condenser} , db)		°F

Superheat Charge Method Calculations for Refrigerant Charge

Actual Superheat = T _{suction} , db - T _{evaporator} , 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 - T _{supply} , db		°F
Target Temperature Split (from Table RD-3)		°F
Actual Temperature Split - Target Temperature Split (System passes if between -3°F and +3°F or, upon re-measurement, 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 re-measured and recalculated.

Yes 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, installer shall use the Standard Charge Measure Procedure.

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

Yes 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 re-measured and recalculated.

Yes No **System Passes**

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 5 of 8)		CF-4R
Project Address 1909 40th St Sacramento CA 95819	Builder Name	
Builder Contact	Telephone	Plan Number
HERS Rater Home Enalaysys	Telephone 760-768-3228	Sample Group Number 1
Certifying Signature (Electronically signed) <i>E. J. ...</i>	Date 08/08/06	Sample House Number 2496
Firm Enalaysys Corp	HERS Provider CBPCA	
Street Address 250 Campillo Ave	City/State/Zip Calexico CA 92231	

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 CP-6R (Installation Certificate).

ADEQUATE AIRFLOW VERIFICATION

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

Method For Airflow Measurement				Measured Airflow:	Total CFM cfm/ton
<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Duct design exists on plans		
<input type="checkbox"/>			RB4.1.1 Diagnostic Fan Flow Using Flow Capture Hood		
<input type="checkbox"/>			RB4.1.2 Diagnostic Fan Flow Using Plenum Pressure Matching		
<input type="checkbox"/>			RB4.1.3 Diagnostic Fan Flow Using Flow Grid Measurement		
				Rated Tons	
				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Measured airflow is greater than the criteria in Table RB-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 ≤ to maximum cooling capacity indicated on the Performance's CP-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 CP-1R, then the electrical input for the installed systems must be ≤ to electrical input in the CP-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 BER AIR CONDITIONER

Procedures for verification are available in RACM, Appendix RI.

1	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	BER values of installed systems match the CP-1R		
2	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	For split system, indoor coil is matched to outdoor coil	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	<input checked="" type="checkbox"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Time Delay Relay Verified (If Required)	<input type="checkbox"/>	<input 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 1909 40th St Sacramento CA 95819	Builder Name	
Builder Contact	Telephone	Plan Number
HERS Rater Home Enalasy	Telephone 760-768-3228	Sample Group Number
Certifying Signature (Electronically signed) <i>EJR</i>	Date 08/08/06	Sample House Number 2496
Firm Enalasy Corp	HERS Provider CBPCA	
Street Address: 250 Campillo Ave	City/State/Zip: Calxico CA 92231	

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 CR-6R (Installation Certificate).

FAN WATT DRAW

Procedures for measuring the air handler watt draw are available in RACM, Appendix RB3.2.

Method For Fan Watt Draw Measurement				
<input type="checkbox"/>	REQ 2.1	Portable Watt Meter Measurement		
<input type="checkbox"/>	REQ 2.2	Utility Revenue Meter Measurement		
		Measured Fan watt Draw: (enter watts here)		Watts
		Measured Fan Flow (Enter total cfm from air flow verification)		cfm
		Enter results of Watts/cfm:		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 CR-1R.	<input type="checkbox"/>	<input type="checkbox"/>
		Yes is a pass	Pass	Fail

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 CR-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			
		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	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 CR-1R?		
2.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Is Mechanical Ventilation shown as required on the CR-1R?		
2a.	<input type="checkbox"/> Yes	<input type="checkbox"/> No	If Mechanical Ventilation is required on the CR-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 CR-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 CR-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 CR-1R, mechanical ventilation is installed and house pressure is greater than minus 5 Pascals with all exhaust fans operating.	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
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"/>	<input type="checkbox"/>
				Pass	Fail

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 7 of 8)		CF-4R
Project Address 1909 40th St Sacramento CA 95819	Builder Name	
Builder Contact	Telephone	Plan Number
HERS Rater Home Enalasy	Telephone 760-768-3228	Sample Group Number 1
Certifying Signature (Electronically signed) 	08/08/06 Date	Sample House Number 2496
Firm Enalasy Corp	HERS Provider CBPCA	
Street Address: 250 Campillo Ave	City/State/Zip: Calexico CA 92231	

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 joints 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-value, 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"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	All floor joint cavity insulation installed to uniformly fit the cavity side-to-side and end-to-end
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Insulation in contact with the subfloor or rim joints insulated
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Insulation properly supported to avoid gaps, voids, and compression
<input checked="" type="checkbox"/> WALLS			
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Wall stud cavity insulation uniformly fills the cavity side-to-side, top-to-bottom, and front-to-back
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	No gaps
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	No voids over 1/2" deep or more than 10% of the batt surface area.
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Hard to access wall stud cavities such as, corner channels, wall intersections, and behind tub/shower enclosures insulated to proper R-Value.
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Small spaces filled
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Rim-joints insulated
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	Wall stud cavities caulked or foamed to provide an air tight envelope

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

Project Address 1909 40th Sacramento CA 95819	Builder's Name 1
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✓ 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 1/2 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 eave 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	

INSTALLATION CERTIFICATE

Site Address 7609 Muschetto Ct Citrus Heights CA 95621	Permit Number 1
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An installation certificate is required to be posted at the building site or made available for all appropriate inspections. (The information provided on this form is required) After completion of final inspection, a copy must be provided to the building department (upon request) and the building owner at occupancy, per Section 10-103(a).

