

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0607873

Insp Area: 2

Thos Bros: 336F2

Site Address: 7412 POCKET RD SAC

Parcel No: 031-1010-029

Sub-Type: RES

Housing (Y/N): N

CONTRACTOR
MLW HOME IMPROVMENT INC.
2990 SUNRISE BL. #3
RANCHO CORDOVA 95742

OWNER
ROMERO CAROLINA
7412 POCKET RD
SACRAMENTO, CA 95831

ARCHITECT

Nature of Work: PAPERLESS PERMIT. C/O SPLIT-SYSTEM FURNACE PKG. COMPLIANCE DOC'S REQ'D @ 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 GC License Number 731771 Date 6/12/06 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 with 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 _____

PAID
CITY OF SACRAMENTO
JUN 12 2006

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 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.

Date 6/12/06 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 VIRGINIA SURETY CO, INC Policy Number 00500013384 Exp Date 06/01/2006

(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 6/12/06 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
DEVELOPMENT SERVICES DIVISION
FAXED PERMIT APPLICATION (certain restrictions apply)

DATE: 5/30/06

PAID
CITY OF SACRAMENTO
JUN 12 2006

Fax # 916-264-1901

→ *Faxed request must be received in this office by 3:00 p.m. to be processed the following work day.*

→ *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 grand fees.*

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

NEW CITY HALL

RESIDENTIAL APARTMENTS (4+ units per building) COMMERCIAL (limited)

JOB ADDRESS: 7412 Pocket Rd. UNIT # _____ ⇒ CONTRACT PRICE \$ 8381

⇒ CONTACT PERSON: Pat Calahan ⇒ CONTACT PHONE: 638-2455

Property Owner: Carolina Romo
Address: 7412 Pocket Rd.
City/State/Zip: Sacramento CA 95831
Phone: 916-4059

Contractor: M.L.W. Home Exp.
Address: 11357A Parkes Way
City/State/Zip: Emeryville CA 94620
Phone: 638-2455 FAX: 638-8728

NATURE OF REQUEST:

REROOF (excluding tile)
 TEAR-OUT
 RESHEAT

SQUARES _____
Material: _____

SIDING
 wood
 vinyl
 stucco

Note: Design Review approval may be required.

Indicate from the selections below

HVAC INSTALLATIONS (residential ONLY)
 CHANGE-OUT NEW

Package
 Split system
 Roof mount
 Cut-in

Value of duct work: _____
Equipment: \$ 4300

Cut-in: \$ _____

Note: Design Review approval may be required.

WATER HEATER (residential ONLY)
 GAS ELECTRIC

Change-out
 Electric to Gas
 Relocate
 New

Cost of equipment: \$ _____

MINOR ELECTRIC and/or MINOR PLUMBING (residential ONLY)

Electric Service Change # amps _____

New electric circuits

Re-wire

Water Service Replacement

Sewer Service Replacement

Gas Line Replacement

Re-plumb

PUBLIC UTILITIES SAFETY INSPECTION* (Residential and single apartment units ONLY)

SMUD

PGE

*NOTE: Correction Notice items will require an additional building permit

DESCRIPTION OF WORK: C/O Split System from Horiz



CITY OF SACRAMENTO

www.cityofsacramento.org
Help Line: 1-916-808-6666 OR 1-888-EZ-PERMIT
Inspection Request: 1-916-808-7622

Downtown Permit Center
1231 I Street, Suite 200
Sacramento, CA 95814

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

HEATING and COOLING EQUIPMENT QUESTIONNAIRE

Applicant's Name: M.L.W Home Inc Phone: 638-2455
Project Address: 7412 Rocket Rd Phone: 395-4059

Please check the appropriate boxes. Only check a box if it accurately and completely describes your proposed work, otherwise leave boxes blank.

