

BayREN Codes & Standards Training

Improving Energy Code Compliance in Low-rise New Construction

Coordinating Plan Check and Field Inspection
for Residential New Construction



**BAY
AREA** Regional
Energy
Network

Understanding the forms 1-2-3

- There is a clear, intentional sequence to the documents:
 1. Document what is ***required***
 2. Document what was ***installed***
 3. Document what was ***verified***
- When these three *kinds* of documentation match, the process was successful.
- Note: Not all installed features need to be third party verified.

Step 1 – Document What is Required

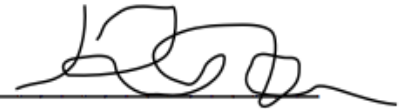
- This first compliance document is called the:

**CF1R – Certificate of
*Compliance***

CF1R
**Certificate of
Compliance**

"What's Required"

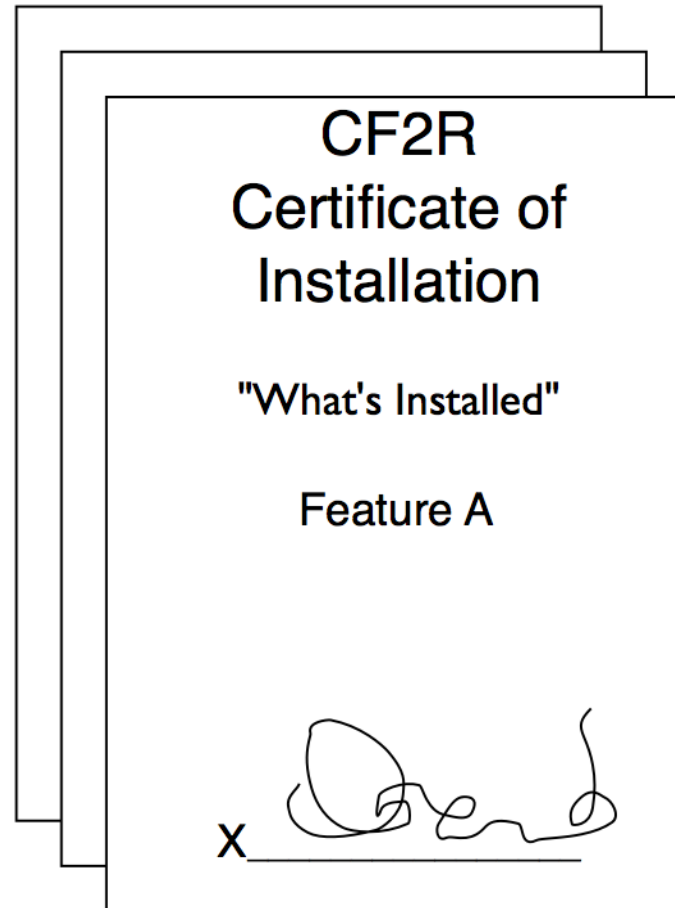
Feature A
Feature B
Feature C
Feature D*
Feature E*

X 

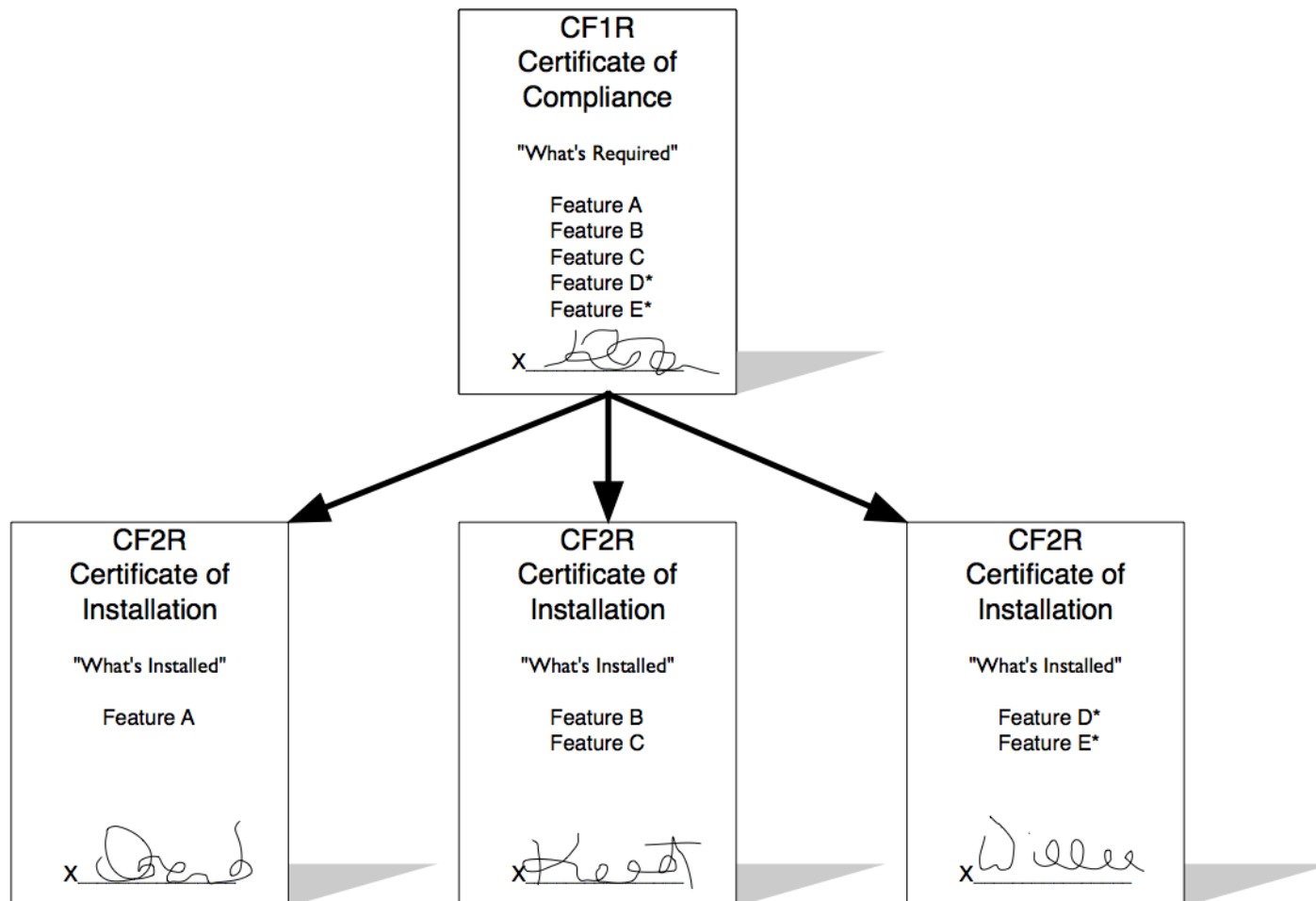
Step 2 – Document What is Installed

- This second compliance document is called the:

**CF2R – Certificate of
*Installation***



Step 2 – Document What is Installed



Handout Page 5

Step 3 – Document What is Verified

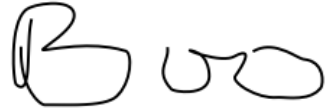
- This third compliance document is called the:
CF3R – Certificate of Verification