HVAC SYSTEMS:

Heating Equipment

Equip Type (pkg. heat pump)	CBC Certified Mfr. Name and Model Number	# of Identical Systems	Efficiency (AFUE, etc.) ¹ (≥CF-1R value)	Duct Location (attic, etc.)	Duct or Piping R-value	Heating Load (Btu/hr)	Heating Capacity (Btu/hr)

Cooling Equipment

Equip Type (pkg. heat pump)	CBC Certified Mfr. Name and Model Number	# of Identical Systems	Efficiency (SEER or EER) ¹ (≥CF-1R value)	Duct Location (attic, etc.)	Duct R-value	Cooling Load (Btu/hr)	Cooling Capacity (Btu/hr)
Package HP	Amana RHE42C2C	1	14.0	Attic	0	66000	54000

1. ≥ symbol reads *greater than or equal to what is indicated on the CF-1R value.*
Include both SEER and EER if compliance credit for high EER air conditioner is claimed.

I, the undersigned, verify that equipment listed above is: 1) is the actual equipment installed, 2) equivalent to or more efficient than that specified in the certificate of compliance (Form CF-1R) submitted for compliance with the *Energy Efficiency Standards* for residential buildings, and 3) equipment that meets or exceeds the appropriate requirements for manufactured devices (from the *Appliance Efficiency Regulations* or Part 6), where applicable.

Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner:	Synergy Companies
Signature:	Date: 08/08/06

Copies to: BUILDING DEPARTMENT, HERS RATER (IF APPLICABLE) BUILDING OWNER AT OCCUPANCY

Site Address 7609 Muschetto Ct Citrus Heights CA 95621	Permit Number 4
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INSTALLER COMPLIANCE STATEMENT FOR DUCT LEAKAGE

INSTALLER COMPLIANCE STATEMENT

The building was: Tested at Final Tested at Rough-in

INSTALLER VISUAL INSPECTION AT FINAL CONSTRUCTION STAGE:

- Remove at least one supply and one return register, and verify that the spaces between the register boot and the interior finishing wall are properly sealed.
- If the house rough-in duct leakage test was conducted without an air handler installed, inspect the connection points between the air handler and the supply and return plenums to verify that the connection points are properly sealed.
- Inspect all joints to ensure that no cloth backed rubber adhesive duct tape is used
- New Distribution system is fully ducted (i.e., does not use building cavities as plenums or platforms returns in lieu of ducts).

DUCT LEAKAGE REDUCTION

Procedures for field verification and diagnostic testing of air distribution systems are available in RACM, Appendix RC4.3

NEW CONSTRUCTION:			
	Duct Pressurization Test Results (CFM @ 25 Pa)	Measured Values	
1	Enter Tested Leakage Flow in CFM:		
2	Fan Flow: Calculated (Nominal: <input checked="" type="checkbox"/> Cooling <input type="checkbox"/> Heating) or <input type="checkbox"/> Measured If Fan Flow is Calculated as 400 cfm/ton x number of tons or as 21.7 cfm/(kBtu/hr) x Heating Capacity in Thousands of Btu/hr output, enter total calculated or measured fan flow in CFM here:	1736	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
3	Pass if Leakage Percentage ≤ 6% for Final or ≤ 4% at Rough-in: [100 x [(Line # 1) / (Line # 2)]]		<input type="checkbox"/> Pass <input type="checkbox"/> Fail
ALTERATIONS: Duct System and/or HVAC Equipment Change-Out			
4	Enter Tested Leakage Flow in CFM from Pre-Test of Existing Duct System Prior to Duct System Alteration and/or Equipment Change-Out.		
5	Enter Tested Leakage Flow in CFM from Final Test of New Duct System or Altered Duct System for Duct System Alteration and/or Equipment Change-Out.	197	
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% for Final [100 x [(Line # 5) / (Line # 2)]]		<input 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)]]	11.3	<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 checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

I, the undersigned, verify that the above diagnostic test results were performed in conformance with the requirements for compliance credit. I, the undersigned, also certify that the newly installed or retrofit Air-Distribution System Ducts, Plenums and Fans comply with Mandatory requirements specified in Section 150 (m) of the 2005 Building Energy Efficiency standards.

Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner	Synergy Companies
Signature:	Date: 08/08/06

Copies to: BUILDING DEPARTMENT, HERS RATER (IF APPLICABLE) BUILDING OWNER AT OCCUPANCY

INSTALLATION CERTIFICATE

Site Address 7609 Muschetto Ct Citrus Heights CA 95621	Permit Number 1
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THERMOSTATIC EXPANSION VALVE (TXV)

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

✓	<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 and Adequate Airflow for Split System Space Cooling Systems without Thermostatic Expansion Valves

Outdoor 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 Procedure (outdoor air dry-bulb 55°F and above):

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

Note: The system should be installed and charged in accordance with the manufacturer's specifications before starting this procedure.

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 -10°F)		°F