1. GROUND-MOUNTED UNIT

- a. [X] There is an existing ground-mounted unit.
[] The existing unit shall be removed. The new unit shall be placed in the same location as the existing unit and shall not exceed the size of the existing unit by more than 25%.
[X] The new unit differs in location from the existing unit.
[X] The new unit is fully screened behind a solid fenced area and will not be visible from any street views.
[] Existing shrubs or buildings will screen the unit from being visible from any street views.
b. [] There is no unit in the proposed location.
[] The new unit will be fully screened behind a solid fenced area and will not be visible from any street views.
[] Existing shrubs or building will screen the unit from being visible from any street views.

2. ROOF-MOUNTED UNIT

- a. [] There is an existing roof-mounted unit.
[] The existing unit shall be removed. The new unit shall be placed in the same location as the existing unit and shall not exceed the size of the existing unit by more than 25%.
[] The new unit differs in location from the existing unit. The new unit shall be screened from street views by the building with no portion of the new unit being visible from any street views.
b. [X] There is no existing roof-mounted unit.
[] The new unit shall be screened from street views by the building with no portion of the new unit being visible from any street views.

By signing below, the applicant certifies that this form accurately describes the proposed work.

Applicant's signature: [Signature] Date: 5/30/06

FOR CITY STAFF USE ONLY

Counter Staff: _____

- [] In a DR District, Meets DR criteria? [] Yes [] No (route to DR staff)
[] In a P area or listed (route to P staff)
[] Not in a DR or P area

7412 Pocket RD.

Sacramento CA 95831 0

Site Address

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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 Typ (pkg. heat pump) | CEC Certified Mfr. Name, Model and Serial 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) |
|----------------------------------|--|------------------------------|---|-----------------------------------|------------------------------|-----------------------------|---------------------------------|
| Split | TRANE | 1 | 92.00 AFUE | Attic | R 4.2 | 0 | 80000 |
| | TUY080R9V3 | | | | | | |
| | | | | | | | |
| | | | | | | | |

Cooling Equipment

| Equip Typ (pkg. heat pump) | CEC Certified Mfr. Name, Model and Serial Number | # of Identical Systems | Efficiency (AFUE, etc.) ¹ >(CF-1R value) | Duct Location (attic, etc.) | Duct or Piping R-value | Cooling Load (Btu/hr) | Cooling Capacity (Btu/hr) |
|----------------------------------|--|------------------------------|---|-----------------------------------|------------------------------|-----------------------------|---------------------------------|
| Split | TRANE | 1 | 15.00 SEER | Attic | R 4.2 | 0 | 36000 |
| | 2TTX5036 | | 12.00 EER | | | | |
| | | | | | | | |
| | | | | | | | |
| Coil | ADP | | | | | | |
| | 0 | | | | | | |

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.

MLW 6/7/10
Signature, Date

MLW Home Improvements
Installing Subcontractor (Co. Name) 20019
OR General Contractor (Co. Name) OR Owner 1039

COPY TO: Building Department
HERS Rater (if applicable)
Building Owner at Occupancy

7412 Pocket RD.

Sacramento CA 95831 0

Site Address

Permit Number

INSTALLER COMPLIANCE STATEMENT FOR DUCT LEAKAGE

Copies to: Builder, HERS Rater, Building Owner at Occupancy and Building Department

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

DUCT LEAKAGE REDUCTION

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

| NEW CONSTRUCTION: | | Measured Values | | |
|---|--|-----------------|--|-------------------------------|
| Duct Pressurization Test Results (CFM @ 25 Pa) | | | | |
| 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, enter total calculated or measured fan flow in CFM here: | | 1200 | | |
| 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. | | 180 | | |
| 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) | | | | |
| 8 Entire New Duct System - Pass if Leakage Percentage < 6% for Final or < 4% at Rough-In [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)]] | | 15% | <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)]] | | | <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.

