



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

Downtown Permit Center  
1231 I Street, Suite 200  
North Permit Center  
2101 Arena Blvd., Suite 200  
Sacramento, CA 95834

0601059

### HEATING and COOLING EQUIPMENT QUESTIONNAIRE

Applicant's Name:

799547  
ALL STAR HOME IMPROVEMENT

Phone:

916 801 7222

Project Address:

5790 TANGERINE AVE.

Phone:

916 429 2330

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

#### 1. GROUND-MOUNTED UNIT

a.  There is an existing ground-mounted unit.

The existing unit shall be removed. The new unit shall be placed in the same location as the existing unit and shall not exceed the size of the existing unit by more than 25%.

The new unit differs in location from the existing unit.

The new unit is fully screened behind a solid fenced area and will not be visible from any street views.

Existing shrubs or buildings will screen the unit from being visible from any street views.

b.  There is no unit in the proposed location.

The new unit will be fully screened behind a solid fenced area and will not be visible from any street views.

Existing shrubs or building will screen the unit from being visible from any street views.

#### 2. ROOF-MOUNTED UNIT

a.  There is an existing roof-mounted unit.

The existing unit shall be removed. The new unit shall be placed in the same location as the existing unit and shall not exceed the size of the existing unit by more than 25%.

The new unit differs in location from the existing unit. The new unit shall be screened from street views by the building with no portion of the new unit being visible from any street views.

b.  There is no existing roof-mounted unit.

The new unit shall be screened from street views by the building with no portion of the new unit being visible from any street views.

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

Applicant's signature:

[Signature] Pres.

Date:

1-25-06

FOR CITY STAFF USE ONLY

Counter Staff:

[Signature]

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

Willie Badger

Project Title

5790 Tangerine Avenue Sacramento CA 95823

Project Address

Woody Wodetzki 916-807-8222

Documentation Author Telephone

Prescriptive 12

Compliance Method (Prescriptive) Climate Zone

1-19-06

Date

0601059

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) 1025 ft<sup>2</sup> Average Ceiling Height: 8 ft  
 Maximum Allowed West Facing Fenestration Products Per Table 151-B or 151-C --- (5% X CFA) NA ft<sup>2</sup>  
 Maximum Allowed Total Fenestration Products Per Table 151-B or 151-C --- (20% X CFA) NA ft<sup>2</sup>  
 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:      Slab/Raised Floor (circle one or both)  
 Front Orientation: N 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.

Willie Badger

1-19-06

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**FENESTRATION PRODUCTS – U-FACTOR AND SHGC**

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

Fenestration #/Type/Pos. (Front, Left, Rear, Right, Skylight)	Orientation, N, S, E, 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	80.00 AFUE	ceiling	R4	Programable	Package
	0 HSPF				
46K 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	14 SEER	ceiling	R4	Programable	Package
	12 EER				
24K BTU					

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1-19-06

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**SEALED DUCTS and TXVs (or Alternative Measures)**

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

<input checked="" type="checkbox"/>	Sealed Ducts (all climate zones) (Installer testing and certification and HERS rater field verification required.)
<input checked="" type="checkbox"/>	TXVs, readily accessible (climate zones 2 and 8-15 only) (Installer testing and certification and HERS Rater field verification required.)
<input type="checkbox"/>	Refrigerant Charge (climate zones 2 and 8-15 only) (Installer testing and certification and HERS Rater field verification required.)

OR

<input type="checkbox"/>	Alternative to Sealed Ducts and Refrigerant Charge /TXVs (See Package D Alternative Package Features for Project Climate Zone in the RM Appendix B Table 151-C, Footnotes 7-14.
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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 Input1 (kW or Btu/hr)	Tank Capacity (gallons)	Energy Factor1 or Thermal Efficiency	Standby1 Loss (%)	Tank External Insulation R-Value

**System serving multiple dwelling units**

Water Heater Type/Fuel Type	Distribution Type	Number In System	Rated Input1 (kW or Btu/hr)	Tank Capacity (gallons)	Energy Factor1 or Thermal Efficiency	Standby1 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 3/4 inches or greater in diameter shall be thermally insulated as specified by Section 150 (j) 2 A or 150 (j) 2 B.

Willie Badger

1-19-06

Project Title

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: Woody Wodetzki	Name: Woody Wodetzki
Title/Firm All Star Home Improvement	Title/Firm All Star Home Improvement
Address: 4401 Hazelwood Avenue Sacramento CA 95821	Address: 4401 Hazelwood Avenue Sacramento CA 95821
Telephone: 916-807-8222	Telephone: 916-807-8222
License #: 799547	
(signature) (date)	(signature) (date)

**Enforcement Agency**

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

5790 Tangerine Avenue

Sacramento CA 95823

0

Permit Number

Site Address

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, Model and Serial Number	# of Identical Systems	Efficiency (AFUE, etc.) <sup>1</sup> >(CF-1R value)	Duct Location (attic, etc.)	Duct or Piping R-value	Heating Load (Btu/hr)	Heating Capacity (Btu/hr)
Package	Trane	1	80.00 AFUE	ceiling	R4	46k	46K
	YCY024G160A		0 HSPF				
G/E	S4464JWP1H						

**Cooling Equipment**

Equip Type (pkg. heat pump)	CEC Certified Mfr. Name, Model and Serial Number	# of Identical Systems	Efficiency (AFUE, etc.) <sup>1</sup> >(CF-1R value)	Duct Location (attic, etc.)	Duct or Piping R-value	Cooling Load (Btu/hr)	Cooling Capacity (Btu/hr)
Package	Trane	1	14.00 SEER	ceiling	R4	24k	24K
	0		12 EER				
G/E	0						
	Trane						
Coil	0						
	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 8), where applicable.