CF3R
Certificate of Verification

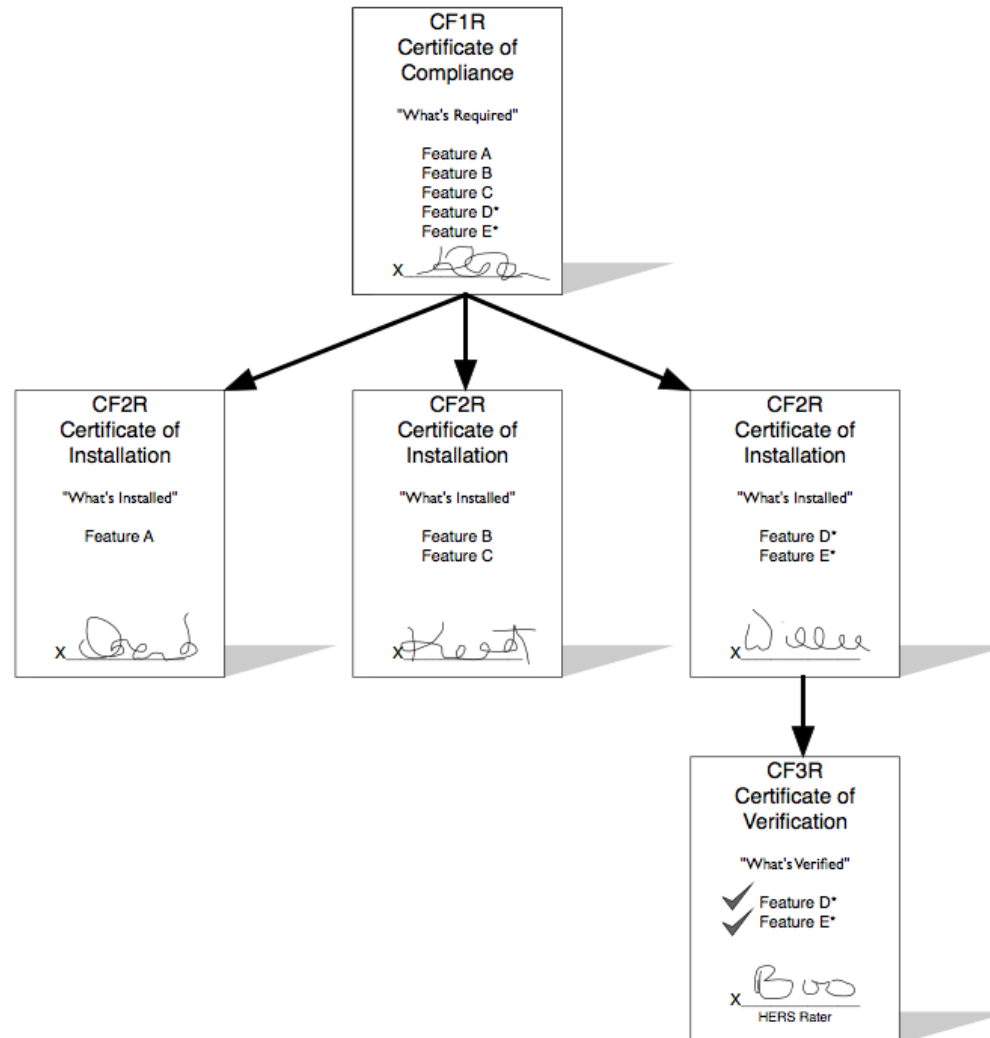
"What's Verified"