MLW
Signature Date

MLW Home Improvements
Installing Subcontractor (Co. Name) OR 20019
General Contractor (Co. Name) 1039

7412 Pocket RD.

Sacramento CA 95831 0

Site Address

Permit Number

THERMOSTATIC EXPANSION VALVE (TXV)

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

| | | | | |
|---|-----------------------------|---|--|-------------------------------|
| <input checked="" 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. | | |
| Yes is a pass | | | <input checked="" type="checkbox"/> Pass | <input type="checkbox"/> 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 55oF 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 -100°F) | | F |

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Sacramento CA 95831

0

Site Address

Permit Number

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

Alternate Charge Measurement Procedure (outdoor air dry-bulb below 55 oF)

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 oF or above, installer shall use the Standard Charge Measure Procedure:

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

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) (- = remove) | | |

Measured Airflow Method for Adequate Airflow Verification available in RACM, Appendix RD2.6

| | | |
|---|---|-----|
| Calculated Airflow: Cooling Capacity (Btu/hr) | X 0.033 (cfm/Btu-hr) = | CFM |
| Measured Airflow is | CFM (Measured airflow must be greater than the calculated airflow). | |

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

MLW Home Improvements 6/7/10
Signature, Date

| | |
|--|-------|
| MLW Home Improvements | |
| Installing Subcontractor (Co. Name) OR | 20019 |
| General Contractor (Co. Name) OR Owner | 1039 |

COPY TO: Building Department
HERS Rater (if applicable)
Building Owner at Occupancy

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

| | | | |
|---|---|---|---------------------------------------|
| 7412 Pocket RD. Project Address | | MLW Home Improvements / 731771 Contractor Name / License No. | |
| | | 06-07873 Permit Number | |
| Contractor Contact | | Telephone | 28913 Sample Group Number |
| Michael McDermott | | 916-704-2810 | |
| HERS Rater | | Telephone | CC14-1798369495 Certificate Number |
| <i>Mike McDermott</i> Certifying Signature | | June 7, 2006 Date | |
| Firm: | Energy Analysis and Comfort Solutions, Inc. | HERS Provider: CalCERTS | |
| Street Address: | PO Box 2233 | City/State/Zip: Orangevale / CA / 95662 | |

Copies to: Homeowner, HERS Provider and Building Department

This CF-4R has been registered with the CalCERTS® registry in accordance with the Title 24 & Title 20 of the CCR. CalCERTS® is an approved HERS provider by the California Energy Commission.

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 the 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 drawbands 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:

| NEW CONSTRUCTION | | | |
|--|---|-----------------|--|
| | | Measured Values | |
| 1 | Enter Tested Leakage Flow in CFM: | N/A | |
| 2 | Fan Flow: Calculated (Nominal <input checked="" type="radio"/> Cooling <input type="radio"/> Heating) or <input type="radio"/> Measured Enter Total Fan Flow in CFM: | 1200 | |
| 3 | Pass if Leakage Percentage $\leq 6\%$ [$100 \times (\text{Line 1} / \text{Line 2})$]: | N/A | N/A |
| 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. | 180 | |
| 6 | Enter Reduction in Leakage for Altered Duct System [Line 4 - Line 5] - (Only if Applicable) | | |
| 7 | Enter Tested Leakage Flow in CFM to Outside (Only if Applicable) | | |
| 8 | Entire 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 $\leq 15\%$ [$100 \times (\text{Line 5} / \text{Line 2})$]: | 15.00% | <input checked="" 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 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 3-4 of 8) CF-4R

| | |
|--|---|
| 7412 Pocket RD. Project Address | MLW Home Improvements / 731771 Contractor Name / License No. |
| | 06-07873 Permit Number |
| Contractor Contact | Telephone |
| Michael McDermott | 916-704-2810 |
| HERS Rater | Sample Group Number |
| <i>Michael McDermott</i> | 28913 |
| June 7, 2006 | CC14-1798369495 |
| June 7, 2006 | CC14-1798369495 |
| Energy Analysis and Comfort Solutions, Inc. | HERS Provider: CalCERTS |
| PO Box 2233 | City/State/Zip: Orangevale / CA / 95662 |

Copies to: Homeowner, HERS Provider and Building Department

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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 the CF-6R (Installation Certificate).

