

CITY OF SACRAMENTO

1231 I Street, Sacramento, CA 95814

Permit No: 0613841

Insp Area: 4

Thos Bros: 277G6

Site Address: 325 NORWOOD BP SAC

Parcel No: 263-0184-022

Sub-Type: RES

Housing (Y/N): N

CONTRACTOR

KLEEN AIR
1657 SILICA AVE
SACRAMENTO CA 95815

OWNER

STANKO JIM L/LYDIA
325 NORWOOD BYPASS AV
SACRAMENTO, CA 95815

PAID ARCHITECT
CITY OF SACRAMENTO
SEP 11 2006
NEW CITY HALL

Nature of Work: HVAC--(NEW-CUT IN)--

**HVAC system shall comply with 2005 California Building Energy Standards for residential buildings; field verification & diagnostic testing is required as specified in the Residential ACM Manual

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 481974 Date 9-11-06 Contractor Signature Caron Wellis

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 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 herby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 9-11-06 Applicant/Agent Signature Caron Wellis

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.

ATW 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 1664740-02 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.

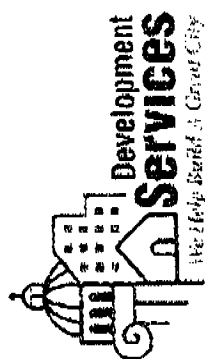
Date 9-11-06 Applicant Signature Caron Wellis

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.

City of Sacramento
Development Services Department
PLANNING REVIEW FOR BUILDING PERMIT SUBMITTAL

ADDRESS: 325 NORWOOD BYPASS	APN: 263 0184 022
DRPB AREA / PUD / SPD: EXPANDED NORTH	ZONING: R-1
EXISTING LAND USE: SFR	
PROPOSED USE: ROOF MOUNTED HVAC	
PLANNING STAFF WILL CHECK ONE OR MORE OF THE ITEMS BELOW:	
<input type="checkbox"/>	Planning review is NOT required.
<input type="checkbox"/>	Use is NOT allowed; applicant CANNOT submit for plan check.
<input type="checkbox"/>	Requires APPLICATION(s): PC ZA IR ER DR PB Required Planning application must be approved <i>before</i> project can be submitted for plan check
<input type="checkbox"/>	Application(s) IN PROGRESS: File Number: Application must be approved before project can be submitted for plan check.
<input checked="" type="checkbox"/>	Application(s) COMPLETED: File Number & approval date: OTC APPROVAL 9-11-06 Building permit must conform to approved plans and comply with all conditions of approval.
<input checked="" type="checkbox"/>	Plans may be submitted for plan check. Plan checker(s) shall confirm compliance with Zoning Ordinance requirements and all applicable development standards <i>prior to issuance</i> of building permit.
<input type="checkbox"/>	Meets setback & lot coverage requirements as shown on site plan provided.
<input type="checkbox"/>	Plans to be submitted have been stamped/signed by Planning counter staff.
<input type="checkbox"/>	Route to SITE for plan check and inspection.
<input type="checkbox"/>	Route to SITE for inspection only, plan check not required.
<input type="checkbox"/>	Preliminary review ONLY; the information on this form must be reviewed again and confirmed at the time of building permit submittal.
CONDITIONS AND COMMENTS: Applicant proposes to install new Roof Mounted HVAC system on this existing SFR. Unit to be mounted as low as possible, behind roof line. Unit to be hidden from street view by existing tree. No change to setback/lot coverage or footprint. No other planning entitlements apparent at this time.	
DATE: 9-11-06	BY: Diana Parker

DR -- EXPANDED
DORRIT



CITY OF SACRAMENTO

www.cityofsacramento.org

Help Line: 1-916-808-5656 OR 1-866-EZ-PERMIT
Inspection Request: 1-916-808-7622

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

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

City Hall - Fax # 916-808-1901 North Permit - Fax #370

Permit # FAXBACK MINOR PERMIT APPLICATION : 9-7-06

Fax-back request received in this office by 3:00 P.M. to be processed the following workdays. Consist have a current certificate of Workmen's Compensation Insurance. Note: Work started before a Building Permit is issued to incur fee.

Design Review and Inspection approval may be required if job address is located in those areas permits may be required.

IN TO PROCESS THIS REQUEST, ALL THE FOLLOWING INFORMATION MUST BE P

Job Address: 325 NORWOOD BYPASS Bid # RESIDENTIAL APARTMENTS (4) units per building COL (haunch)
 CONTACT INFO Name: EARLOX Phone #: 916 922 3985 Email: KleenAir@yahoo.com Unit # 955.00 Contract P. 955.00
 Property Owner: JIM STAN Contractor: KLEENAIR License #: 481974
 Address: 325 NORWOOD BYPASS Address: 1657 SILICA
 City/State/Zip: SACRAMENTO 95815 City/State/Zip: SACRAMENTO 95815
 Phone: 916-925-0113 Phone: 916 922 3985 / 16 920 8409
 Nature of Work: Provide description of work in selections below. Pre-Registered? YES NO Registration # E0500063

Description of Work: INSTALL HVAC CENTRAL PACKAGE unit on rooftop of house

<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-11 <input type="checkbox"/> Jloriz <input type="checkbox"/> Vinyl <input type="checkbox"/> Shucco	<input checked="" type="checkbox"/> HVAC Installations (all Only) <input type="checkbox"/> Chf <input checked="" type="checkbox"/> New <input type="checkbox"/> Hp <input type="checkbox"/> P <input type="checkbox"/> Sun <input type="checkbox"/> Unit <input checked="" type="checkbox"/> C <input type="checkbox"/> For elect. unit w/ gas. <input type="checkbox"/> Vaco <input type="checkbox"/> Centre below Valve work: _____ Equipment _____ Cut-in: <u>95.00</u>	<input type="checkbox"/> Water Heater (Residential Only) <input type="checkbox"/> Electric <input type="checkbox"/> Gas <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 Termit Damage Repair <input type="checkbox"/> Flooring/Joists <input type="checkbox"/> Mudsill/Studs <input type="checkbox"/> Row/ Structure <input type="checkbox"/> Exterior	<input type="checkbox"/> Minor Electric and Public Utilities Safety <input type="checkbox"/> Minor Plumbing Inspection (Residential Only) <input type="checkbox"/> Electric Service Charge (Residential and single apartment units Only) <input type="checkbox"/> # amps _____ <input type="checkbox"/> New electric circuit <input type="checkbox"/> Re-wire <input type="checkbox"/> SMUD <input type="checkbox"/> PG&E <input type="checkbox"/> Water Service Repla. * NOTE * <input type="checkbox"/> Sewer Service Repla. * NOTE * <input type="checkbox"/> Gas Line Replaceme. * NOTE * <input type="checkbox"/> Re-plumb <input type="checkbox"/> Water <input type="checkbox"/> Water permit.
Office Use Only:	Date Received: _____	Date Issued: _____	Processor's Initial/Permit #: _____

SEP. 07 2006 02:07PM P1

FRX NO. : 920 8409

FROM : KLEENAIR

P.O. Box 2233
Orangevale, CA 95662

Energy Analysis & Comfort Solutions, Inc.

Phone: (916) 698-4185
Fax: (866) 246-5814
www.EACSWeb.com

Project Information Sheet

0613041 Permit # 325 Norwood

City of Sacramento	Contractor:		
	Name: <u>Kleen Air</u>	Job Site Contact: _____	
325 NORWOOD BYPASS	Address: <u>1657 Silica Avenue</u>	Phone: _____	
	City: <u>Sacramento</u>		
	Phone: <u>916-922-3995</u>		
520	Project:		
	Name: <u>JIM STANKO</u>	Build Dept: <u>City of Sacramento</u>	
106	Address: <u>325 NORWOOD BYPASS</u>	County: <u>County of Sacramento</u>	
	City: <u>SACRAMENTO</u>	Utility: <u>SMUD</u>	
5019-3	Zip: <u>95815</u>	# of Stories: <u>1</u>	
	Phone: <u>916-925-0113</u>	Conditioned SF: <u>1100</u>	
Kleen Air	Equipment:		
	Heat Equip: <u>True</u>	Make: <u>TRANE</u>	
	Heat Capacity: <u>60</u>	Model: <u>YCY024G1M0A</u>	
	Efficiency: <u>80.00</u>	Serial: _____	
	Configuration: <u>Package</u>		
	Cool Equip: <u>True</u>	Condensor Make: _____	
	Cool Capacity: <u>24</u>	Model: _____	
	SEER: <u>14.00</u>	Serial: _____	
	EER: <u>12.00</u>	Evap Coil Make: _____	
	Configuration: <u>Package</u>	Model: _____	
		Serial: _____	
	Test Results:		
	Duct Test: _____	Equip CFM: _____	Tester: _____
	New or Exist: _____	CFM Leakage: _____	Time In: _____
	TXV Installed: _____	% Leakage: _____	Time Out: _____
	High EER: _____	Test Pressure: _____	Signature: _____
	Notes: _____		

FOR BLDG. INSPECTOR

CERTIFICATE OF COMPLIANCE: RESIDENTIAL

JIM STANKO
 Project Title

325 NORWOOD BYPASS SACRAMENTO CA 95815
 Project Address

Aaron Willson 916-922-3995
 Documentation Author Telephone

Prescriptive 12
 Compliance Method (Prescriptive) Climate Zone

9/8/2006
 Date

Building Permit #

Plan Check / Date

Field Check / Date

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) 1100 ft² Average Ceiling Height: 8 ft

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

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

Building Type: Single Family Detach Project Type: 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: 1 Number of Dwelling Units: 1

Floor Construction Type: Slab

Floor 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,	Frame Type (Wood or	Cavity Insulation R-Value	Continuous Insulation R-Value	Assembly Ufactor (for wood, metal frame and mass assemblies)	Joint Appendix IV Reference	Roof Radiant Barrier Installed (Yes/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

JIM STANKO

325 NORWOOD BYPASS

9/8/2006

Date

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 Check Box if WS-3R is
							<input type="checkbox"/>
							<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, broiler, 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	80.00 AFUE	Attic	6.00	Programmable	Package
60 kBTU					

Cooling Equipment Type and Capacity (A/C, heat pump, evap)	Minimum Efficiency (SEER or EER)	Duct Location (attic, etc.)	Duct R-Value	Thermostat Type	Configuration (Split or Package)
A/C	14.00 SEER	Attic	6.00	Programmable	Package
24 kBTU	12.00 EER				

JIM STANKO
ProjectTitle

325 NORWOOD BYPASS

9/8/2006
Date

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 type="checkbox"/>	Sealed Ducts (all climate zones) (Installer testing and certification and HERS rater field verification required.)
<input 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.
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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.
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WATER HEATING SYSTEMS

<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 (kW or Btu/hr)	Tank Capacity (gallons)	Energy Factor or Thermal Eff. 1	Standby Loss (%) 1	Tank External Insulation

Systems serving multiple dwelling units

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

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 > 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

JIM STANKO
ProjectTitle

1657 Silica Avenue

9/8/2006
Date

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 N/A; Performance Calculation	
<input type="checkbox"/>	Cool Roof	Required. Attach CRRC Label to Form	
<input type="checkbox"/>	Dedicated Hydronic Heating	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 Heater	See Table 5-13 or use Performance Calculation and attach Run to Forms	
<input type="checkbox"/>	Central Water Heating System	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
	Duct Sealing	CF-6R part 4 of 12	
	Refrigerant Charge	CF-6R part 5 of 12	
	Thermostatic Expansion Valve	CF-6R part 6 of 12	

JIM STANKO **325 NORWOOD BYPASS** 9/8/2006
 ProjectTitle Date

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: Aaron Willson		Name: Aaron Willson	
Title/Firm: Kleen Air		Title/Firm: Kleen Air	
Address: 1657 Silica Avenue Sacramento Ca 95815		Address: 1657 Silica Avenue Sacramento Ca 95815	
Telephone: 916-922-3995		Telephone: 916-922-3995	
License #: 481974			
x <i>Aaron Willson</i>		x <i>Aaron Willson</i>	
Signature and Date		Signature and Date	

Enforcement Agency

Name:	Comments:
Title/Firm:	
Address:	
Telephone:	
X	
Signature / Stamp and Date	

INSTALLATION CERTIFICATE

325 NORWOOD BYPASS SACRAMENTO CA 95815
 Site Address Permit Number: 0613841

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)	CEC Certified Mfg. Name, Model, and Serial No.	# of Identical Systems	Efficiency (AFUE, etc) ¹ >(CF-1R value)	Duct Location	Duct or Piping R-Value	Heating Load (kBtu/hr)	Heating Capacity (kBtu/hr)
Package	TRANE	1	80.00 AFUE	Attic	6		60
Furnace	YCY024G1M0A						

Cooling Equipment

Equip. Type (pkg. heat pump)	CEC Certified Mfg. Name, Model, and Serial No.	# of Identical Systems	Efficiency (AFUE, etc) ¹ >(CF-1R value)	Duct Location	Duct or Piping R-Value	Cooling Load (kBtu/hr)	Cooling Capacity (kBtu/hr)
Package		1	14.00 SEER	Attic	6		24
A/C			12.00 EER				
Coil							

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.

ii, 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.