✓ Feature D*

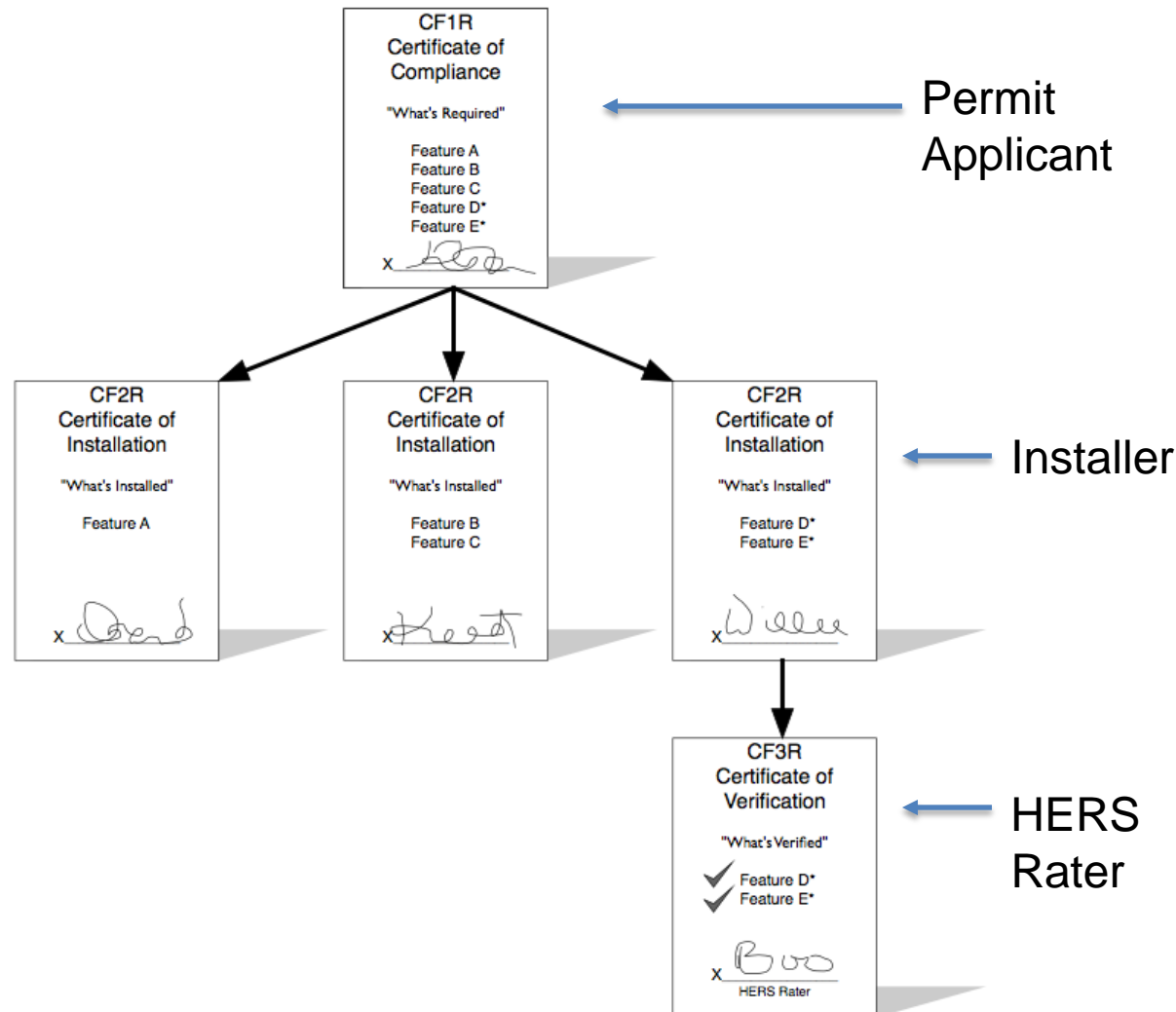
✓ Feature E*

X 
HERS Rater

Step 3 – Document What is Verified

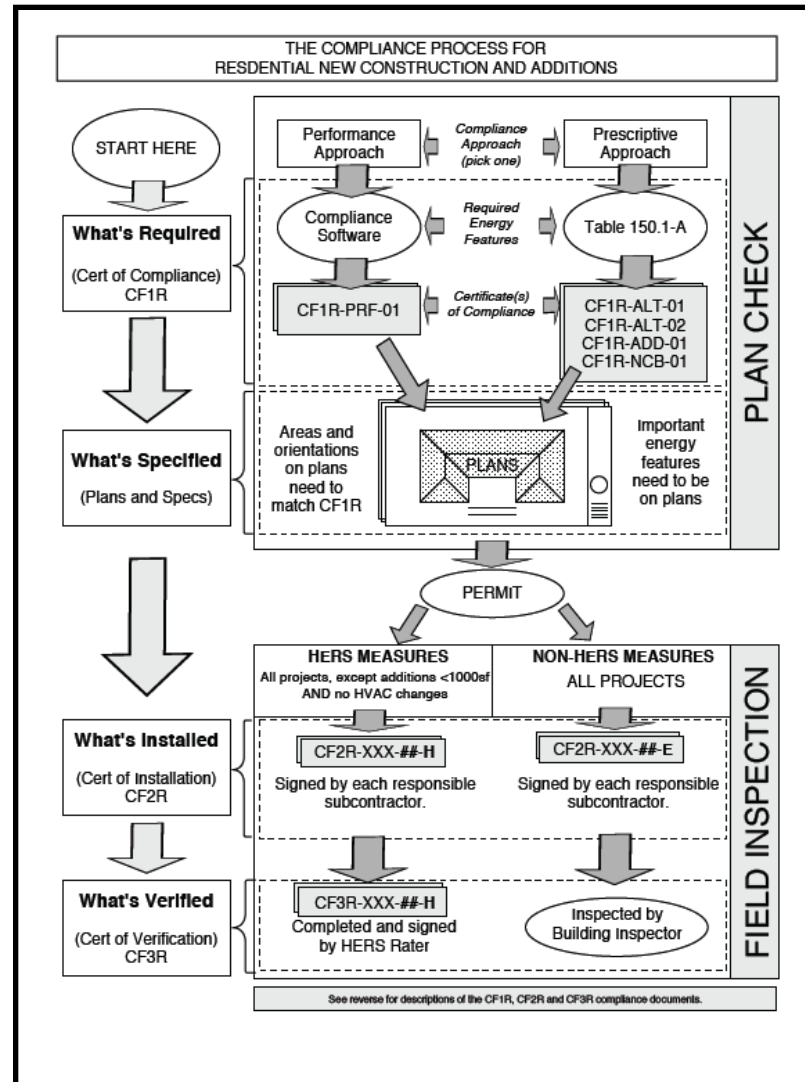


Understanding the forms 1-2-3



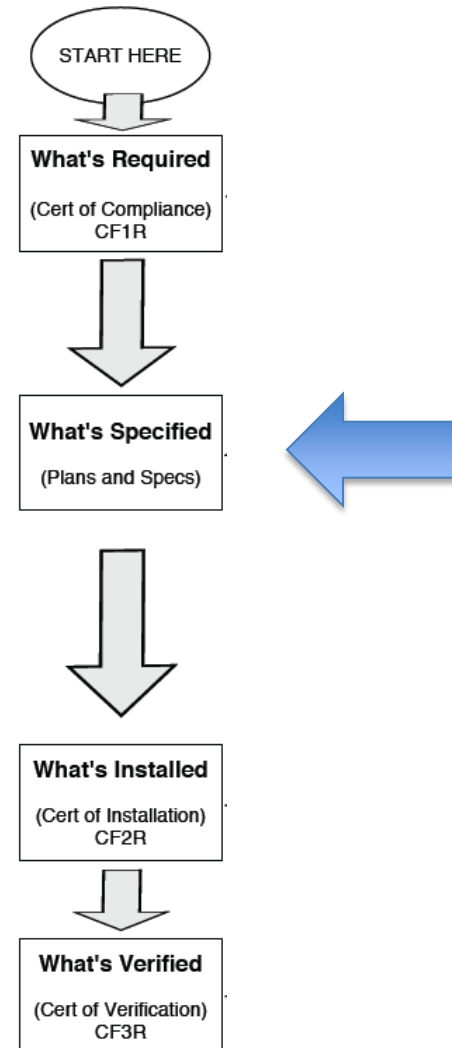
Compliance Process Flow Diagram

Refer to full-size copy provided with your handouts.

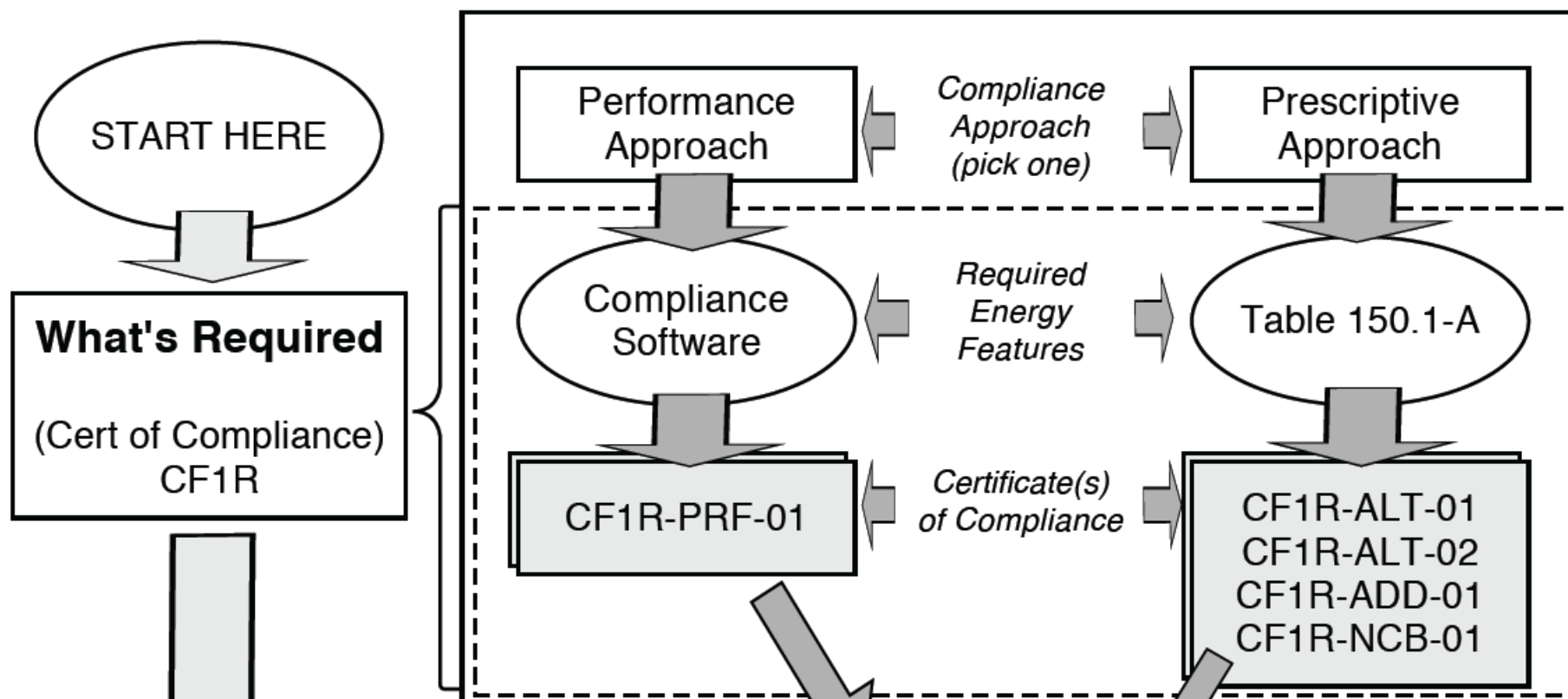


Compliance Process Flow Diagram

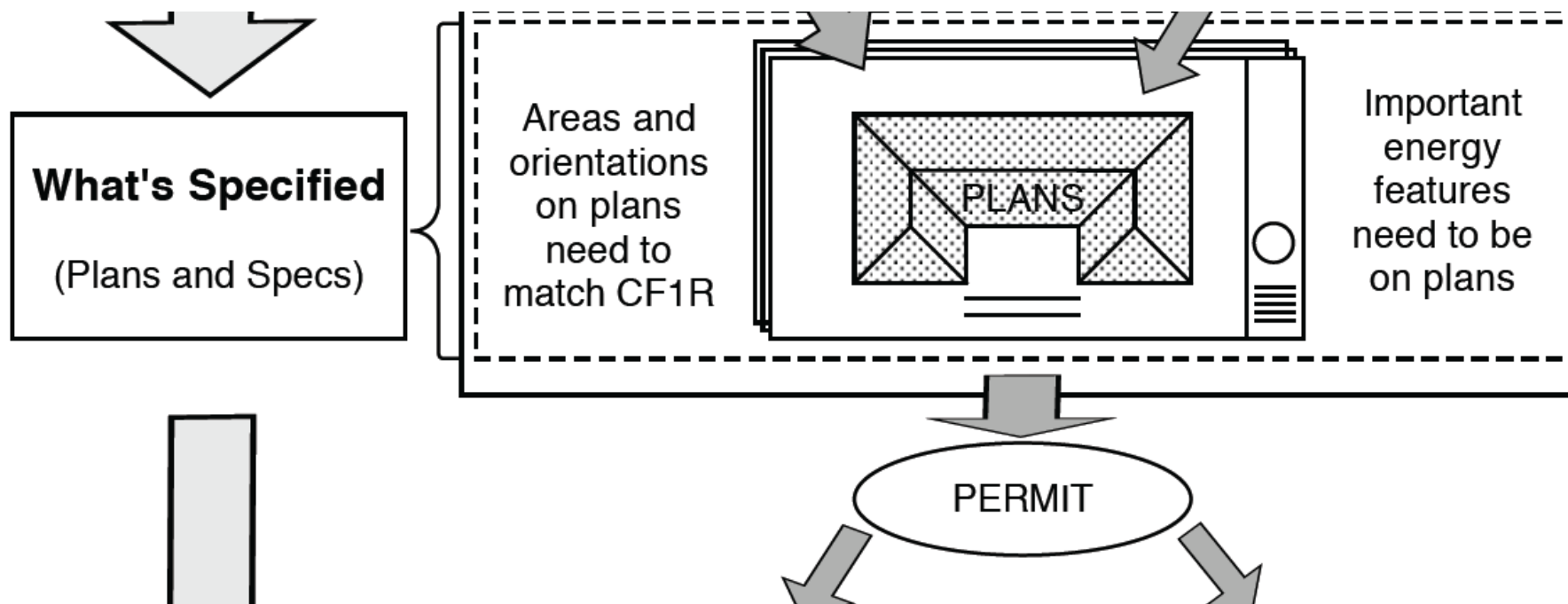
- Notice that the forms (CF1R, CF2R, and CF3R) are there, with an intermediate step of ensuring specifications on the plans.
- Notice that they are divided into Plan Check and Field Inspection steps.



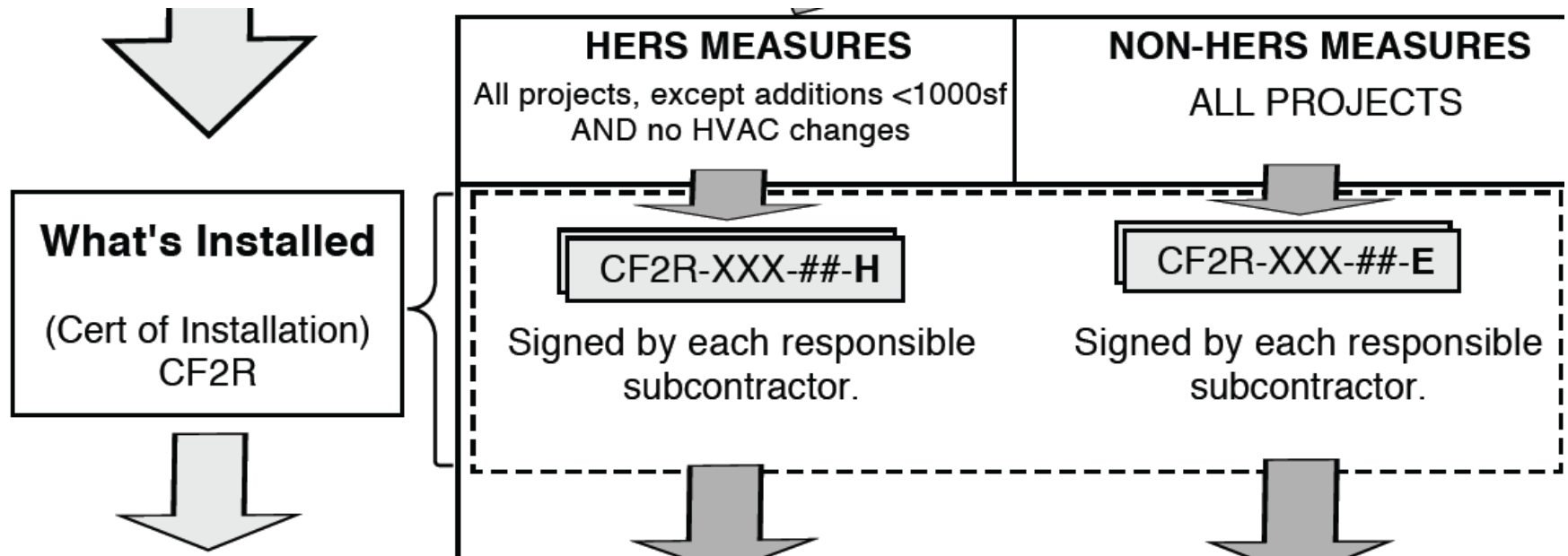
Compliance Process Flow Diagram



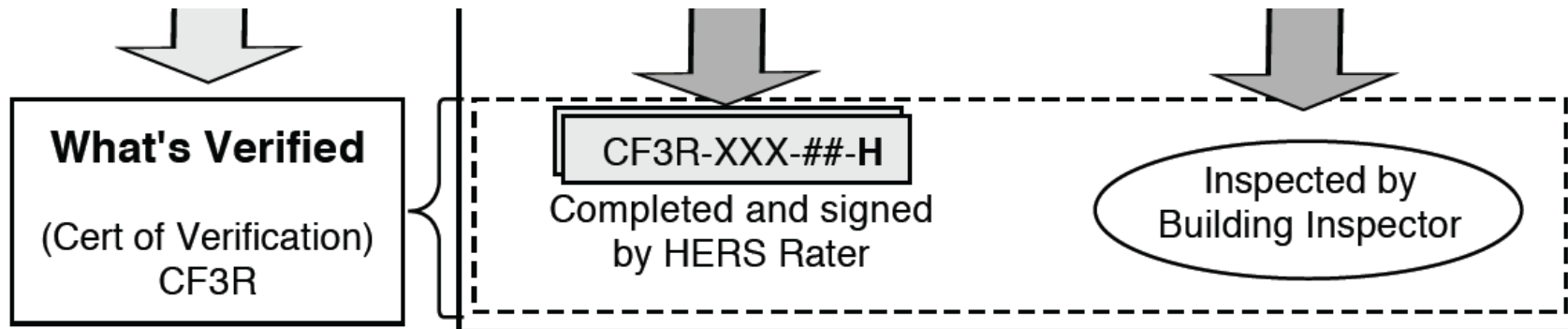
Compliance Process Flow Diagram



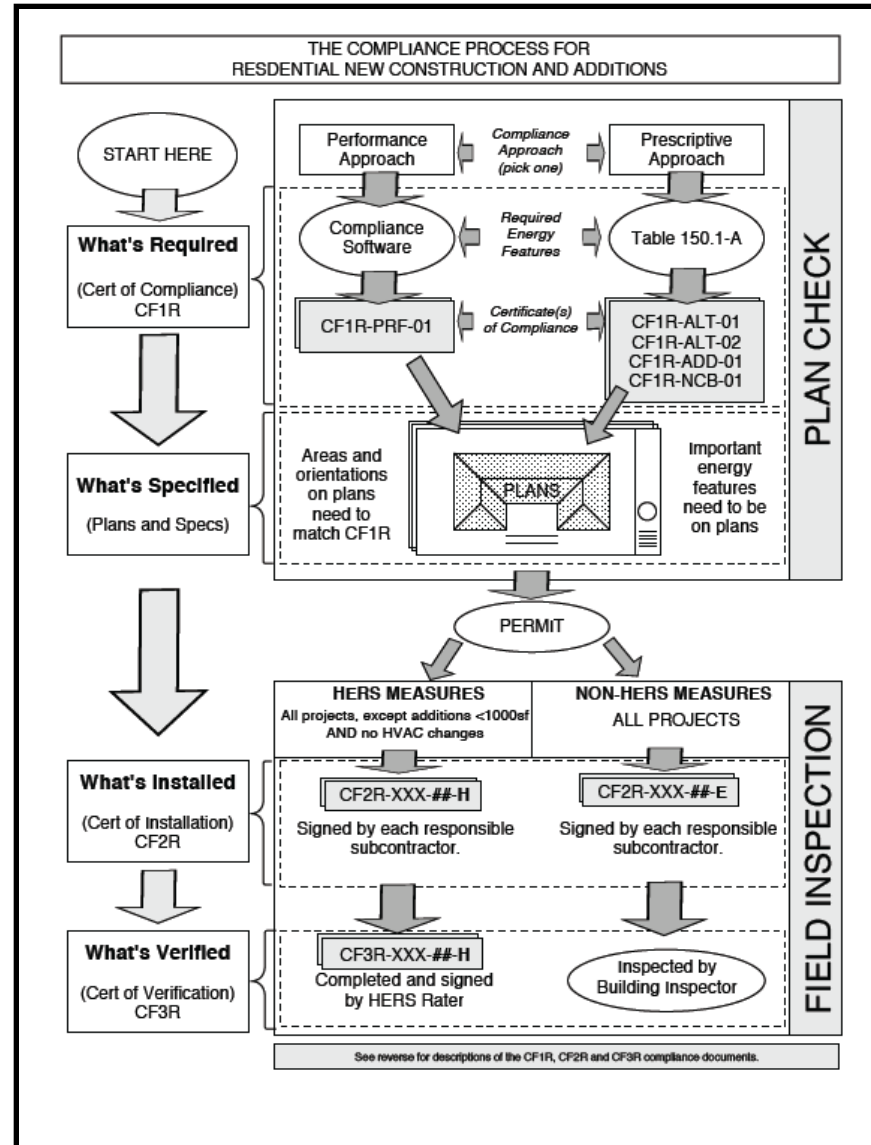
Compliance Process Flow Diagram



Compliance Process Flow Diagram



Compliance Process Flow Diagram



Compliance Process Flow Diagram (Reverse Side)

CF1R – Certificates of Compliance

- **CF1R-ALT-01:** Used to demonstrate compliance for non-HVAC alterations (roof, windows, walls, etc.)
- **CF1R-ALT-02:** Used to demonstrate compliance for HVAC alterations. (change-outs, cut ins, reducts, etc.)
- **CF1R-ADD-01-E:** Used when the *prescriptive* approach is used to demonstrate compliance for additions less than or equal to 1000 square feet. See example in Appendix.
- **CF1R-NCB-01-E:** Used when the *prescriptive* approach is used to demonstrate compliance for newly constructed homes and additions over 1000 square feet.
- **CF1R-PRF-01-E:** Used when the *performance* approach is used to demonstrate compliance for any kind of project.

Compliance Process Flow Diagram (Reverse Side)

CF-2R – Certificates of Installation – Non-HERS Measures (-E)

- CF2R-ENV-01-E: fenestration (windows, skylights, etc.)
- CF2R-ENV-02-E: air sealing features (weather stripping, caulking, backdraft dampers, etc.)
- CF2R-ENV-03-E: insulation
- CF2R-ENV-04-E: roofing products
- CF2R-LTG-01-E: lighting features
- CF2R-MCH-01-E: mechanical systems (HVAC)
- CF2R-MCH-02-E: whole house fan
- CF2R-MCH-04-E: evaporative coolers
- CF2R-PLB-01-E: Multi-family central hot water distribution systems
- CF2R-PLB-02-E: Single-family central hot water distribution systems
- CF2R-PLB-03-E: Pool and spa heating systems

Compliance Process Flow Diagram (Reverse Side)

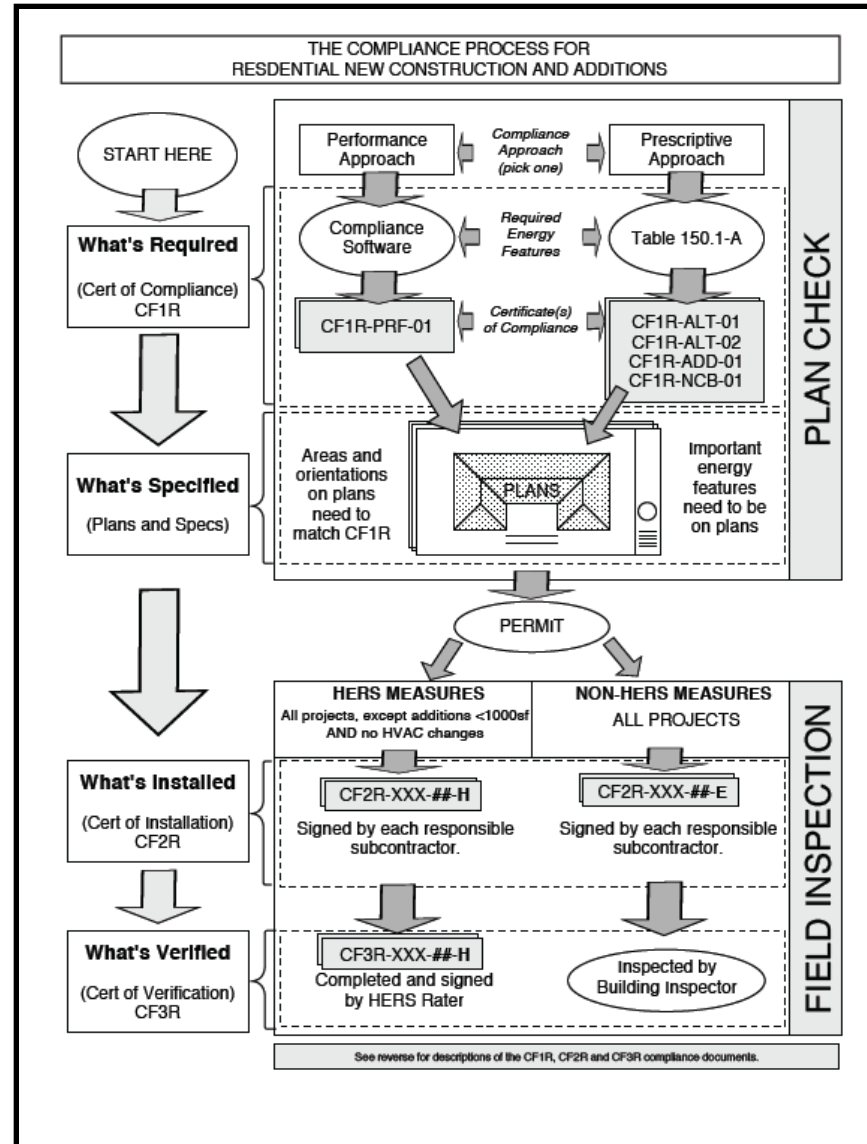
CF-2R – Certificates of Installation – HERS Measures (-H)

- CF2R-ENV-20-H: Envelope air leakage (blower door test)
- CF2R-ENV-21-H: QII Framing Stage (batt, loose fill, etc.)
- CF2R-ENV-22-H: QII Ceiling Air Barrier
- CF2R-ENV-23-H: QII Insulation Stage
- CF2R-ENV-24-H: QII Framing Stage (SIP & ICF)
- CF2R-MCH-20-H: sealed ducts*
- CF2R-MCH-21-H: Supply duct location verification
- CF2R-MCH-22-H: HVAC system fan efficacy (fan watt draw)*
- CF2R-MCH-23-H: HVAC system fan airflow*
- CF2R-MCH-24-H: Blower door, when infiltration used to meet whole house ventilation
- CF2R-MCH-25-H: HVAC system refrigerant charge*
- CF2R-MCH-26-H: Rated system verification (High SEER/EER)
- CF2R-MCH-27-H: ventilation to the ASHRAE 62.2 standard
- CF2R-MCH-28-H: Return Duct sizing table verification (alternative to airflow/Fan watt draw test)
- CF2R-MCH-29-H: Supply duct surface are and buried ducts verification
- CF2R-PLB-21-H: Multi-family central hot water distribution systems
- CF2R-PLB-21-H: Single-family central hot water distribution systems

Compliance Process Flow Diagram (Reverse Side)

- For each CF2R-XXX-##-H there is a corresponding CF3R-XXX-##-H, Certificate of Verification
- The HERS registry will make sure the correct HERS documents (CF2R and CF3R) get used and completed.

Compliance Process Flow Diagram



What to Verify on a CF1R

- Refer also to the “What to Verify on a CF1R” checklist tool provided in your handouts.
- You can also refer to the sample CF1R provided in your handouts.

BAY AREA Regional Energy Network

What to Verify on a CF1R

Project Name: _____ Date: _____

- HIGH Priority

General Information Section

 - ☐ Climate Zone
 - ☐ Project Scope (new, addition, etc.)
 - ☐ Total Conditioned Floor area
 - ☐ Front Orientation (degrees or “Cardinal” if master plan)
 - ☐ Number of Dwelling Units
 - ☐ Number of Stories
 - ☐ Glazing percentage (Anything over 20% is more than standard and penalized)
- HIGH Priority

Compliance Results Section

 - ☐ “Building Complies” Statement
 - ☐ “Building Incorporates HERS Features” Statement
 - ☐ “Building Incorporates Special Features” Statement
 - ☐ **TIP: Compliance Margin and Percent**
 - <1% = no margin for error
 - >15% = possible Energy Star or reach code
- MED Priority

Required Special Features Section

 - ☐ Worth tracking, if listed
- Project HERS Features**

 - ☐ Quick Check (HERS features listed in various sections)
- Building Features Information Section**

 - ☐ Quick Check (No need to spend much time.)
- Zone Information Section**

 - ☐ Quick Check (note: dwelling units are not required to be divided into zones unless served by equipment of different types or efficiencies)
- MED Priority

Opaque Surfaces Section

 - Lists all unique walls, floors, ceiling, etc.
 - Cathedral ceilings, windows, doors and slab floors are detailed in later sections.
 - Column 03 “Construction” references a later section that details each surface type.
 - ☐ Quick Check azimuth/orientations, areas and tilts.
 - ☐ All sides of house should be listed (unless attached to conditioned space).
 - ☐ Roof area should make sense relative to floor area.
 - ☐ Wall areas should be reasonable (perimeter of house x average ceiling height).

