CERTIFICATE OF COMPLIANCE	CF1R-ALT-02-E
Alterations to Space Conditioning Systems (formerly CF-1R-ALT-HVAC)	(Page 1 of 3)
Project Name: 1698 Barlow Ln	Date Prepared: 2022-12-12

A. General Information

CF1R-ALT-02 is applicable to multiple space conditioning systems contained within a single dwelling unit. When multiple dwelling units must be documented, use one CF1R-ALT-02 document for each dwelling unit.

01	**Project Name**	1698 Barlow Ln	**02**	**Date Prepared**	2022-12-12
03	**Project Location**	1698 Barlow Ln	**04**	**Building Type**	Single family
05	**CA City**	Sebastopol	**06**	**Dwelling Unit Name**	1698 Barlow Ln
07	**Zip Code**	95472	**08**	**Dwelling Unit Conditioned Floor Area (ft^2)**	1910
09	**Climate Zone**	2	**10**	**Number of Space Conditioning (SC) Systems in this Dwelling Unit:**	1

B. Space Conditioning (SC) System Information

01	02	03	04	05	06	07	08	09	10
SC System ID or Name	**SC System Location or Area Served**	**CFA served by this SC System (ft^2)**	**Is the SC system a ducted system?**	**Installing a refrigerant containing component?**	**Installing new SC system components?**	**Installing more than 40 feet of ducts?**	**Installing entirely new duct system?**	**Installing entirely new SC system?**	**Alteration Type**
System 1	Location 1	1910	Yes	Yes	Yes	No	No	No	Altered space conditioning system

C. Extension of Existing Duct System, Greater Than 40 Feet (Section150.2(b)1Diib)

This section does not apply to this project.

D. Altered Space Conditioning System (Sections 150.2(b)1E and F)

01	02	03	04	05	06	07	08	09	10	11	12	13
System ID/ Name	SC System Description of Area Served	Heating System Type	Altered Heating Components	Heating Efficiency Type	Heating Minimum Efficiency Value	Cooling System Type	Altered Cooling Components	Cooling Efficiency Type	Cooling Minimum Efficiency Value	Required Thermostat Type	New or Replaced Duct Length	New Duct R-Value
System 1	Location 1	Central gas furnace	No Heating Component Altered	n/a	n/a	Central split AC	All new cooling components	SEER	14	Setback	N/A - no ducts replaced.	n/a

Required Documentation:
CF2R-MCH-01-E - Space Conditioning Systems
- Duct insulation requirement for the new portions of supply-air and return-air ducts or plenums: R6 (CZ 1-10, 12 and 13) and R8 (CZ 11 and 14-16)
CF2R and CF3R-MCH-20-H - Duct Leakage Test required when heating or cooling components are installed in ducted systems, or when more than 40 ft of duct length is replaced
-Leakage rate compliance: <= 15 percent or <= 10 percent leakage to outside, or seal all accessible leaks.
CF2R and CF3R-MCH-25-H Refrigerant Charge verification required when refrigerant containing components are installed or altered (applicable in CZ 2, 8-15).
CF2R and CF3R-MCH-23 Airflow Rate >= 300 CFM per ton required when MCH-25 is required.
Exceptions:
- Duct systems registered with HERS provider as previously sealed are exempt from MCH-20 Duct Leakage Testing requirements.
- Heating-only systems and Air Handler Furnace changes do not require verification of Air Flow MCH-23, or Refrigerant Charge MCH-25.
-Existing duct systems constructed, insulated or sealed with asbestos are exempt from MCH-20 Duct Leakage Testing requirements.

E. Entirely New or Complete Replacement Duct System, with or without Equipment Changeout (Sections 150.2(b)1Diia and 150.2(b)1E, F)

This section does not apply to this project.

F. Entirely New or Complete Replacement Space Conditioning System (Section 150.2(b)1C)

This section does not apply to this project.

Documentation Author's Declaration Statement

1. I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Felipe Barragan	Documentation Author Signature: Felipe Barragan
Company: Archon Energy Solutions	Signature Date: 2022-12-12
Address: 46 Union Way Vacaville	CEA/ HERS Certification Identification (if applicable): RCN13702
City/State/Zip: Vacaville CA 95687	Phone: 888-600-1614

Responsible Person's Declaration statement

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer).
3. That the energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a registered copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name: John Roncone	Responsible Designer Signature: John Roncone
Company : Simpson Sheet Metal Inc.	Date Signed: 2022-12-12
Address: PO box 2834	License: 416913
City/State/Zip: Santa Rosa CA 95405	Phone: 707-576-1500

CERTIFICATE OF INSTALLATION					CF2R-MCH-01-E
Space Conditioning Systems, Ducts, and Fans					**(Page 1 of 7)**
Project Name:	1698 Barlow Ln	**Enforcement Agency:**	Sebastopol, City of	**Permit Number:**	BLD22-7103
Dwelling Address:	1698 Barlow Ln	**City:**	Sebastopol	**Zip Code:**	95472

A. General Information

01	Dwelling Unit Name	1698 Barlow Ln	02	Climate Zone	2
03	Dwelling Unit Total Conditioned Floor Area (ft^2)	1910	04	Number of Space Conditioning Systems in this Dwelling Unit.	1
05	Certificate of Compliance Type	Prescriptive alterations (CF1R-ALT)	06	Method Used to Calculate HVAC Loads	Not applicable - equipment changeout, like-for-like
07	Calculated Dwelling Unit Sensible Cooling Load (Btu/h)	n/a	08	Calculated Dwelling Unit Heating Load (Btu/h)	n/a
09	Dwelling Unit Number of Bedrooms	4			

MCH-01b - Space Conditioning Systems Ducts and Fans - Prescriptive Alterations

B. Space Conditioning (SC) System Information

01	02	03	04	05	06	07	08	09	10
SC System ID/ Name from CF1R	**SC System Description of Area Served**	**CFA served by this SC System (ft^2)**	**Is the SC system a ducted system?**	**Installing a refrigerant containing component?**	**Installing new SC system components?**	**Installing more than 40 feet of ducts?**	**Installing entirely new duct system?**	**Installing entirely new SC system?**	**Alteration Type**
System 1	Location 1	1910	Yes	Yes	Yes	No	No	No	Altered space conditioning system

Notes:

C. Space Conditioning (SC) System Alterations Compliance Information

01	02	03	04	05	06	07	08	09	10	11	12	13	14
SC System ID/ Name from CF1R	SC System Description of Area Served	Heating System Type	Altered Heating Component	Heating Efficiency Type	Heating Minimum Efficiency Value	Cooling System Type	Altered Cooling Component	Cooling Efficiency Type	Cooling Minimum Efficiency Value	Required Thermostat Type	Number of Indoor Units for this System	Number of Ducted Indoor Units for this System	Central Fan Integrated (CFI) Ventilation System Status
System 1	Location 1	Central gas furnace	No Heating Component Altered	n/a	n/a	Central split AC	All new cooling components	SEER	14	Setback	1	1	Not a CFI system

Notes:

D. Installed Heating Equipment Information for Gas Furnace Indoor Unit, or Heat Pump Indoor Unit, or Packaged Unit (Gas Furnace or Heat Pump)

This section does not apply to this project.