Charles C. Hallingrud 9-27-06

Signature and Date

Kleen Air

Installing Subcontractor (Co. Name)
 OR General Contractor (Co. Name) OR Owner

39
 5019-3

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

325 NORWOOD BYPASS SACRAMENTO CA 95815
 Site Address Permit Number: 0613841

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:		1000	
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.		45	
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			
9 Pass if Leakage Percentage < 15% [100 x [<u>45</u> (Line # 5) / <u>1000</u> Line # 2)]]		4.5%	<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

Charles C. Hiltz 9-27-06
 Signature Date

Kleen Air
 Installing Subcontractor (Co. Name) OR
 General Contractor (Co. Name) 39
 5019-3

INSTALLATION CERTIFICATE

325 NORWOOD BYPASS

SACRAMENTO

CA

95815

Permit Number: 0613841

Site Address

THERMOSTATIC EXPANSION VALVE (TXV)

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

<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.		
		Yes is a Pass	<input type="checkbox"/> Pass <input type="checkbox"/> Fail

REFRIGERANT CHARGE MEASUREMENT PROCEDURE

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	Btu/hr
Cooling Capacity	
Date of Verification	(must be checked monthly)
Date of Refrigerant Gauge Calibration	(must be checked monthly)
Date of Thermocouple Calibration	

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

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

INSTALLATION CERTIFICATE

325 NORWOOD BYPASS	SACRAMENTO	CA	95815	Permit Number: 0613841
Site Address				

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.

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

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)		

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
------------------------------	-----------------------------	---------------

Signature, Date

Kleen Air

Installing Subcontractor (Co. Name) OR
General Contractor (Co. Name) OR Owner

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

325 NORWOOD BYPASS SACRAMENTO CA 95815
 Site Address Permit Number: 0613841

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"/>	Yes	No
		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"/>	Yes	No
		Measured airflow is greater than the criteria in Table RE-2	
			Pass <input type="checkbox"/> Fail <input type="checkbox"/>

MAXIMUM COOLING CAPACITY

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

1	<input type="checkbox"/>	Yes	No	Adequate airflow verified (see adequate airflow credit)
2	<input type="checkbox"/>	Yes	No	Refrigerant charge or TXV
3	<input type="checkbox"/>	Yes	No	Duct Leakage reduction credit verified
4	<input type="checkbox"/>	Yes	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"/>	Yes	No	
Yes to 1, 2, and 3; and Yes to either 4 or 5 is a pass				
			Pass <input type="checkbox"/> Fail <input type="checkbox"/>	

HIGH EER AIR CONDITIONER

Procedures for verification are available in RACM, Appendix RI.

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

Tests Performed _____ Signature / Date _____ Kleen Air _____
 Installing Subcontractor (Co. Name) OR General Contractor (Co. Name)

CalCERTS - Certificate

Jim STANKO

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 1 of 8)

CF-4R

325 NORWOOD BYPASS - SACRAMENTO, CA 95815		Klean Air / 481974	
Project Address		Contractor Name / License No. 613841	
Contractor Contact Michael McDermott		Telephone 916-704-2810	Permit Number 42225
HERS Rater <i>Mike McDermott</i>		Telephone September 27, 2006	Sample Group Number CC14-1798382807
Certifying Signature		Date	Certificate Number
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			
	Duct Pressurization Test Results (CFM @ 25 Pa)	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:	1000	
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.	45	
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 $\leq 6\% [100 \times (\text{Line 5} / \text{Line 2})]$:	4.50%	<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 $\leq 15\% [100 \times (\text{Line 5} / \text{Line 2})]$:		<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 type="checkbox"/> Pass <input type="checkbox"/> Fail
Pass if One of Lines #9 through #12 pass			<input type="checkbox"/> Pass <input type="checkbox"/> Fail