

CITY OF SACRAMENTO
1231 I Street, Sacramento, CA 95814

Permit No: 0603123
Insp Area: 1
Thos Bros: 298A5

Site Address: 5516 C ST SAC
Parcel No: 004-0154-004

PAID
CITY OF SACRAMENTO
Sub-Type: RES
Housing (Y/N): N

CONTRACTOR
CLARKE & RUSH MECH
4411 AUBURN BL
SACRAMENTO CA 95841

OWNER
SZAKACS ERIK
5516 C ST
SACRAMENTO, CA 95819

MAR 09 2006 ARCHITECT

NEW CITY HALL

Nature of Work: PAPERLESS PERMIT. C/O SPLIT SYSTEM HVAC, MOVE A/C TO EAST SIDE OF HOUSE. NEW ELECCIRCUITS.
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 _____ License Number 608005 Date 3/9/06 Contractor Signature *Cher D*

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

Date 3/9/06 Applicant/Agent Signature *Cher D*

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 ZENITH INS CO Policy Number Z066385802 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 3/9/06 Applicant Signature *Cher D*

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.

CERTIFICATE OF FIELD VERIFICATION & DIAGNOSTIC TESTING (Page 3-4 of 8) CF-4R

5516 C Street
Project Address
Clarke & Rush Mechanical / 608005
Contractor Name / License No.
06-03123
Permit Number

Contractor Contact
Michael McDermott
916-704-2810
Telephone
19974
Sample Group Number

HERS Rater
Michael McDermott
March 29, 2006
Date
CC14-1798360556
Certificate Number

Firm: Energy Analysis and Comfort Solutions, HERS Provider: **CalCERTS**
Inc.
Street Address: P.O. 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 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

5516 C Street <small>Project Address</small>	Clarke & Rush Mechanical / 608005 <small>Contractor Name / License No.</small>
Contractor Contact	06-03123 <small>Permit Number</small>
Michael McDermott <small>HERS Rater</small>	916-704-2810 <small>Telephone</small>
<i>Michael McDermott</i> <small>Certifying Signature</small>	19974 <small>Sample Group Number</small>
March 29, 2006 <small>Date</small>	CC14-1798360556 <small>Certificate Number</small>
Firm: Energy Analysis and Comfort Solutions, <small>Inc.</small>	HERS Provider: CalCERTS
Street Address: P.O. 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 installer has provided a copy of the CF-6R (Installation Certificate).

<input checked="" type="checkbox"/> HIGH EER AIR CONDITIONER:	
<small>Procedures for verification are available in RACM, Appendix RI.</small>	
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	

Contractor Information											
Contractor Name		Address		City		Zip		Phone		Fax	
Clarke & Rush Mechanical		4411 Auburn Blvd.		Sacramento		95841		916-609-2665		916-609-2635	
Company Contact		Est Complete		Job Number		Permit Number		License #		Company ID #	
Patricia Siedentopf		3/20/2006		06D1045				608005		50001	
Residential Project Information											
Owner's Name/ Project Title		Address		City		Zip		Phone		Fax/ email	
Eric Szakacs		5516 C Street		Sacramento		95819		916-456-5532			
County		Bid Dept - Permit From		Utility		Plan #		Group #		House #	
County of Sacramento		City of Sacramento		SMUD		50001		530A		1174	
Building Information											
Multi Family		# of Dwellings		Front Orientation (N,S,E,W)		S		Heat Load		BTUs	
Single Family		Slab Floor		Number of Stories		1		Cool Load		BTUs	
Addition-new rm		Raised Floor		Conditioned Floor Area		1050 SF		Duct Location		ATTIC	
Alteration-change		Climate Zone		Maximum Ceiling Height		8 Ft		Garage		Duct -R value	
R4											
Equipment Information											
Package Unit		Gas / Electric		AFUE		93		SEER		Heat: BTU Input	
Split System		Heat Pump		HSPF				EER		Cooling: BTUs	
Heat System Mfg		CARRIER		Condenser Sys Mfg		CARRIER		Model #		Coll System Mfg	
Model #		58MTB080-F-12		Model #		38TSA030-3		Model #		HCPS1636-M210	
Serial #		4305203342		Serial #		2405636499		Serial #		6005067195	

Title 24 requirements - contractor and HERS verification check list

Requirement	Permit #	Notes
CF6R forms on job site	0603123	None
Furnace Mfg and model # documented	None	None
Furnace serial # documented	None	None
Coil Mfg and model # documented	None	None
Coil serial # documented	None	None
Condenser Mfg and model # documented	None	None
Condenser serial # documented	None	None
TXV verified on split system	None	None
High EER verified on options	None	None
Air distribution system fully ducted	None	None
Existing duct tape has draw bands and mastic	None	None
All Supply registers sealed for test	None	None
All Return grilles sealed for test	None	None
Duct blaster w/ rings installed correctly	None	None
Smoke required to pass test	None	None
All register & grille seals removed	None	None
Thermostat turned on after test	None	None
Duct System - New or Exist	None	None
CFM Leakage	None	None
Leakage pressure	None	None
Equipment air flow in CFM	None	None
System % leakage	None	None
Test Date	None	None
ARI #	None	None
Notes:	None	None

Signature Billy Mather

Eric Szakacs
 Project Title
 5516 C Street Sacramento CA 95819
 Project Address
 Patricia Siedentopf 916-609-2665
 Documentation Author Telephone
 Prescriptive 12
 Compliance Method (Prescriptive) Climate Zone

Date
Building Permit #
Plan Check / Date
Field Check / Date
Enforcement Agency Use Only

Alternative Component Package Method: (check one) C X 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) 1050 ft² Average Ceiling Height: 8 ft
 Maximum Allowed West Facing Fenestration Products Per Table 151-B or 151-C — (5% X CFA) NA ft²
 Maximum Allowed Total Fenestration Products Per Table 151-B or 151-C — (20% X CFA) NA ft²
 Building Type: (check one or more) Single Family Multifamily Addition Alteration
 (If adding fenestration fill out WS-4R, Fenestration Maximum Allowed Area Worksheet and see Section 8.3.2 for Additions and 8.3.3 for Alterations.)
 Number of Stories: 1 Number of Dwelling Units: 1
 Floor Construction Type: raised Slab/Raised Floor (circle one or both)
 Front Orientation: S North / South / East / West / All Orientations (input front orientation in degrees from True North and circle one).

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

OPAQUE SURFACES INCLUDING OPAQUE DOORS

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

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

Eric Szakacs

Date

Project Title

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, W1	Area (ft2)	U-factor2	U-factor Source3	SHGC4	SHGC Source5	Exterior Shading/Overhangs6, 7 Ck box if WS-3R is included	

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

HVAC SYSTEMS

Heating Equipment Type and Capacity furnace, heat pump, boiler, etc.	Minimum Efficiency (AFUE or HSPF)	Distribution Type and Location (ducts, attic, etc.)	Duct or Piping R-Value	Thermostat Type	Configuration (split or package)
G/E	93 AFUE	ATTIC	R4	Programable	Split Sys
	0 HSPF				
60000 BTU					

Cooling Equipment Type and Capacity (A/C, Heat Pump, Evap Cool)	Minimum Efficiency (SEER or EER)	Duct Location (attic, etc.)	Duct R-Value	Thermostat Type	Configuration (split or package)
G/E	15 SEER	ATTIC	R4	Programable	Split Sys
	13 EER				
30000 BTU					

Eric Szakacs

Date

Project Title

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.

- Sealed Ducts (all climate zones) (Installer testing and certification and HERS rater field verification required.)
- TXVs, readily accessible (climate zones 2 and 8-15 only) (Installer testing and certification and HERS Rater field verification required.)
- Refrigerant Charge (climate zones 2 and 8-15 only) (Installer testing and certification and HERS Rater field verification required.)

OR

- Alternative to Sealed Ducts and Refrigerant Charge /TXVs (See Package D Alternative Package Features for Project Climate Zone in the RM Appendix B Table 151-C, Footnotes 7-14.

OR

- For additions and alterations, duct systems that are not documented to have been previously sealed as confirmed through field verification and diagnostic testing in accordance with procedures in the Residential ACM Manual and duct systems with more than 40 linear feet in unconditioned spaces shall meet the requirements of Section 150(m) and duct insulation requirements of Package D.

WATER HEATING SYSTEMS

- 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.
- 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.
- 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.
- Check box to verify that a time control is required for a recirculating system pump for a system serving multiple units

Systems serving single dwelling units

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

System serving multiple dwelling units

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

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 1/2 inches or greater in diameter shall be thermally insulated as specified by Section 150 (j) 2 A or 150 (j) 2 B.

Eric Szakacs

Date

Project Title

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 Forms.	
<input type="checkbox"/>	Dedicated Hydronic Heating System	Performance Calculation Required; Attach Run to Forms.	
<input type="checkbox"/>	Combined Hydronic System	Performance Calculation Required; Attach Run to Forms.	
<input type="checkbox"/>	Gas Cooling	N/A; Performance Calculation Required.	
<input type="checkbox"/>	Buried Ducts	N/A; Indicate on building plans.	
<input type="checkbox"/>	Kitchen Pipe Insulation	See Section 5.6.2 Distribution Systems in Residential Manual.	
<input type="checkbox"/>	Multiple Water Heaters Per Dwelling Unit	See Table 5-13 or use Performance Calculation and attach Run to Forms.	
<input type="checkbox"/>	Central Water Heating System Serving Multiple Dwellings	Performance Calculation and attach Run to Forms.	
<input type="checkbox"/>	Non-NAECA Large Water Heater	CF-1R	
<input type="checkbox"/>	Indirect Water Heater	See Table 5-13 or use Performance Calculation and attach Run to Forms	
<input type="checkbox"/>	Instantaneous Gas Water Heater	See Table 5-13 or use Performance Calculation and attach Run to Forms	
<input type="checkbox"/>	Solar Water Heating System	See Table 5-13 or use Performance Calculation and attach Run to Forms	
<input type="checkbox"/>	Wood Stove Boiler	Performance Calculation and attach Run to Forms	

SPECIAL FEATURES REQUIRING HERS RATER VERIFICATION

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

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

Eric Szakacs

Date

Project Title

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: Patricia Siedentopf	Name: Patricia Siedentopf
Title/Firm: Clarke & Rush Mechanical	Title/Firm: Clarke & Rush Mechanical
Address: 4411 Auburn Blvd. Sacramento CA 95841	Address: 4411 Auburn Blvd. Sacramento CA 95841
Telephone: 916-609-2665	Telephone: 916-609-2665
License #: 608005	
(signature) (date)	(signature) (date)

Enforcement Agency

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

5516 C Street
Site Address

Sacramento CA 95819

0
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 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)
	CARRIER	1	93 AFUE	ATTIC	R4	0	60000
Split Sys	58MTB060-F-12		0 HSPF				
G/E	0						

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)
	CARRIER	1	15.00 SEER	ATTIC	R4	0	30000
Split Sys	38TSA030-3		13 EER				
G/E	0						
	ADP						
Coil	HCPS1636-M210						
	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.

Billy Mathis 03/22/06
Signature, Date 1174

Clarke & Rush Mechanical
Installing Subcontractor (Co. Name)
OR General Contractor (Co. Name) OR Owner

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

5516 C Street

Sacramento CA 95819

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:

Duct Pressurization Test Results (CFM @ 25 Pa)	Measured Values	
1 Enter Tested Leakage Flow in CFM:	57	
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.		
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 [57 (Line # 5) / 1000 (Line # 2)]]	0.0570	<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
and Verification by Smoke Test and Visual Inspection		<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail
12 Pass if Sealing of all Accessible Leaks and Verification by Smoke Test and Visual Inspection		<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail
Pass if One of Lines # 9 through # 12 pass		<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail

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.

Billy Mathis 03/22/06
Signature Date

Clarke & Rush Mechanical
Installing Subcontractor (Co. Name) OR
General Contractor (Co. Name)

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	<table border="1" style="display: inline-table;"> <tr> <td style="width: 50%;"><input checked="" type="checkbox"/> Pass</td> <td style="width: 50%;"><input type="checkbox"/> Fail</td> </tr> </table>	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Fail
<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

5516 C Street

Sacramento CA 95819

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

Billy Mathis 03/22/06
Signature, Date

Clarke & Rush Mechanical
Installing Subcontractor (Co. Name) OR
General Contractor (Co. Name) OR Owner

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

5516 C Street

Sacramento CA 95819

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"/> Yes	<input type="checkbox"/> No	Duct design exists on plans
<input type="checkbox"/>	RE4.1.1		Diagnostic Fan Flow Using Flow Capture Hood
<input type="checkbox"/>	RE4.1.2		Diagnostic Fan Flow Using Plenum Pressure Matching
<input type="checkbox"/>	RE4.1.3		Diagnostic Fan Flow Using Flow Grid Measurement
Measured Airflow:			_____ cfm/ton
<input type="checkbox"/>	<input 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"/> 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 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

Buddy Mathis 03/22/06

Clarke & Rush Mechanical

Tests

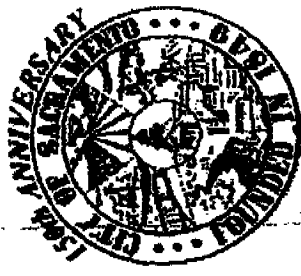
Signature, Date

Installing Subcontractor (Co. Name) OR

Performed

General Contractor (Co. Name)

COPY TO: Building Department, HERS Rater, Building Owner at Occupancy



DATE: 3/6/06

CITY OF SACRAMENTO
DEVELOPMENT SERVICES DIVISION
FAXED PERMIT APPLICATION (certain restrictions apply)
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 a quad fee

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

RESIDENTIAL • APARTMENTS (4+ units per building) • COMMERCIAL (limited)
JOB ADDRESS: 5516 C ST. SAC TO 95819 UNIT # _____ CONTRACT PRICE \$ 61,336.00 PAID
CONTACT PERSON: MARYTHA BOBBS • CONTACT PHONE: 916-264-1918
Property Owner: ERIC SZAKACZ Contractor: CLARKE & RUSH MECHANICAL LICENSE # 1003006
Address: 5516 C STREET City/State/Zip: Sacramento CA, 95814
City/State/Zip: SAC TO. CA. 95819 Phone: (916) 869-9325 FAX: 916-264-1918

NATURE OF REQUEST: Indicate from the selections below & provide details under description of work.

<p>REEROOF (excluding tile)</p> <ul style="list-style-type: none"> TEAR-OFF RESHBBET <p>HOUSE • GARAGE</p> <p>SQUARES</p> <p>SIDING</p> <ul style="list-style-type: none"> wood T-111 Horiz vinyl <p>Notes: Design Review approval may be required in certain areas.</p>	<p>HVAC INSTALLATIONS (residential ONLY)</p> <p>CHANGE-OUT NEW</p> <ul style="list-style-type: none"> Heat Pump Package Split system Roof mount Cut-in Heat pump or elect. unit to gas. Wall furnace Other (describe below) <p>Value of duct work: \$ _____</p> <p>Equipment: \$ _____</p> <p>Cut-in: \$ _____</p> <p>Notes: Design Review approval may be required for rooftop units.</p>	<p>WATER HEATER (residential ONLY)</p> <ul style="list-style-type: none"> GAS ELECTRIC <ul style="list-style-type: none"> Change-out Electric to Gas Relocate New <p>DRY ROT OR TERMITE DAMAGE REPAIR (Describe locations below)</p> <p>Notes: Design Review approval may be required in certain areas.</p>	<p>MINOR ELECTRIC and/or MINOR PLUMBING (residential ONLY)</p> <ul style="list-style-type: none"> Electric Service Change # amps New electric circuits Re-wire Water Services Replacement Sewer Service Replacement Gas Line Replacement Re-plumb Water Waste 	<p>PUBLIC UTILITIES SAFETY INSPECTION* (Residential and single apartment units ONLY).</p> <ul style="list-style-type: none"> SMUD PG&E <p>*NOTE: Correction Notice Items will require an additional building permit</p>
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DESCRIPTION OF WORK:
Change out Existing Split Horizontal/Ground System, Move A/C To East Side of House.

10perm14.frm [rev online 3/1/0600]

ACORD CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
10/17/2005

PRODUCER (916) 231-1741
Acordia of California Insurance Services, Inc.
CA DOI LIC #0352275
11017 Cobblerock Drive, Suite 100
Rancho Cordova, CA 95870

INSURED Clarke & Rush Mechanical Inc., Dba Berkan & Clark
Heating & Air
4411 Auburn Blvd.
Sacramento, CA 95841

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURERS AFFORDING COVERAGE	NAIC #
INSURER A: Lexington Insurance Company	
INSURER B: Transcontinental Insurance Company	
INSURER C: Zenith Insurance Company	
INSURER D:	
INSURER E:	

COVERAGES
THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSURANCE TYPE	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS
A	GENERAL LIABILITY <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR	1144563	6/1/2005	6/1/2006	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Per occurrence) \$ 50,000 MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 1,000,000
	GENL AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC				
B	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input checked="" type="checkbox"/> ALL OWNED AUTOS <input checked="" type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	C2077366140	6/1/2005	6/1/2006	COMBINED SINGLE LIMIT (Per accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
	GARAGE LIABILITY <input type="checkbox"/> ANY AUTO				AUTO ONLY - EA ACCIDENT \$ OTHER THAN EA ACC \$ AUTO ONLY: AGG \$
	EXCESS/UMBRELLA LIABILITY <input type="checkbox"/> OCCUR <input type="checkbox"/> CLAIMS MADE DEDUCTIBLE \$ RETENTION \$				EACH OCCURRENCE \$ AGGREGATE \$ \$ \$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below OTHER	Z066385002	10/1/2005	10/1/2006	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS
Certificate holder is included as additional insured per form #CG2010 (11/85) attached.
Subject to 10 day notice of cancellation for non-payment of premium.
IE: Evidence of Insurance.

CERTIFICATE HOLDER
Contractors State License Board
P.O. Box 26000
Sacramento, CA 95826

CANCELLATION
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.
AUTHORIZED REPRESENTATIVE *Tom T. Higgins*