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January 15, 2015

What to Verify on a CF1R

General Information Section

- ☐ Climate Zone
- ☐ Project Scope (new, addition, etc.)
- ☐ Total Conditioned Floor area
- ☐ Front Orientation (degrees or “Cardinal” if master plan)
- ☐ Number of Dwelling Units
- ☐ Number of Stories
- ☐ Glazing percentage (Anything over 20% is more than standard and penalized)



GENERAL INFORMATION				
01	Project Name	Residence		
02	Calculation Description	Title 24 Analysis		
03	Project Location			
04	A City	Menlo Park	05	Standards Version
06	Zip code	94025	07	Compliance Manager Version
08	Climate Zone	CZ3	09	Software Version
10	Building Type	Single Family	11	Front Orientation (deg/Cardinal)
12	Project Scope	Newly Constructed	13	Number of Dwelling Units
14	Total Cond. Floor Area (FT ²)	3843	15	Number of Zones
16	Slab Area (FT ²)	0	17	Number of Stories
18	Addition Cond. Floor Area	NA	19	Natural Gas Available
20	Addition Slab Area (FT ²)	NA	21	Glazing Percentage (%)

What to Verify on a CF1R



Compliance Results Section

- ☐ “Building Complies” Statement
- ☐ “Building Incorporates HERS Features” Statement
- ☐ “Building Incorporates Special Features” Statement
- ☐ **TIP: Compliance Margin and Percent**
 - <1% = no margin for error
 - >15% = possible Energy Star or reach code


COMPLIANCE RESULTS				
01	Building Complies with Computer Performance			
02	This building incorporates features that require field testing and/or verification by a certified HERS rater under the supervision of a CEC-approved HERS provider.			
03	This building incorporates one or more Special Features shown below			
ENERGY USE SUMMARY				
04	05	06	07	08
Energy Use (kTDV/ft)	Standard Design	Proposed Design	Compliance Margin	Percent Improvement
Space Heating	10.63	10.46	0.17	1.6%
Space Cooling	1.05	1.90	-0.85	-81.0%
IAQ Ventilation	1.01	1.01	0.00	0.0%
Water Heating	8.81	7.88	0.93	10.6%
Photovoltaic Offset	----	0.00	0.00	----
Compliance Energy Total	21.50	21.25	0.25	1.2%

What to Verify on a CF1R

MED
Priority

- **Required Special Features Section**

- ☐ Worth tracking, if listed

REQUIRED SPECIAL FEATURES 	
The following are features that must be installed as condition for meeting the modeled energy performance for this computer analysis.	
<ul style="list-style-type: none"> • Non-standard roof reflectance • Cathedral Ceiling • Window overhangs and/or fins 	List varies.

- **Project HERS Features**

- ☐ Quick Check (HERS features listed in various sections)

- **Building Features Information Section**

- ☐ Quick Check (No need to spend much time.)

- **Zone Information Section**

- ☐ Quick Check (note: dwelling units are not *required* to be divided into zones unless served by equipment of different *types* or *efficiencies*)

What to Verify on a CF1R

■ Opaque Surfaces Section

- Lists all unique walls, floors, ceiling, etc.
- Cathedral ceilings, windows, doors and slab floors are detailed in later sections.
- Column 03 “Construction” references a later section that details each surface type.
 - ☐ Quick Check azimuth/orientations, areas and tilts.
 - ☐ All sides of house should be listed (unless attached to conditioned space).
 - ☐ Roof area should make sense relative to floor area.
 - ☐ Wall areas should be reasonable (perimeter of house x average ceiling height).



OPAQUE SURFACES							
01	02	03	04	05	06	07	08
Name	Zone	Construction	Azimuth	Orientation	Gross Area (ft ²)	Window Area (ft ²)	Tilt(deg)
Front Wall	Main Floor	R-21 Wall	213	Front	285	38	90
Left Wall	Main Floor	R-15 Wall	303	Left	440	51	90
Rear Wall	Main Floor	R-15 Wall	33	Back	783	249.968	90
Right Wall	Main Floor	R-15 Wall	123	Right	290	21.3	90
Left Front Wall	Main Floor	R-15 Wall	258	45	20	9	90
Right Front Wall	Main Floor	R-15 Wall	168	315	20	9	90
Front 2 x 4 Wall	Main Floor	R-13 Wall1	213	Front	95	18	90
Roof	Main Floor	R-38 Roof Attic			391		
Raised Floor	Main Floor	R-30 Floor Crawlspace			2216		
Front Wall 2	Inner Floor	R-21 Wall	213	Front	435	57	90

What to Verify on a CF1R

▪ Attic Section

- ☐ If **radiant barrier** is specified, installation is important and should be tracked through process (plan check and field inspection).
- ☐ If **cool roof** is specified, reflectance and emittance are important and should be tracked through process (plan check and field inspection).



ATTIC						
01	02	03	04	05	06	07
Name	Construction	Roof Rise	Roof Reflectance	Roof Emittance	Radiant Barrier	Cool Roof
Attic	Attic Roof Cons	8	0.1	0.85	Yes	No

What to Verify on a CF1R

Windows Section - VERY IMPORTANT

- ☐ Check Areas and Orientations against plans.
- ☐ Check U-Factor and SHGC against NFRC labels in field.
- ☐ **Tip: If you are limited on time, check the window area for the orientation with the most glass area.**



WINDOWS									
01	02	03	04	05	06	07	08	09	10
Name	Type	Surface (Orientation-Azimuth)	Width(ft)	Height (ft)	Multiplier	Area (ft ²)	U-factor	SHG C	Exterior Shading
Window	Window	Front Wall (Front-213)	----	----	1	28.0	0.30	0.67	
Window in Door	Window	Front Wall (Front-213)	----	----	1	10.0	0.55	0.67	
Window 2	Window	Left Wall (Left-303)	----	----	1	51.0	0.30	0.67	
Window 3	Window	Rear Wall (Back-33)	----	----	1	90.0	0.30	0.67	
10080	Window	Rear Wall (Back-33)	10.0	8.0	1	80.0	0.30	0.67	
10080 2	Window	Rear Wall (Back-33)	12.0	8.0	0.833	80.0	0.30	0.67	
Window 4	Window	Right Wall (Right-123)	----	----	1	21.3	0.30	0.67	
Window 5	Window	Left Front Wall (Left-253)	----	----	1	9.0	0.30	0.67	

What to Verify on a CF1R

Overhangs and Side Fins Section

- ☐ If modeled, they have a significant impact on compliance.
- ☐ Verify against plans.
- ☐ Verify in field.
 - ☐ Depth is the most important dimension



OVERHANGS AND FINS													
01	02	03	04	05	06	07	08	09	10	11	12	13	14
	Overhang					Left Fin				Right Fin			
Window	Depth	Dist Up	Left Extent	Right Extent	Flap Ht.	Depth	Top Up	DistL	Bot Up	Depth	Top Up	Dist R	Bot Up
10080	10	1	2.8	2.8	0	0	0	0	0	0	0	0	0
10080 2	11.5	1	1.8	1.8	0	0	0	0	0	0	0	0	0
5080	1	0.3	4.9	6	0	7.5	0	4.9	0	0	0	0	0
6050	1	0.3	1.7	1.7	0	0	0	0	0	0	0	0	0
3030	2.3	0.3	1	1	0	0	0	0	0	0	0	0	0
5050	1	0.3	5.7	14	0	0	0	0	0	0	0	0	0

What to Verify on a CF1R

■ Opaque Surface Constructions Section

- ☐ Match construction name in column 01 to column 03 of the previously discussed "Opaque Surfaces" section.
- ☐ Look for unusual assemblies (24 o.c., etc).
- ☐ Note cavity **and** sheathing (continuous) R-values.
- ☐ No U-factors shown! (hopefully will be added to later versions)
 - ☐ Use Appendix JA4, if needed.