THERMOSTATIC EXPANSION VALVE (TXV):

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.

HVAC System TXV Pass Fail

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 5 of 8) CF-4R

7412 Pocket RD. MLW Home Improvements / 731771
Project Address Contractor Name / License No.

06-07873
Contractor Contact Telephone Permit Number

Michael McDermott 916-704-2810 28913

HERS Rater Telephone Sample Group Number

Mike McDermott June 7, 2006 CC14-1798369495

Certifying Signature Date Certificate Number

Firm: Energy Analysis and Comfort Solutions, HERS Provider: CalCERTS
Inc.

Street Address: PO Box 2233 City/State/Zip: Orangevale / CA / 95662

Copies to: Homeowner, HERS Provider and Building Department

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

HIGH EER AIR CONDITIONER:

Procedures for verification are available in RACM, Appendix RI.

| | | |
|--|--|--|
| 1 | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail | EER values of installed systems match the CF-1R |
| 2 | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail | For split systems, indoor coil is matched to outdoor coil |
| 3 | <input type="checkbox"/> Pass <input type="checkbox"/> Fail | Time Delay Relay Verified (If Required) |
| HVAC System: Yes to 1 and 2; and 3 (If Required) is a pass | | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail |

7412 Pocket RD.

Sacramento CA 95831 0

Site Address

Permit Number

FAN WATT DRAW

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

| Method For Fan Watt Draw Measurement | | | |
|---|-----------------------------|---|---|
| <input type="checkbox"/> | <input type="checkbox"/> | RE3.2.1 | Portable Watt Meter Measurement |
| <input type="checkbox"/> | <input type="checkbox"/> | RE3.2.2 | Utility Revenue Meter Measurement |
| Measured Fan watt Draw: | | Enter results of Watts/cfm: | |
| Measured Fan Flow (Enter total cfm from airflow verification) | | Enter results of Watts/cfm: | |
| <input 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 | <input type="checkbox"/> Pass <input type="checkbox"/> Fail |

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 type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Duct design exists on plans |
| <input type="checkbox"/> | <input type="checkbox"/> | RE4.1.1 | Diagnostic Fan Flow Using Flow Capture Hood |
| <input type="checkbox"/> | <input type="checkbox"/> | RE4.1.2 | Diagnostic Fan Flow Using Plenum Pressure Matching |
| <input type="checkbox"/> | <input type="checkbox"/> | RE4.1.3 | Diagnostic Fan Flow Using Flow Grid Measurement |
| Measured Airflow: | | _____ cfm/ton | |
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Measured airflow is greater than the criteria in Table RE-2 |
| | | Yes is a pass | <input type="checkbox"/> Pass <input type="checkbox"/> Fail |

MAXIMUM COOLING CAPACITY

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

| | | | | | | |
|---|--------------------------|--------------------------|-----|--------------------------|----|--|
| 1 | <input type="checkbox"/> | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | Adequate airflow verified (see adequate airflow credit) |
| 2 | <input type="checkbox"/> | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | Refrigerant charge or TXV |
| 3 | <input type="checkbox"/> | <input type="checkbox"/> | Yes | <input type="checkbox"/> | No | Duct leakage reduction credit verified |
| 4 | <input 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 CF-1R and RF-3. |
| 5 | <input 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 ≤ to electrical input in the CF-1R. |
| | | | | | | Yes to 1, 2, and 3; and Yes to either 4 or 5 is a pass |
| | | | | | | <input type="checkbox"/> Pass <input type="checkbox"/> 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) |
| | | | | | | Yes to 1 and 2; and 3 (If Required) is a pass |
| | | | | | | <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail |

6/7
Tests Performed

MLW
Signature, Date

MLW Home Improvements

Installing Subcontractor (Co. Name) OR

20019

General Contractor (Co. Name)

1039