E. Installed Cooling Equipment Information for Outdoor Condenser or Packaged Unit (Air Conditioner or Heat Pump)

01	02	03	04	05	06	07	08	09
SC System ID/ Name from CF1R	**SC System Description of Area Served**	**Cooling Efficiency Type**	**Cooling Efficiency Value**	**Condenser or Package Unit Manufacturer**	**Condenser or Package Unit Model Number**	**Condenser or Package Unit Serial Number**	**System Cooling Capacity at Design Conditions (Btu/h)**	**Condenser Nominal Capacity (ton)**
System 1	Location 1	SEER	14	CARRIER	245CA5484301	3722E08207	48000	4

Notes:

F. Altered Space Conditioning System Duct Information (< 75% of duct system is altered; or duct system is not altered)

01	02	03	04	05	06	07	08	09	10	11	12
SC System ID/ Name from CF1R	SC System Description of Area Served	Indoor Unit Name or Description of Area Served	Was Any New Ducting Installed?	Required New Duct R-Value	Installed New Supply Duct Location	Installed New Supply Duct R-value	Installed New Return Duct Location	Installed New Return Duct R-Value	Exception from Min R-Value	Can Approved Airflow Protocols be used to test this System?	Indoor Unit Nominal Cooling capacity (ton)
System 1	Location 1	Location 1	NoNewDucts	n/a	n/a	n/a	n/a	n/a	n/a	Yes	n/a

G. Installed New or Complete Replacement Duct System Information

This section does not apply to this project.

H. Installed Air Filter Device Information

This section does not apply to this project.

I. Air Filter Device Requirements

This section does not apply to this project.

J. HERS Verification Requirements for Duct Systems

01	02	03	04	05	06	07	08	09
SC System Identification or Name	SC System Description of Area Served	Indoor Unit Name or Description of Area Served	Exemption From Duct Leakage Requirements	MCH-20 Duct Leakage Test	MCH-21 Duct Location Verification	MCH-22 AHU Fan Efficacy (W/cfm)	MCH-23 AHU Airflow Rate (cfm/ton)	MCH-28 Return Duct Design - Table 150.0-B or C
System 1	Location 1	Location 1	None	Yes	No	No	Yes	No

Notes:

K. HERS Verification Requirements For Space Conditioning Equipment

01	02	03
SC System ID/ Name from CF1R	**SC System Description of Area Served**	**MCH-25** **Refrigerant Charge**
System 1	Location 1	Yes

Notes:

L. Space Conditioning Systems, Ducts and Fans Mandatory Requirements and Additional Measures

Additional mandatory requirements from Section 150.0 that are not listed here may be applicable to some systems. These requirements may be applicable to only newly installed equipment or portions of the system that are altered. Existing equipment may be exempt from these requirements.

Heating Equipment	
01	Equipment Efficiency: All heating equipment must meet the minimum efficiency requirements of Section 110.1 and Section 110.2(a) and the Appliance Efficiency Regulations.
02	Controls: All unitary heating systems, including heat pumps, must be controlled by a setback thermostat. These thermostats must be capable of allowing the occupant to program the temperature set points for at least four different periods in 24 hours. See Sections 150.0(i), 110.2(b).
03	Sizing: Heating load calculations must be done on portions of the building served by new heating systems to prevent inadvertent undersizing or oversizing. See sections 150.0(h)1 and 2).
04	Furnace Temperature Rise: Central forced-air heating furnace installations must be configured to operate at or below the furnace manufacturer's maximum inlet-to-outlet temperature rise specification. See Section 150.0(h)4.
05	Standby Losses and Pilot Lights: Fan-type central furnaces may not have a continuously burning pilot light. Section 110.5 and Section 110.2(d).
Cooling Equipment	
06	Equipment Efficiency: All cooling equipment must meet the minimum efficiency requirements of Section 110.1 and Section 110.2(a) and the Appliance Efficiency Regulations.
07	Refrigerant Line Insulation: All refrigerant line insulation in split system air conditioners and heat pumps must meet the R-value and protection requirements of Section 150.0(j)2 and 3, and Section 150.0(m)9.
08	Condensing Unit Location: Condensing units shall not be placed within five (5) feet of a dryer vent outlet. See Section 150.0(h)3A.
09	Liquid Line Filter Drier: A liquid line filter drier shall be installed according to the manufacturer's specifications 150.0(h)3B
10	Sizing: Cooling load calculations must be done on portions of the building served by new cooling systems to prevent inadvertent undersizing or oversizing. See Section 150.0(h)1 and 2.
Air Distribution System Ducts, Plenums and Fans	
11	Insulation: The minimum duct insulation value is R-6. Note that higher values may be required by the prescriptive or performance requirements. See Section 150.0(m)1.
12	Connections and Closures: All installed air-distribution system ducts and plenums must be, sealed and insulated to meet the requirements of CMC Sections 601.0, 602.0, 603.0, 604.0, 605.0 and ANSI/SMACNA-006-2006: Supply-air and return-air ducts and plenums must be insulated to a minimum installed level of R-6.0 otherwise a minimum of R4.2 is allowed if the system is enclosed entirely in conditioned space as confirmed through field verification and diagnostic testing in accordance with the requirements of Reference Residential Appendix RA3.1.4.3.8. Exceptions for ducts in interior wall cavities or exposed ducts entirely in conditioned space are specified in Section 150.0(m)1B.

L. Space Conditioning Systems, Ducts and Fans Mandatory Requirements and Additional Measures

Additional mandatory requirements from Section 150.0 that are not listed here may be applicable to some systems. These requirements may be applicable to only newly installed equipment or portions of the system that are altered. Existing equipment may be exempt from these requirements.

Heat Pump Thermostat	
13	A thermostat shall be installed that meets the requirements of Section 110.2(b) and Section 110.2(c).
14	The thermostat shall be installed in accordance with the manufacturers published installation specifications
15	First stage of heating shall be assigned to heat pump heating.
16	Second stage back up heating shall be set to come on only when the indoor set temperature cannot be met.