*Tim A. Wagner*  
 Signature, Date 1-30-06

**All Star Home Improvement**  
 Installing Subcontractor (Co. Name)  
 OR General Contractor (Co. Name) OR Owner

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

5790 Tangerine Avenue

Sacramento, CA 95823

0

Site Address

Permit Number

# INSTALLER COMPLIANCE STATEMENT FOR DUCT LEAKAGE

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

## INSTALLER COMPLIANCE STATEMENT

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

### INSTALLER VISUAL INSPECTION AT FINAL CONSTRUCTION STAGE:

- Remove at least one supply and one return register, and verify that the spaces between the register boot and the interior finishing wall are properly sealed.
- If the house rough-in duct leakage test was conducted without an air handler installed, inspect the connection points between the air handler and the supply and return plenums to verify that the connection points are properly sealed.
- Inspect all joints to ensure that no cloth backed rubber adhesive duct tape is used

### DUCT LEAKAGE REDUCTION

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

NEW CONSTRUCTION:		Measured Values	
Duct Pressurization Test Results (CFM @ 25 Pa)			
1 Enter Tested Leakage Flow in CFM:			
2 Fan Flow: Calculated (Nominal: <input 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:		800	
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
<b>ALTERATIONS: Duct System and/or HVAC Equipment Change-Out:</b>			
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.		37	
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 [ 800 (Line # 5) / 37 (Line # 2) ]]		4.6	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
<b>TEST OR VERIFICATION STANDARDS: For Altered Duct System and/or HVAC Equipment Change-Out</b>			
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.

*Kevin A. Wood*  
Signature Date 1-30-06

All Star Home Improvement  
Installing Subcontractor (Co. Name) OR  
General Contractor (Co. Name)

CalCERTS - Certificate

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

CF-4R

5790 Tangerine Ave  
Project Address

All Star Home Improvement / 799547  
Contractor Name / License No.

06-01059  
Permit Number

15875  
Sample Group Number

John Gustason  
HERS Rater

January 29, 2006  
Date

CC14-179835/457  
Certificate Number

Energy Analysis and Comfort Solutions,  
Inc.  
Street Address: P.O. Box 2233

HERS Provider: CalCERTS  
City/State/Zip: Orangevale / CA / 95662

Copies to: Homeowner, HERS Provider and Building Department  
This CF-4R has been registered with the CalCERTS® registry in accordance with the Title 24 & Title 20 of the CCR.  
CalCERTS® is an approved HERS provider by the California Energy Commission.

**HERS RATER COMPLIANCE STATEMENT**

The house was  Tested  Approved as part of sample testing, but was not tested.  
As the HERS rater providing diagnostic testing and field verification, I certify that the house identified on this form complies with the diagnostic tested compliance requirements as checked on this form. The HERS rater must check and verify that the new distribution system is fully ducted and correct tape is used before a CF-4R may be released on every tested building. The HERS rater must not release the CF-4R until a properly completed and signed CF-6R has been received for the sample and tested buildings.  
 The installer has provided a copy of the CF-6R (Installation Certificate).  
 New Distribution system is fully ducted (i.e., does not use building cavities as plenums or platform returns in lieu of ducts).  
 New systems where cloth backed, rubber adhesive duct tape is installed, mastic and drawbands are used in combination with cloth backed, rubber adhesive duct tape to seal leaks at duct connections.

**MINIMUM REQUIREMENTS FOR DUCT LEAKAGE REDUCTION COMPLIANCE CREDIT:**

NEW CONSTRUCTION		Measured Values	
1	Duct Pressurization Test Results (CFM @ 25 Pa)	N/A	
2	Fan Flow: Calculated (Nominal <input checked="" type="radio"/> Cooling <input type="radio"/> Heating) or <input checked="" type="radio"/> Measured Enter Total Fan Flow in CFM:	800	
3	Pass if Leakage Percentage $\leq 6\% [100 \times (\text{Line 1} / \text{Line 2})]$ :	N/A	N/A
<b>ALTERATIONS: Duct System and/or HVAC Equipment Change-Out</b>			
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.	37	
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.	37	
6	Enter Reduction in Leakage for Altered Duct System (Line 4 - Line 5) - (Only if Applicable)	0	
7	Enter Tested Leakage Flow in CFM to Outside (Only if Applicable)		
8	Entire New Duct System - Pass if Leakage Percentage $\leq 6\% [100 \times (\text{Line 5} / \text{Line 2})]$ :	4.6%	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
<b>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:</b>			
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
			<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail