

CITY OF SACRAMENTO

New City Hall, 915 I St., 3rd Floor, Sacramento, CA 95814

Permit No: 0614878

Insp Area: 4

Thos Bros:

Sub-Type: NSFR

Housing (Y/N): N

Site Address: 241 CARAVAGGIO CR SAC

Parcel No: JMA NORTH NATOMAS VII. 3 LOT14

CONTRACTOR

KIMBALL HILL HOMES
10535 EAST STOCKTON BL. STE. K
ELK GROVE CA. 95624

OWNER

ARCHITECT

Nature of Work: MP 2200 TWO STORY 8 ROOM SFR

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 License Number 701803 Date 10/18/06 Contractor Signature [Signature]

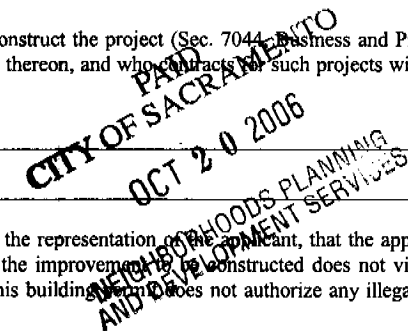
OWNER-BUILDER DECLARATION: I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code; any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior 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 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 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.

Date 10/18/06 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:

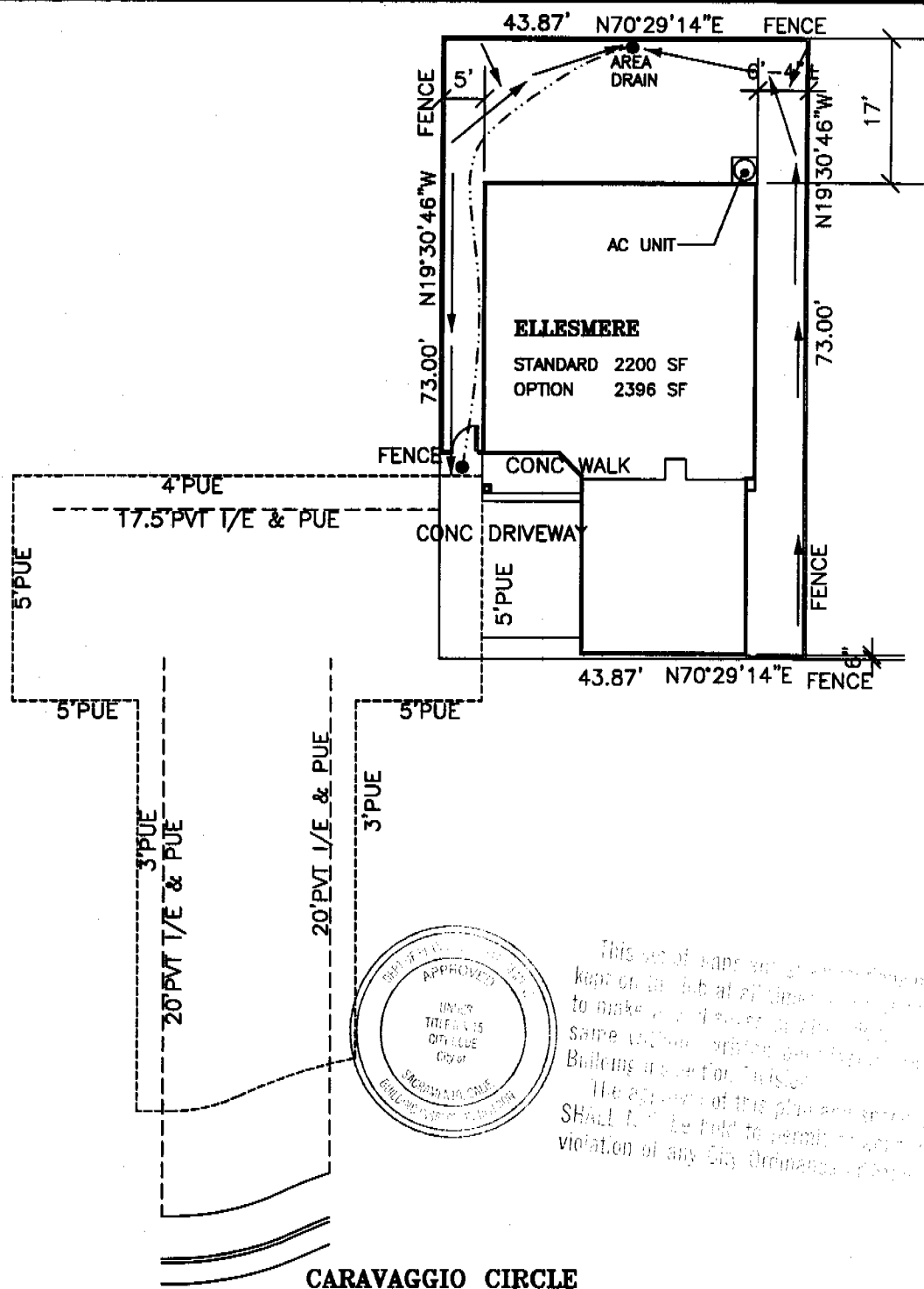
Carrier TRAVELERS Policy Number WC59663000527 Exp Date 10/01/2006

____ (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 10/18/06 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.

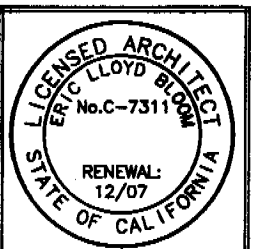
THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.



This set of plans was prepared by me and I am a duly licensed architect. I have prepared these plans to make a building conform to the same as shown on the attached Building Application. I warrant that the approval of this plan and construction SHALL NOT be held to permit any violation of any City Ordinance.

CARAVAGGIO CIRCLE

BLOOM
Architectural
Developments
Incorporated
 4437 Kenneth Avenue
 Fair Oaks, CA 95628
 (916)961-1553
 (916)967-3011 Fax



3202,510 Sq. Ft

Plot Plan Disclosure This plot plan approximates a general representation of lot dimensions, easements, fence and home placement, etc. This illustration is not a condition of Kimball Hill Homes sales agreement. The actual placement and measurements demonstrated on this diagram are subject to change without notice.

Signature _____

KHH California, Inc. (916)525-4100
 9355 E.Stockton Blvd. Ste.100, Elk Grove, CA 95624

Job# 441 014 **Plan#** 2200
Date Sep 08 06 **Draft** 1
Plan ELLESMERE **Elev** A
Project The Villages of Natomas
Lot 014
Address 241 Caravaggio Circle
City Sacramento **CA**
APN

PLOT PLAN
 Scale 1"=20'

INSTALLATION CARD

OMEGA DIAMOND WALL INSULATING ONE COAT SYSTEM

OMEGA PRODUCTS INTERNATIONAL, INC.

Job Address:

LOT 14

241 CARLTON
PERMIT # 0614676

ICBO Evaluation Service, Inc.
Report 4004

2-1-07
Date of Job Completion

Plastering Contractor:

Name: Mid Valley Plastering, Inc.

Address: 15300 S. McKinley Ave
Lathrop, CA 95330

Telephone: 209-858-9766 Fax: 209-858-9756

Approved Contractor Number as
Issued by the Coating Manufacturer Omega Diamond Wall No. 2315

This is to certify that the exterior system on the building exterior at the above address has been installed in accordance with the evaluation report specified above and the manufacturer's instructions

Jeff Lann
Signature of Plastering Contractor

2-2-07
Date

This installation card must be presented to the building inspector after completion of work and before final inspection

INSTALLATION CERTIFICATE

(Page 2 of 12)

CF-6R

KHH NATOMAS PLAN 2200

Site Address

Permit Number 0614878

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).

291 CARAWAY

FENESTRATION/GLAZING:

| | Manufacturer/Brand Name (GROUP LIKE PRODUCTS) | Product U-factor ¹ (≤ CF-IR value) ² | Product SHGC ¹ (≤ CF-IR value) ² | # of Panes | Total Quantity of Like Product (Optional) | Area Square Feet | Exterior Shading Device or Overhang | Comments/Location/Special Features |
|-----|--|---|---|------------|---|------------------|-------------------------------------|------------------------------------|
| 1. | <u>U210 SH</u> | <u>.84</u> | | <u>14</u> | <u>7</u> | <u>96</u> | | |
| 2. | <u>5621 SGO</u> | <u>.83</u> | | <u>2</u> | <u>1</u> | <u>40</u> | | |
| 3. | <u>6110 PV</u> | <u>.84</u> | | <u>14</u> | <u>7</u> | <u>129</u> | | |
| 4. | <u>10340 PV</u> | <u>.83</u> | | <u>11</u> | <u>11</u> | <u>75</u> | | |
| 5. | | | | | | | | |
| 6. | | | | | | | | |
| 7. | | | | | | | | |
| 8. | | | | | | | | |
| 9. | | | | | | | | |
| 10. | | | | | | | | |
| 11. | | | | | | | | |
| 12. | | | | | | | | |
| 13. | | | | | | | | |
| 14. | | | | | | | | |
| 15. | | | | | | | | |

¹ Use values from a fenestration product's NFRC label. For fenestration products without an NFRC label, use the default values from Section 116 of the Energy Efficiency Standards.

² Installed U-factor must be less than or equal to values from CF-IR. Installed SHGC must be less than or equal to values from CF-IR, or a shading device (exterior or overhang) is installed as specified on the CF-IR. Alternatively, installed weighted average U-factors for the total fenestration area are less than or equal to values from CF-IR. If using default table SHGC values from §116 identify whether tinted or not.

I, the undersigned, verify that the fenestration/glazing listed above my signature: 1) is the actual fenestration product installed; 2) is equivalent to or has a lower U-factor and lower SHGC than that specified in the certificate of compliance (Form CF-1R) submitted for compliance with the Energy Efficiency Standards for residential buildings; and 3) the product meets or exceeds the appropriate requirements for manufactured devices (from Part 6), where applicable.

26 [Signature] 1/30/07 MILGARD
 Item #s (if applicable) Signature Date Installing Subcontractor (Co. Name) OR
 General Contractor (Co. Name) OR Owner
 OR Window Distributor

Item #s (if applicable) Signature Date Installing Subcontractor (Co. Name) OR
 General Contractor (Co. Name) OR Owner
 OR Window Distributor

Item #s (if applicable) Signature Date Installing Subcontractor (Co. Name) OR
 General Contractor (Co. Name) OR Owner
 OR Window Distributor

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

BATT INSULATION

PART I
GENERAL

Kimball Hall
the village
Natoma

P.O. BOX 894, WEST SACRAMENTO, CA 95691 LIC. #202026
1309 MELODY ROAD, MARYSVILLE, CA 95901 LIC. #202026
P.O. BOX 8951, FRESNO, CA 93783-8951 LIC. #202026
P.O. BOX 1003, RENO, NV 89506 LIC. #10675
3326 A PONDEROSA WAY, LAS VEGAS, NV 89118 LIC. #10675

INSULATION COMPLETED

PART II
AREAS

| | | | |
|-----------------------------|--------------|-----------------------------|--------------|
| (| SQUARE FEET) | (| SQUARE FEET) |
| MATERIAL | FIBERGLASS | MATERIAL | FIBERGLASS |
| FORM | BATTS | FORM | BATTS |
| MANUFACTURER'S PRODUCT I.D. | | MANUFACTURER'S PRODUCT I.D. | |

| | | | | |
|----|----|----|----|----|
| CT | OC | CT | OC | JM |
|----|----|----|----|----|

PART III
INSULATED

| | |
|-----------|-------|
| R-13/R-19 | 3 1/2 |
|-----------|-------|

| | | | | | |
|----------|------------|--------------|----|----|----|
| MATERIAL | FIBERGLASS | MANUFACTURER | CT | OC | JM |
|----------|------------|--------------|----|----|----|

| | | | |
|----------|------|--------------|------------|
| MATERIAL | Foam | MANUFACTURER | HANDY FOAM |
|----------|------|--------------|------------|

PART IV
CERTIFICATION

| | | | |
|-----------------------------------|---------|------|---------|
| SIGNATURE — INSULATION CONTRACTOR | MANAGER | DATE | 1-25-77 |
| SIGNATURE — GENERAL CONTRACTOR | | DATE | |
| REMARKS | | | |

INSTALLATION CERTIFICATE**(Page 3 of 12) CF-6R**

Site Address

Lot 14 Plan 2200 Natomas

Permit Number

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) | CEC 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) |
|--------------------------------|--|------------------------------|---|-----------------------------------|------------------------------|-----------------------------|---------------------------------|
| SPLIT-GAS FURNACE | CARRIER | 1 | 80 | ATTIC | R6 | | 72K |
| | 58STX090512116 | | | | | | |
| | | | | | | | |
| | | | | | | | |

Cooling Equipment

| Equip Type (pkg. heat pump) | CEC 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) |
|--------------------------------|--|------------------------------|--|-----------------------------------|-----------------|-----------------------------|---------------------------------|
| SPLIT-A/C | CARRIER | 1 | 13 | ATTIC | R6 | | 4 TON |
| | 24ABR30048A301 | | | | | | |
| | | | | | | | |
| | | | | | | | |

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 | ALL WEATHER |
| Signature:  | Date: 2-26-07 |

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

| | |
|---|---------------|
| Site Address Lot 14 Plan 2200 Natomas | Permit Number |
|---|---------------|

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 FOR NEW DUCTS:

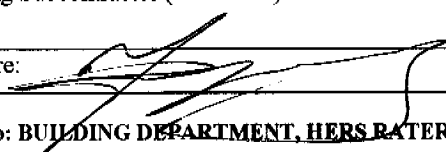
- Remove at least one supply and one return register, and verify that the spaces between the register boot and the interior finishing wall are properly sealed.
- If the house rough-in duct leakage test was conducted without an air handler installed, inspect the connection points between the air handler 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 *on new 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 checked="" 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: | 1600 | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> |
| 3 | Pass if Leakage Percentage < 6% for Final or < 4% at Rough-in without air handle: [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. | 23 | |
| 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)]] | 2.6% | <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)]] | | <input 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 |

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 | ALL WEATHER |
| Signature:  | Date: 2-26-07 |

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

INSTALLATION CERTIFICATE

(Page 5 of 12) CF-6R

| | |
|--|---------------|
| Site Address Lot 14 Plan 2200 Natomas | Permit Number |
|--|---------------|

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"/> 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 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 | N/A | |
| Outdoor Unit Model | | |
| Cooling Capacity | | u/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 - 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 = Treturn, 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 |

INSTALLATION CERTIFICATE**(Page 6 of 12) CF-6R**

| | |
|--|---------------|
| Site Address Lot 14 Plan 2200 Natomas | 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 checked="" type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No | System Passes |
|-------------------------------------|------------------------------|-----------------------------|---------------|

Alternate Charge Measurement Procedure (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 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) \times Difference in length = _____ ounces + = add (- = remove) | | |

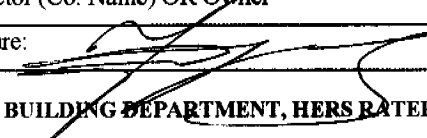
Measured Airflow Method for Adequate Airflow Verification available in RACM, Appendix RD2.6

| |
|---|
| Calculated Airflow: Cooling Capacity (Btu/hr) _____ \times 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 checked="" type="checkbox"/> | <input type="checkbox"/> Yes | <input type="checkbox"/> No | System Passes |
|-------------------------------------|------------------------------|-----------------------------|---------------|

| | |
|--|--------------------|
| Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner | ALL WEATHER |
| Signature:  | Date: 2-26-07 |

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

INSTALLATION CERTIFICATE

(Page 7 of 12) CF-6R

| | |
|--|---------------|
| Site Address Lot 14 Plan 2200 Natomas | Permit Number |
|--|---------------|

MISCELLANEOUS CREDITS

✓ **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 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 type="checkbox"/> Pass | ✓ <input type="checkbox"/> Fail |

✓ **SUPPLY DUCTS LOCATED IN CONDITIONED SPACE COMPLIANCE CREDIT**

| | |
|--|--|
| ✓ <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 type="checkbox"/> Pass | ✓ <input 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 type="checkbox"/> Yes <input type="checkbox"/> No | Adequate airflow verified |
| ✓ <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 type="checkbox"/> Yes <input type="checkbox"/> No | The duct system design plan exists on building plans |
| ✓ <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 |
| Yes to all is a pass | |
| ✓ <input type="checkbox"/> Pass | ✓ <input 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"/> | | | | |
| Total Surface Area for Each R-Value = | | | | | | | | | |
| ✓ <input type="checkbox"/> Yes <input type="checkbox"/> No | Matches Performance's CF-1R? | | | | | | | ✓ <input type="checkbox"/> Pass | ✓ <input 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 type="checkbox"/> Yes <input type="checkbox"/> No | Buried Ducts on the Ceiling |
| <input type="checkbox"/> Yes <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"/> Pass | <input type="checkbox"/> Fail |

✓ **DEEPLY BURIED DUCTS COMPLIANCE CREDIT**

| | |
|--|---|
| ✓ <input type="checkbox"/> Yes <input type="checkbox"/> No | Deeply Buried Ducts |
| ✓ <input type="checkbox"/> Yes <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"/> Pass | <input type="checkbox"/> Fail |

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

INSTALLATION CERTIFICATE

(Page 8 of 12) CF-6R

| | |
|--|---------------|
| Site Address Lot 14 Plan 2200 Natomas | Permit Number |
|--|---------------|

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 _____ Watts | |
| Measured Fan Flow (enter total cfm from airflow verification) _____ cfm | |
| Enter results of Watts/cfm _____ Watts/cfm | |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Measured fan watt/cfm flow is equal or lower than the fan watt/cfm flow documented in CF-1R | |
| Yes is a pass | |
| <input type="checkbox"/> | <input type="checkbox"/> |
| Pass | Fail |

ADEQUATE AIRFLOW VERIFICATION

Procedures for measuring the airflow are available in RACM, Appendix RE3.1.

| | |
|---|--|
| <input checked="" type="checkbox"/> Method For Airflow Measurement | |
| <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 |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No |
| Duct design exists on plans | |
| Measured Airflow: _____ Total cfm | |
| Rated Tons cfm/ton _____ cfm/ton | |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No |
| Measured airflow is greater than the criteria in Table RE-2 | |
| Yes is a pass | |
| <input type="checkbox"/> | <input type="checkbox"/> |
| 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 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 ≤ 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 | | | | | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | | 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 | <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 |

| | |
|---|--------------------|
| Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner | ALL WEATHER |
| Signature: _____ | Date: 2-26-07 |

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| | | |
|--|---------------|-----------------------------|
| INSTALLATION CERTIFICATE | | (Page 9 of 12) CF-6R |
| Site Address Lot 14 Plan 2200 Natomas | Permit Number | |

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).

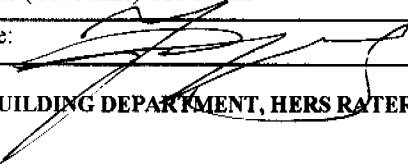
BUILDING ENVELOPE LEAKAGE DIAGNOSTICS

ENVELOPE SEALING INFILTRATION REDUCTION

Procedures for field verification and diagnostic testing of envelope leakage are available in RACM, Appendix RC.

| Diagnostic Testing Results | | | |
|--|---------------------------------|--------------------------------|---|
| | ✓ | ✓ | Building Envelope Leakage (CFM @ 50 Pa) as measured by Rater: |
| 1. | <input type="checkbox"/> Yes | <input type="checkbox"/> No | 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 the box 'yes' if mechanical ventilation is required ('Yes' in line 2) and ventilation is shown in watts and no greater than shown on CF-1R. Measured Watts = |
| 3. | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Check the box 'yes' if measured building infiltration (CFM @ 50 Pa) is greater than the CFM @ 50 values shown for CF-1R (If this box is checked, mechanical ventilation is required) |
| 4. | <input type="checkbox"/> Yes | <input type="checkbox"/> No | Check the 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 Yes in line 4. Otherwise fail. | | | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Pass Fail |

I, the undersigned, verify that the building envelope leakage meets the requirements claimed for building leakage reduction below default assumptions as used for compliance on the CF-1R. This is to certify that the above diagnostic test results and the work I performed associated with the test(s) is in conformance with the requirements for compliance credit. (The builder shall provide the HERS provider a copy of the CF-6R signed by the builder employees or subcontractors certifying that diagnostic testing and installation meet the requirements for compliance credit.)

| | |
|--|--------------------|
| Test Performed | |
| Installing Subcontractor (Co. Name) OR General Contractor (Co. Name) OR Owner | ALL WEATHER |
| Signature:  | Date: 6/26/06 |

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