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

Documentation Author's Declaration Statement

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name: Felipe Barragan	Documentation Author Signature: Felipe Barragan
Company: Archon Energy Solutions	Signature Date: 2022-12-12
Address: 46 Union Way Vacaville	CEA/ HERS Certification Identification (if applicable): RCN13702
City/State/Zip: Vacaville CA 95687	Phone: 888-600-1614

Responsible Person's Declaration statement

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am either: a) a responsible person eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation, and attest to the declarations in this statement, or b) I am an authorized representative of the responsible person and attest to the declarations in this statement on the responsible person's behalf.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations and the installation conforms to the requirements given on the Certificate of Compliance, plans, and specifications approved by the enforcement agency.
4. I will ensure that a registered copy of this Certificate of Installation shall be posted or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name: John Roncone (authorized Felipe Barragan)	Responsible Builder/Installer Signature: Felipe Barragan	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner) Simpson Sheet Metal Inc.	Position With Company (Title): Contractor/Installer	
Address: PO box 2834	CSLB License: 416913	
City/State/Zip: Santa Rosa CA 95405	Phone: 707-576-1500	Date Signed: 2022-12-12

Digitally signed by ConSol Home Energy Efficiency Rating System Services, Inc. (CHEERS). This digital signature is provided in order to secure the content of this registered document, and in no way implies Registration Provider responsibility for the accuracy of the information.

CERTIFICATE OF INSTALLATION					CF2R-MCH-20-H
Duct Leakage Diagnostic Test					**(Page 1 of 3)**
Project Name:	1698 Barlow Ln	**Enforcement Agency:**	Sebastopol, City of	**Permit Number:**	BLD22-7103
Dwelling Address:	1698 Barlow Ln	**City:**	Sebastopol	**Zip Code:**	95472

A. System Information		
01	Space Conditioning System Identification or Name	System 1
02	Space Conditioning System Location or Area Served	Location 1
03	Indoor Unit Name or Description of Area Served	Location 1
04	Building Type from CF-1R	Single family
05	Verified Low Leakage Ducts in Conditioned Space (VLLDCS) Credit from CF1R?	No, credit is not taken
06	Verified Low Leakage Air Handling Unit Credit from CF1R?	No, credit is not taken
07	Duct System Compliance Category	Alteration
08	Portions of Duct Located in Garage?	No
09	Is the system type Small Duct High Velocity (SDHV) ?	No

MCH-20d - Complete Replacement or Altered Duct System

B. Duct Leakage Diagnostic Test		
01	Air Handling Unit Airflow (AHU Airflow) Determination Method	Cooling system method
02	Condenser Nominal Cooling Capacity (ton)	4
03	Indoor Unit Nominal Cooling Capacity	4
04	Heating Capacity (kBtu/h)	n/a
05	Conditioned Floor Area Served by this HVAC System (ft^2)	1910
06	Measured AHU Airflow (cfm)	n/a
07	Duct Leakage Test Conditions	Test final
08	Duct Leakage Test Method	Total leakage
09	Leakage Factor	0.15
10	Calculated Target Allowable Duct Leakage (cfm)	240
11	Actual Duct Leakage Rate from Leakage Test Measurement (cfm)	146
12	Compliance Statement:	System passes leakage test

C. Ducts Located in Garage Spaces
This section does not apply to this project.

D. Additional Requirements for Compliance	
01	System was tested in its normal operation condition. No temporary taping allowed.
02	Outside air (OA) duct connections to the central forced air duct system shall not be sealed/taped off during duct leakage testing. OA ducts used for Central Fan Integrated (CFI) Indoor Air Quality ventilation systems, or Central Fan Ventilation Cooling Systems, that utilize dampers that open only when OA is required and automatically close when OA is not required, may configure the OA damper to the closed position during duct leakage testing.
03	If a complete replacement, all supply and return register boots were sealed to the drywall.
04	Building cavities were not used as plenums or platform returns in lieu of ducts.
05	If cloth backed tape was used it was covered with Mastic and draw bands.
06	All connection points between the air handler and the supply and return plenums are completely sealed.
07	If the system complies using the Smoke Test method, the smoke test was conducted in accordance with the requirements of Reference Residential Appendix RA3.1.4.3.6. Systems that comply using smoke test shall not be included in sample groups for HERS verification compliance.
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.	

Documentation Author's Declaration Statement

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name: Felipe Barragan	Documentation Author Signature: Felipe Barragan
Company: Archon Energy Solutions	Signature Date: 2022-12-12
Address: 46 Union Way Vacaville	CEA/ HERS Certification Identification (if applicable): RCN13702
City/State/Zip: Vacaville CA 95687	Phone: 888-600-1614

Responsible Person's Declaration statement

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am either: a) a responsible person eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement, or b) I am an authorized representative of the responsible person and attest to the declarations in this statement on the responsible person's behalf.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations and the installation conforms to the requirements given on the Certificate of Compliance, plans, and specifications approved by the enforcement agency.
4. I understand that a HERS rater will check the installation to verify compliance and if such checking determines the installation fails to comply, I am required to offer any necessary corrective action at no charge to the building owner.
5. I will ensure that a registered copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name: John Roncone (authorized Felipe Barragan)	Responsible Builder/Installer Signature: Felipe Barragan	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner) Simpson Sheet Metal Inc.	Position With Company (Title): Contractor/Installer	
Address: PO box 2834	CSLB License: 416913	
City/State/Zip: Santa Rosa CA 95405	Phone: 707-576-1500	Date Signed: 2022-12-12
Third Party Quality Control Program (TPQCP) Status:	Name of TPQCP (if applicable):	

CERTIFICATE OF INSTALLATION					CF2R-MCH-23-H
Space Conditioning System Airflow Rate					**(Page 1 of 3)**
Project Name:	1698 Barlow Ln	**Enforcement Agency:**	Sebastopol, City of	**Permit Number:**	BLD22-7103
Dwelling Address:	1698 Barlow Ln	**City:**	Sebastopol	**Zip Code:**	95472

A. Ducted Cooling System Information		
01	Space Conditioning System Identification or Name	System 1
02	Space Conditioning System Description of Area Served	Location 1
03	Indoor Unit Name	Location 1
04	System Installation Type	Alteration
05	Nominal Cooling Capacity (tons)	4
06	Condenser Speed Type	n/a
07	Cooling System Zonal Control Type	n/a
08	Central Fan Integrated (CFI) Ventilation System Status	Not a CFI system
09	System Bypass Duct Status	n/a
10	Date of System Airflow Rate Measurement	2022-11-11
11	Airflow Rate Protocol Utilized	RA3.3 procedures for airflow rate measurement
12	Central Fan Ventilation Cooling System Status	Not a CFVCS

B. Hole for the placement of a Static Pressure Probe (HSPP), and Permanently Installed Static Pressure Probe (PSPP) in the Supply Plenum. Procedures for installing HSPP or PSPP are specified in RA3.3.1.1.		
01	Method Used to Demonstrate Compliance with the HSPP/PSPP Requirement	HSPP installed and labeled consistent with Figure RA3.3-1

C. Airflow Rate Measurement Apparatus and Procedure Information Instrument Specifications are given in RA3.3.1.1, and system airflow rate measurement apparatus information is given in RA3.3.2.		
01	Airflow Rate Measurement Type used for this airflow rate verification.	Traditional Flow Capture Hood according to procedure in RA3.3.3.1.4
02	Manufacturer of Airflow Measurement Apparatus	Accubalance
03	Model number of Airflow Measurement Apparatus	8371
04	Certification Status of the Airflow Measurement Apparatus Accuracy	Certified by Manufacturer and listed on CEC Website at http://www.energy.ca.gov/title24/equipment_cert/ama_fas/index.html

MCH-23a Forced Air System Airflow Rate Measurement - Newly Installed Non-Zoned Systems or Zoned Multi-Speed Compressor

D. Forced Air System Airflow Rate Measurement
The procedures for System Airflow Rate Verification are specified in Reference Residential Appendix RA3.3.

01	Required Minimum System Airflow Rate (cfm/ton)	300
02	Required Minimum System Airflow Target (cfm)	1200
03	Actual System Airflow Rate Measurement (cfm)	1281
04	Compliance Statement:	System airflow rate complies

E. Additional Requirements

01	Air filters that meet the applicable requirements of Standards Section 150.0(m)12 or 150.0(m)13 were properly installed in the system during system air flow rate measurement identified on this Certificate of Installation.
02	The airflow rate measurement apparatus used to perform the airflow rate measurement identified on this Certificate of Installation was calibrated in accordance with the apparatus manufacturer's specifications and conforms to the instrumentation specifications given in RA3.3.1.
03	A visual inspection shall confirm that bypass ducts that deliver conditioned supply air directly to the space conditioning system return duct airflow are not used on newly constructed zonally controlled systems unless the Performance Certificate of Compliance indicates an allowance for use of a bypass duct. When a bypass duct is accounted for on the Performance Certificate of Compliance, the airflow rate shall conform to the specifications listed on the Certificate of Compliance.
04	All registers were fully open during the diagnostic test.
05	System fan was set at maximum speed during the diagnostic test.
06	If fresh air duct is part of the HVAC system it was not closed during the diagnostic test.
07	Airflow rate and fan watt draw shall be simultaneous measurements when used to calculate the Fan Efficacy tested value.
08	Multi-speed compressor space cooling systems or variable speed compressor systems shall verify air flow (cfm/ton) and fan efficacy (Watt/cfm) with system operating in cooling mode at the maximum compressor speed and the maximum air handler fan speed.

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

Documentation Author's Declaration Statement

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name: Felipe Barragan	Documentation Author Signature: Felipe Barragan
Company: Archon Energy Solutions	Signature Date: 2022-12-12
Address: 46 Union Way Vacaville	CEA/ HERS Certification Identification (if applicable): RCN13702
City/State/Zip: Vacaville CA 95687	Phone: 888-600-1614

Responsible Person's Declaration statement

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am either: a) a responsible person eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement, or b) I am an authorized representative of the responsible person and attest to the declarations in this statement on the responsible person's behalf.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations and the installation conforms to the requirements given on the Certificate of Compliance, plans, and specifications approved by the enforcement agency.
4. I understand that a HERS rater will check the installation to verify compliance and if such checking determines the installation fails to comply, I am required to offer any necessary corrective action at no charge to the building owner.
5. I will ensure that a registered copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name: John Roncone (authorized Felipe Barragan)	Responsible Builder/Installer Signature: Felipe Barragan	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner) Simpson Sheet Metal Inc.	Position With Company (Title): Contractor/Installer	
Address: PO box 2834	CSLB License: 416913	
City/State/Zip: Santa Rosa CA 95405	Phone: 707-576-1500	Date Signed: 2022-12-12
Third Party Quality Control Program (TPQCP) Status:	Name of TPQCP (if applicable):	

CERTIFICATE OF INSTALLATION					CF2R-MCH-25-H
Refrigerant Charge Verification					**(Page 1 of 4)**
Project Name:	1698 Barlow Ln	**Enforcement Agency:** Sebastopol, City of		**Permit Number:**	BLD22-7103
Dwelling Address:	1698 Barlow Ln	**City:**	Sebastopol	**Zip Code:**	95472

A. System Information
Each system requiring refrigerant charge verification will be documented on a separate certificate.

01	Space Conditioning System Identification or Name	System 1
02	Space Conditioning System Location or Area Served	Location 1
03	Condenser (or package unit) Make or Brand	CARRIER
04	Condenser (or package unit) Model Number	245CA5484301
05	Nominal Cooling Capacity (tons) of Condenser	4
06	Condenser (or package unit) Serial Number	3722E08207
07	Refrigerant Type	R-410A
08	Other Refrigerant Type (if applicable)	n/a
09	Liquid Line Filter Drier Installed According to Manufacturers Specifications (if applicable)	Yes
10	System Installation Type	Alteration
11	Fault Indicator Display (FID) Status (Note: Even systems with a FID must have refrigerant charge verified by installer).	This system does not have a FID device installed
12	Is the system of a type that the minimum airflow can be verified for all indoor units using an approved measurement procedure (RA3.3 or RA3.3.3)?	Yes
13	Is the system of a type that approved refrigerant charge verification procedures can be used to verify compliance with the refrigerant charge verification requirements when temperatures are >= 55 °F (RA3.2.2, or RA1)?	Yes, one of the Refrigerant charge verification procedures from RA3.2.2 or RA1 is applicable to this system and can be used to verify compliance
14	Date of Refrigerant Charge Verification for this system	2022-12-12
15	Refrigerant charge verification method used.	Weigh-in with HERS Rater Observation
16	Person who performed the Refrigerant Charge Verification reported on this Certificate of Installation	HVAC system installer
17	HERS Verification Compliance Requirement Status	System does not qualify for group sampling

MCH-25c - Refrigerant Charge Verification - Weigh In Observation Procedure

B. Instrument Calibration
Procedures for instrument calibration are given in Reference Residential Appendix RA3.2.2 and RA3.2.3.1.4

01	Date of expiration of Digital Refrigerant Scale Calibration	2023-05-01
02	Date of Digital Thermometer and Temperature Sensor Calibration	2022-12-01
03	Digital Refrigerant Scale Calibration Status	Calibration is current
04	Digital Thermocouple Calibration Status	Calibration is current

C. Measurement Access Hole (MAH) Verification
Procedures for installing MAH are specified in Reference Residential Appendix RA3.2.2.3

01	Method Used to Demonstrate Compliance with the Measurement Access Hole (MAH) Requirement	MAH installed and labeled consistent with Figure 3.2-1

D. Minimum System Airflow Rate Verification
Procedures for verifying minimum system airflow are specified in Reference Residential Appendix RA3.3.3.

01	02	03
Indoor Unit Name or Description of Area Served	**Minimum Required System Airflow Rate (cfm)**	**System Airflow Rate Verification Status**
Location 1	1200	System complies with minimum airflow rate requirements

04	SC System complies with Minimum System Airflow Rate Verification

Notes:

E. Weigh In Charge Procedure
Procedures for Refrigerant Charge using the Weigh-in Charging Procedure are given in Reference Residential Appendix RA3.2.2.2 and RA3.2.3

01	Measured Condenser Air Entering Dry-bulb Temperature ($T_{condenser, db}$) ((° F)	50
02	Specify the Method of Weigh-in	ChargeAdjustment
03	Manufacturer Standard Charge for Condenser (lbs, oz.)	8, 10
04	Manufacturer Standard Liquid Line Length (ft)	30
05	Manufacturer's Standard Liquid Line Diameter (in)	.50
06	Manufacturer's Standard Indoor Coil Size (tons)	0
07	Installed Liquid Line Length (ft)	0
08	Installed Liquid Line Diameter (in)	0
09	Installed Indoor Coil Size (tons)	0

E. Weigh In Charge Procedure

Procedures for Refrigerant Charge using the Weigh-in Charging Procedure are given in Reference Residential Appendix RA3.2.2.2 and RA3.2.3

10	Charge Adjustment to Standard Charge from Manufacturer's Specifications (ounces, positive = add, negative = remove)	0
11	Refrigerant Required to be Weighed in by the Installer (lbs, oz)	0, 0
12	Refrigerant Weighed in by Installer (lbs, oz)	0, 0
13	Compliance Statement:	System complies with the Weigh-in charge requirement

F. Weigh In Charge Procedure - Additional Requirements

01	All brazing of refrigerant lines done with dry nitrogen in lines and evaporator coil
02	The indoor coil correction to refrigerant weight is used if it is supplied by the manufacturer.
03	Prior to introducing refrigerant, system is evacuated to 500 microns or less and, when isolated, has risen no more than 300 microns after 5 minutes.
04	When applicable and if necessary to avoid delay of approval of dwelling units completed when outside temperatures are below 55 °F, the enforcement agency may approve compliance with the refrigerant charge verification requirements based on registration of this CF2R-MCH-25, documenting use of the RA3.2.3.1 HVAC Installer Weigh-In Charging Procedure when the optional Section RA3.2.3.2 HERS Rater Observation of Weigh-In Charging Procedure is not used. As condition for such enforcement agency approval, the responsible person's signature on this compliance document affirms the installer agrees to return to correct refrigerant charge if a HERS Rater determines at a later time, when the outside temperature is 55 °F or greater, that refrigerant charge correction is necessary.

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met.

MCH-25d - Refrigeration Charge Verification - Fault Indicator Display (FID)

G. Fault Indicator Display

This section does not apply to this project.

H. Fault Indicator Display - Additional Requirements

This section does not apply to this project.

Documentation Author's Declaration Statement

1. I certify that this Certificate of Installation documentation is accurate and complete.

Documentation Author Name: Felipe Barragan	Documentation Author Signature: Felipe Barragan
Company: Archon Energy Solutions	Signature Date: 2022-12-12
Address: 46 Union Way Vacaville	CEA/ HERS Certification Identification (if applicable): RCN13702
City/State/Zip: Vacaville CA 95687	Phone: 888-600-1614

Responsible Person's Declaration statement

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Installation is true and correct.
2. I am either: a) a responsible person eligible under Division 3 of the Business and Professions Code in the applicable classification to accept responsibility for the system design, construction, or installation of features, materials, components, or manufactured devices for the scope of work identified on this Certificate of Installation and attest to the declarations in this statement, or b) I am an authorized representative of the responsible person and attest to the declarations in this statement on the responsible person's behalf.
3. The constructed or installed features, materials, components or manufactured devices (the installation) identified on this Certificate of Installation conforms to all applicable codes and regulations and the installation conforms to the requirements given on the Certificate of Compliance, plans, and specifications approved by the enforcement agency.
4. I understand that a HERS rater will check the installation to verify compliance and if such checking determines the installation fails to comply, I am required to offer any necessary corrective action at no charge to the building owner.
5. I will ensure that a registered copy of this Certificate of Installation shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Installation is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Builder/Installer Name: John Roncone (authorized Felipe Barragan)	Responsible Builder/Installer Signature: Felipe Barragan	
Company Name: (Installing Subcontractor or General Contractor or Builder/Owner) Simpson Sheet Metal Inc.	Position With Company (Title): Contractor/Installer	
Address: PO box 2834	CSLB License: 416913	
City/State/Zip: Santa Rosa CA 95405	Phone: 707-576-1500	Date Signed: 2022-12-12
Third Party Quality Control Program (TPQCP) Status:	Name of TPQCP (if applicable):	

CERTIFICATE OF VERIFICATION					CF3R-MCH-20-H
Duct Leakage Diagnostic Test					**(Page 1 of 3)**
Project Name:	1698 Barlow Ln	**Enforcement Agency:**	Sebastopol, City of	**Permit Number:**	BLD22-7103
Dwelling Address:	1698 Barlow Ln	**City:**	Sebastopol	**Zip Code:**	95472

A. System Information		
01	Space Conditioning System Identification or Name	System 1
02	Space Conditioning System Location or Area Served	Location 1
03	Indoor Unit Name or Description of Area Served	Location 1
04	Building Type from CF-1R	Single family
05	Verified Low Leakage Ducts in Conditioned Space (VLLDCS) Credit from CF1R?	No, credit is not taken
06	Verified Low Leakage Air Handling Unit Credit from CF1R?	No, credit is not taken
07	Duct System Compliance Category	Alteration
08	Portions of Duct Located in Garage?	No
09	Is the system type Small Duct High Velocity (SDHV) ?	No

MCH-20d - Complete Replacement or Altered Duct System

B. Duct Leakage Diagnostic Test		
01	Air Handling Unit Airflow (AHU Airflow) Determination Method	Cooling system method
02	Condenser Nominal Cooling Capacity (ton)	4
03	Indoor Unit Nominal Cooling Capacity	4
04	Heating Capacity (kBtu/h)	n/a
05	Conditioned Floor Area Served by this HVAC System (ft^2)	1910
06	Measured AHU Airflow (cfm)	n/a
07	Duct Leakage Test Conditions	Test final
08	Duct Leakage Test Method	Total leakage
09	Leakage Factor	0.15
10	Calculated Target Allowable Duct Leakage (cfm)	240
11	Actual Duct Leakage Rate from Leakage Test Measurement (cfm)	146

B. Duct Leakage Diagnostic Test		
12	Compliance Statement:	System passes leakage test
13	Notes:	

C. Ducts Located in Garage Spaces
This section does not apply to this project.

D. Additional Requirements for Compliance		
01	System was tested in its normal operation condition. No temporary taping allowed.	
02	Outside air (OA) duct connections to the central forced air duct system shall not be sealed/taped off during duct leakage testing. OA ducts used for Central Fan Integrated (CFI) Indoor Air Quality ventilation systems, or Central Fan Ventilation Cooling Systems, that utilize dampers that open only when OA is required and automatically close when OA is not required, may configure the OA damper to the closed position during duct leakage testing.	
03	If a complete replacement, all supply and return register boots were sealed to the drywall.	
04	Building cavities were not used as plenums or platform returns in lieu of ducts.	
05	If cloth backed tape was used it was covered with Mastic and draw bands.	
06	All connection points between the air handler and the supply and return plenums are completely sealed.	
07	If the system complies using the Smoke Test method, the smoke test was conducted in accordance with the requirements of Reference Residential Appendix RA3.1.4.3.6. Systems that comply using smoke test shall not be included in sample groups for HERS verification compliance.	
08	Verification Status:	Pass - all applicable requirements are met.
09	Correction Notes:	
The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met unless otherwise noted in the Verification Status and the Corrections Notes in this table.		

E. Determination of HERS Verification Compliance

All applicable sections of this document shall indicate compliance with the specified verification protocol requirements in order for this Certificate of Verification as a whole to be determined to be in compliance.

01	Complies: All specified verification protocol requirements on this document are met.

Documentation Author's Declaration Statement

1. I certify that this Certificate of Verification documentation is accurate and complete.

Documentation Author Name: Felipe Barragan	Documentation Author Signature: Felipe Barragan
Company: Archon Energy Solutions	Date Signed: 2022-12-12
Address: 46 Union Way Vacaville	CEA/ HERS Certification Identification (if applicable): RCN13702
City/State/Zip: Vacaville CA 95687	Phone: 888-600-1614

Responsible Person's Declaration statement

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Verification is true and correct.
2. I am the certified HERS Rater who performed the verification identified and reported on this Certificate of Verification (responsible rater).
3. The installed features, materials, components, manufactured devices, or system performance diagnostic results that require HERS verification identified on this Certificate of Verification comply with the applicable requirements in Reference Appendices RA2, RA3, and the requirements specified on the Certificate of Compliance for the building approved by the enforcement agency.
4. The information reported on applicable sections of the Certificate(s) of Installation (CF2R) signed and submitted by the person(s) responsible for the construction or installation conforms to the requirements specified on the Certificate(s) of Compliance (CF1R) approved by the enforcement agency.
5. I will ensure that a registered copy of this Certificate of Verification shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Verification is required to be included with the documentation the builder provides to the building owner at occupancy.

Builder Or Installer Information As Shown On The Certificate Of Installation

Company Name (Installing Subcontractor, General Contractor, or Builder/Owner): Simpson Sheet Metal Inc.	
Responsible Builder or Installer Name: John Roncone (authorized Felipe Barragan)	CSLB License: 416913

HERS Provider Data Registry Information

Sample Group Number (if applicable):	Dwelling Test Status in Sample Group (if applicable) N/A

HERS Rater Information

HERS Rater Company Name: Archon Energy Solutions	
Responsible Rater Name: Felipe Barragan	Responsible Rater Signature: Felipe Barragan
Responsible Rater Certification Number w/ this HERS Provider: RCN13702	Date Signed: 2022-12-12

CERTIFICATE OF VERIFICATION				CF3R-MCH-23-H
Space Conditioning System Airflow Rate				**(Page 1 of 3)**
Project Name:	1698 Barlow Ln	**Enforcement Agency:** Sebastopol, City of	**Permit Number:**	BLD22-7103
Dwelling Address:	1698 Barlow Ln	**City:** Sebastopol	**Zip Code:**	95472

A. Ducted Cooling System Information		
01	Space Conditioning System Identification or Name	System 1
02	Space Conditioning System Description of Area Served	Location 1
03	Indoor Unit Name	Location 1
04	System Installation Type	Alteration
05	Nominal Cooling Capacity (tons)	4
06	Condenser Speed Type	n/a
07	Cooling System Zonal Control Type	n/a
08	Central Fan Integrated (CFI) Ventilation System Status	Not a CFI system
09	System Bypass Duct Status	n/a
10	Date of System Airflow Rate Measurement	2022-11-11
11	Airflow Rate Protocol Utilized	RA3.3 procedures for airflow rate measurement
12	Central Fan Ventilation Cooling System Status	Not a CFVCS

B. Hole for the placement of a Static Pressure Probe (HSPP), and Permanently Installed Static Pressure Probe (PSPP) in the Supply Plenum. Procedures for installing HSPP or PSPP are specified in RA3.3.1.1.		
01	Method Used to Demonstrate Compliance with the HSPP/PSPP Requirement	HSPP installed and labeled consistent with Figure RA3.3-1

C. Airflow Rate Measurement Apparatus and Procedure Information Instrument Specifications are given in RA3.3.1.1, and system airflow rate measurement apparatus information is given in RA3.3.2.		
01	Airflow Rate Measurement Type used for this airflow rate verification.	Traditional Flow Capture Hood according to procedure in RA3.3.3.1.4
02	Manufacturer of Airflow Measurement Apparatus	Accubalance
03	Model number of Airflow Measurement Apparatus	8371
04	Certification Status of the Airflow Measurement Apparatus Accuracy	Certified by Manufacturer and listed on CEC Website at http://www.energy.ca.gov/title24/equipment_cert/ama_fas/index.html

MCH-23a Forced Air System Airflow Rate Measurement - Newly Installed Non-Zoned Systems or Zoned Multi-Speed Compressor

D. Forced Air System Airflow Rate Measurement
The procedures for System Airflow Rate Verification are specified in Reference Residential Appendix RA3.3.

01	Required Minimum System Airflow Rate (cfm/ton)	300
02	Required Minimum System Airflow Target (cfm)	1200
03	Actual System Airflow Rate Measurement (cfm)	1281
04	Compliance Statement:	System airflow rate complies

E. Additional Requirements

01	Air filters that meet the applicable requirements of Standards Section 150.0(m)12 or 150.0(m)13 were properly installed in the system during system air flow rate measurement identified on this Certificate of Verification.	
02	The airflow rate measurement apparatus used to perform the airflow rate measurement identified on this Certificate of Verification was calibrated in accordance with the apparatus manufacturer's specifications and conforms to the instrumentation specifications given in RA3.3.1.	
03	A visual inspection shall confirm that bypass ducts that deliver conditioned supply air directly to the space conditioning system return duct airflow are not used on newly constructed zonally controlled systems unless the Performance Certificate of Compliance indicates an allowance for use of a bypass duct. When a bypass duct is accounted for on the Performance Certificate of Compliance, the airflow rate shall conform to the specifications listed on the Certificate of Compliance.	
04	All registers were fully open during the diagnostic test.	
05	System fan was set at maximum speed during the diagnostic test.	
06	If fresh air duct is part of the HVAC system it was not closed during the diagnostic test.	
07	Airflow rate and fan watt draw shall be simultaneous measurements when used to calculate the Fan Efficacy tested value.	
08	Multi-speed compressor space cooling systems or variable speed compressor systems shall verify air flow (cfm/ton) and fan efficacy (Watt/cfm) with system operating in cooling mode at the maximum compressor speed and the maximum air handler fan speed.	
09	Verification Status:	Pass - all applicable requirements are met.
10	Correction Notes:	

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met unless otherwise noted in the Verification Status and the Corrections Notes in this table

F. Determination of HERS Verification Compliance
All applicable sections of this document shall indicate compliance with the specified verification protocol requirements in order for this Certificate of Verification as a whole to be determined to be in compliance.

01	Complies: All specified verification protocol requirements on this document are met.

Documentation Author's Declaration Statement

1. I certify that this Certificate of Verification documentation is accurate and complete.

Documentation Author Name: Felipe Barragan	Documentation Author Signature: Felipe Barragan
Company: Archon Energy Solutions	Date Signed: 2022-12-12
Address: 46 Union Way Vacaville	CEA/ HERS Certification Identification (if applicable): RCN13702
City/State/Zip: Vacaville CA 95687	Phone: 888-600-1614

Responsible Person's Declaration statement

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Verification is true and correct.
2. I am the certified HERS Rater who performed the verification identified and reported on this Certificate of Verification (responsible rater).
3. The installed features, materials, components, manufactured devices, or system performance diagnostic results that require HERS verification identified on this Certificate of Verification comply with the applicable requirements in Reference Appendices RA2, RA3, and the requirements specified on the Certificate of Compliance for the building approved by the enforcement agency.
4. The information reported on applicable sections of the Certificate(s) of Installation (CF2R) signed and submitted by the person(s) responsible for the construction or installation conforms to the requirements specified on the Certificate(s) of Compliance (CF1R) approved by the enforcement agency.
5. I will ensure that a registered copy of this Certificate of Verification shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Verification is required to be included with the documentation the builder provides to the building owner at occupancy.

Builder Or Installer Information As Shown On The Certificate Of Installation

Company Name (Installing Subcontractor, General Contractor, or Builder/Owner): Simpson Sheet Metal Inc.	
Responsible Builder or Installer Name: John Roncone (authorized Felipe Barragan)	CSLB License: 416913

HERS Provider Data Registry Information

Sample Group Number (if applicable):	Dwelling Test Status in Sample Group (if applicable) N/A

HERS Rater Information

HERS Rater Company Name: Archon Energy Solutions	
Responsible Rater Name: Felipe Barragan	Responsible Rater Signature: Felipe Barragan
Responsible Rater Certification Number w/ this HERS Provider: RCN13702	Date Signed: 2022-12-12

CERTIFICATE OF VERIFICATION					CF3R-MCH-25-H
Refrigerant Charge Verification					**(Page 1 of 4)**
Project Name:	1698 Barlow Ln	**Enforcement Agency:** Sebastopol, City of		**Permit Number:**	BLD22-7103
Dwelling Address:	1698 Barlow Ln	**City:**	Sebastopol	**Zip Code:**	95472

A. System Information
HERS Rater to field-verify all system information, discrepancies to be noted by overwriting entry.

01	Space Conditioning System Identification or Name	System 1
02	Space Conditioning System Location or Area Served	Location 1
03	Condenser (or package unit) make or brand	CARRIER
04	Condenser (or package unit) model number	245CA5484301
05	Nominal Cooling Capacity (tons) of Condenser	4
06	Condenser (or package unit) serial number	3722E08207
07	Refrigerant Type	R-410A
08	Other Refrigerant Type (if applicable)	n/a
09	Liquid Line Filter Drier Installed According to Manufacturers Specifications (if applicable)	Yes
10	System Installation Type	Alteration
11	Fault Indicator Display (FID) Status (Note: Even systems with a FID must have refrigerant charge verified by installer)	This system does not have a FID device installed
12	Is the system of a type that the minimum airflow can be verified for all indoor units using an approved measurement procedure (RA3.3 or RA3.3.3)?	Yes
13	Is the system of a type that approved refrigerant charge verification procedures can be used to verify compliance with the refrigerant charge verification requirements when temperatures are >= 55 °F (RA3.2.2, or RA1)?	Yes, one of the Refrigerant charge verification procedures from RA3.2.2 or RA1 is applicable to this system and can be used to verify compliance
14	Date of Refrigerant Charge Verification for this system	2022-12-12
15	Refrigerant charge verification method used.	Weigh-in with HERS Rater Observation
16	Person who performed the Refrigerant Charge Verification reported on this Certificate of Installation	HVAC system installer
17	HERS Verification Compliance Requirement Status	System does not qualify for group sampling
18	Refrigerant charge verification method used by HERS Rater.	Weigh-In Observation

MCH-25c - Refrigerant Charge Verification - Weigh In Observation Procedure

B. Measurement Access Hole (MAH) Verification
HERS Raters are required to visually field verify MAH. Procedures for installing MAH are specified in Reference Residential Appendix RA3.2.2.3

01	Method Used to Demonstrate Compliance with the Measurement Access Hole (MAH) Requirement	MAH installed and labeled consistent with Figure 3.2-1

C. Minimum System Airflow Rate Verification
Procedures for verifying minimum system airflow are specified in Reference Residential Appendix RA3.3.3.

01	02	03
Indoor Unit Name or Description of Area Served	**Minimum Required System Airflow Rate (cfm)**	**System Airflow Rate Verification Status**
Location 1	1200	System complies with minimum airflow rate requirements

04	SC System complies with Minimum System Airflow Rate Verification

Notes:

D. Weigh In Charge Procedure
HERS Rater must observe and confirm all data collected. Procedures for Refrigerant Charge using the Weigh-in Charging Procedure are given in Reference Residential Appendix RA3.2.2.2 and RA3.2.3

01	Measured Condenser Air Entering Dry-bulb Temperature ($T_{condenser, db}$) ((° F)	50
02	Specify the Method of Weigh-in	ChargeAdjustment
03	Manufacturer Standard Charge for Condenser (lbs, oz.)	8, 10
04	Manufacturer Standard Liquid Line Length (ft)	30
05	Manufacturer's Standard Liquid Line Diameter (in)	0.5
06	Manufacturer's Standard Indoor Coil Size (tons)	0
07	Installed Liquid Line Length (ft)	0
08	Installed Liquid Line Diameter (in)	0
09	Installed Indoor Coil Size (tons)	0
10	Charge Adjustment to Standard Charge from Manufacturer's Specifications (ounces, positive = add, negative = remove)	0
11	Refrigerant Required to be Weighed in by the Installer (lbs, oz)	0, 0
12	Refrigerant Weighed in by Installer (lbs, oz)	0, 0
13	Verification Status: (Note: If Verification Status for this table indicates "Fail", the reason shall be described in the correction notes for this table.)	System complies with the Weigh-in charge requirement

D. Weigh In Charge Procedure

HERS Rater must observe and confirm all data collected. Procedures for Refrigerant Charge using the Weigh-in Charging Procedure are given in Reference Residential Appendix RA3.2.2.2 and RA3.2.3

Correction Notes:

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met unless otherwise noted in the Verification Status and the Correction Notes in this table.

E. Weigh In Charge Procedure - Additional Requirements		
01	The indoor coil correction to refrigerant weight is used if it is supplied by the manufacturer.	
02	Prior to introducing refrigerant, system is evacuated to 500 microns or less and, when isolated, has risen no more than 300 microns after 5 minutes.	
03	Verification Status:	Pass - all applicable requirements are met.
03	Correction Notes:	

The responsible person's signature on this compliance document affirms that all applicable requirements in this table have been met unless otherwise noted in the Verification Status and the Correction Notes in this table.

F. Determination of HERS Verification Compliance

All applicable sections of this document shall indicate compliance with the specified verification protocol requirements in order for this Certificate of Verification as a whole to be determined to be in compliance.

01	Complies: All specified verification protocol requirements on this document are met.

Documentation Author's Declaration Statement

1. I certify that this Certificate of Verification documentation is accurate and complete.

Documentation Author Name: Felipe Barragan	Documentation Author Signature: Felipe Barragan
Company: Archon Energy Solutions	Date Signed: 2022-12-12
Address: 46 Union Way Vacaville	CEA/ HERS Certification Identification (if applicable): RCN13702
City/State/Zip: Vacaville CA 95687	Phone: 888-600-1614

Responsible Person's Declaration statement

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Verification is true and correct.
2. I am the certified HERS Rater who performed the verification identified and reported on this Certificate of Verification (responsible rater).
3. The installed features, materials, components, manufactured devices, or system performance diagnostic results that require HERS verification identified on this Certificate of Verification comply with the applicable requirements in Reference Appendices RA2, RA3, and the requirements specified on the Certificate of Compliance for the building approved by the enforcement agency.
4. The information reported on applicable sections of the Certificate(s) of Installation (CF2R) signed and submitted by the person(s) responsible for the construction or installation conforms to the requirements specified on the Certificate(s) of Compliance (CF1R) approved by the enforcement agency.
5. I will ensure that a registered copy of this Certificate of Verification shall be posted, or made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a registered copy of this Certificate of Verification is required to be included with the documentation the builder provides to the building owner at occupancy.

Builder Or Installer Information As Shown On The Certificate Of Installation

Company Name (Installing Subcontractor, General Contractor, or Builder/Owner): Simpson Sheet Metal Inc.	
Responsible Builder or Installer Name: John Roncone (authorized Felipe Barragan)	CSLB License: 416913

HERS Provider Data Registry Information

Sample Group Number (if applicable):	Dwelling Test Status in Sample Group (if applicable) N/A

HERS Rater Information

HERS Rater Company Name: Archon Energy Solutions	
Responsible Rater Name: Felipe Barragan	Responsible Rater Signature: Felipe Barragan
Responsible Rater Certification Number w/ this HERS Provider: RCN13702	Date Signed: 2022-12-12

CHEERS REGISTRY
PROJECT STATUS REPORT

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PROJECT SUMMARY

Project Name:	1698 Barlow Ln
Address:	1698 Barlow Ln
City, State, Zip:	Sebastopol, CA 95472
Building Department:	Sebastopol, City of
Permit Number:	BLD22-7103
Building Energy Code:	2019 Standards

HERS VERIFIABLE MEASURES COMPLETE

ENERGY CODE COMPLIANCE COMPLETE

CERTIFICATE OF COMPLIANCE (CF1R)

DATE	DOCUMENT	TITLE	REGISTRATION NUMBER	STATUS
12/12/2022	CF1R-ALT-02-E	Residential HVAC Alterations	422-A020194884A-000-000-0000000-0000	

CERTIFICATE OF INSTALLATION (CF2R)

DATE	DOCUMENT	TITLE	REGISTRATION NUMBER	STATUS
12/12/2022	CF2R-MCH-01b-E	HVAC, Ducts and Fans	422-A020194884A-000-001-M01001A-0000	
Location 1				
12/12/2022	CF2R-MCH-20d-H	Duct Leakage	422-A020194884A-000-001-M20002A-0000	
12/12/2022	CF2R-MCH-23a-H	Airflow Rate	422-A020194884A-000-001-M23003A-0000	
System 1				
12/12/2022	CF2R-MCH-25c-H	Refrigerant Charge	422-A020194884A-000-001-M25004A-0000	

CERTIFICATE OF VERIFICATION (CF3R)

DATE	DOCUMENT	TITLE	REGISTRATION NUMBER	STATUS
Location 1				
12/12/2022	CF3R-MCH-20d-H	Duct Leakage	422-A020194884A-000-001-M20002A-M20A	
12/12/2022	CF3R-MCH-23a-H	Airflow Rate	422-A020194884A-000-001-M23003A-M23A	

- continued on next page -

CHEERS REGISTRY
PROJECT STATUS REPORT

Scan to Validate

CERTIFICATE OF VERIFICATION (CF3R)

DATE	DOCUMENT	TITLE	REGISTRATION NUMBER	STATUS
System 1				
12/12/2022	CF3R-MCH-25c-H	Refrigerant Charge	422-A020194884A-000-001-M25004A-M25A	