OPAQUE SURFACE CONSTRUCTIONS					
01	02	03	04	05	06
Construction Name	Surface Type	Construction Type	Framing	Total Cavity R-value	Assembly Layers
Attic Roof Cons	Attic Roofs	Wood Framed Ceiling	2x4 Top Chord of Roof Truss @ 24 in. O.C.		<ul style="list-style-type: none"> • Roofing: Light Roof (Asphalt Shingle) • Above Deck Insulation - no insulation - • Roof Deck: Wood Siding/sheathing/decking • Cavity: - no insulation - • Inside Finish: - select inside finish -
R-0 Roof Attic	Ceilings (below attic)	Wood Framed Ceiling	2x4 @ 24 in. O.C.		<ul style="list-style-type: none"> • Attic Floor: - no attic floor - • Cavity: - no insulation - • Sheathing/Insulation - no sheathing/insul. - • Inside Finish: Gypsum Board
R-13 Wall	Interior Walls	Wood Framed Wall	2x4 @ 16 in. O.C.	R 13	<ul style="list-style-type: none"> • Inside Finish: Gypsum Board • Sheathing/Insulation: - no sheathing/insul. - • Cavity: R 13 • Sheathing/Insulation: - no sheathing/insul. - • Other Side Finish: Gypsum Board
R-30 Floor Crawspace	Floors Over Crawspace	Wood Framed Floor	2x10 @ 16 in. O.C.	R 25	<ul style="list-style-type: none"> • Floor Surface: Carpeted • Concrete Fill: - no concrete fill - • Floor Deck: Wood Siding/sheathing/decking • Cavity: R 25 • Sheathing/Insulation: - no sheathing/insul. - • Exterior Finish: - select finish -
					<ul style="list-style-type: none"> • Inside Finish: Gypsum Board

What to Verify on a CF1R

- **Slab Floors Section**

- ☐ Quick Check

- **Building Envelope HERS Verification Section**

- ☐ If any are listed you know that a special inspector will be in charge of that feature (Will need CF3Rs.)

- Quality Insulation Installation (QII)
 - Building Envelope Air Leakage
 - “ACH@50 Pa” is the target for the blower door test, if required.

MED
Priority

BUILDING ENVELOPE - HERS VERIFICATION			
01	02	03	04
Quality Insulation Installation(QII)	Quality Installation of Spray Foam Insulation	Building Envelope Air Leakage	ACH @ 50 Pa
Not Required	Not Required	Not Required	---

What to Verify on a CF1R

Water Heating Systems and Water Heaters Sections

- ☐ Very important, especially in mild climates (see WH compliance margin in Compliance Results Section).
- ☐ Verify all information in field: type, number, volume, efficiencies

**HIGH
Priority**

WATER HEATING SYSTEMS			
01	02	03	04
Name	Distribution Type	Number of Heaters	Solar Fraction (%)
DHW Sys 1	Recirculation, Demand Control Push Button	1	0.0%

WATER HEATERS							
01	02	03	04	05	06	07	08
Name	Heater Element Type	Tank Type	Tank Volume (gal)	Energy Factor or Efficiency	Input Rating	Tank Exterior Insulation R-value	Standby Loss (Fraction)
DHW Heater 1	Natural Gas	Large Storage	75	0.96	80000-Btu/hr	0	0.0191

What to Verify on a CF1R

■ Water Heating – HERS Verification Section

☐ If any HERS measures are listed you know that a special inspector will be in charge of checking those features (Will need CF3Rs.):

- pipe insulation,
- parallel piping/compact distribution/point-of-use
- Recirculation with manual control/Recirculation with sensor control

MED
Priority

WATER HEATING - HERS VERIFICATION						
01	02	03	04	05	06	07
Name	Pipe Insulation	Parallel Piping	Compact Distribution	Point-of Use	Recirculation with Manual Control	Recirculation with Sensor Control
DHW Sys 1-hers-dhw	n/a	n/a	n/a	n/a		n/a

What to Verify on a CF1R

■ HVAC Systems, Heating Systems and Cooling Systems Sections - Very Important

- ☐ Confirm duct locations on plans.
- ☐ Verify all information at field inspection:
 - ☐ system types
 - ☐ efficiencies

**HIGH
Priority**

HVAC SYSTEMS								
01	02	03		04		05	06	07
Name	System Type	Heating System		Cooling System		Distribution System	Fan System	Floor Area Served
		Name	Ducted	Name	Ducted			
HVAC System1	Other Heating and Cooling System	Heating Component 1	Yes	Cooling Component 1	Yes	Air Distribution System 1	HVAC Fan 1	2216
Upper HVAC System2	Other Heating and Cooling System	Heating Component 2	Yes	Cooling Component 2	Yes	Air Distribution System 2	HVAC Fan 2	1627

HVAC - HEATING SYSTEMS		
01	02	03
Name	Type	Efficiency
Heating Component 1	CntrlFurnace - Fuel-fired central furnace	96 AFUE
Heating Component 2	CntrlFurnace - Fuel-fired central furnace	96 AFUE

HVAC - COOLING SYSTEMS				
01	02	03	04	05
Name	System Type	Efficiency		HERS Verification
		EER	SEER	
Cooling Component 1	SplitAirCond - Split air conditioning system	11.3	13	Cooling Component 1-hers-cool
Cooling Component 2	SplitAirCond - Split air conditioning system	11.3	13	Cooling Component 2-hers-cool

What to Verify on a CF1R

■ HVAC Cooling HERS Verification Section

- ☐ Verification of Airflow by HERS Rater will be required on all ducted systems with A/C. (Will need CF3Rs.)
- ☐ If so, Cooling System will be checked by Rater

MED
Priority

HVAC COOLING - HERS VERIFICATION					
01	02	03	04	05	06
Name	Verified Airflow	Airflow Target	Verified EER	Verified SEER	Verified Refrigerant Charge
HVAC System1 SCSysRpt 1	Required	350	11.3	---	---
Upper HVAC System2 SCSysRpt 1	Required	350	11.3	---	---

What to Verify on a CF1R

■ HVAC Distribution and Distribution HERS Sections

- ☐ Verify duct location on plans
- ☐ Duct leakage testing required on all ducted systems >10 feet.
- ☐ If so, distribution system will be checked by Rater (Will need CF3Rs.)

**HIGH
Priority**

HVAC - DISTRIBUTION SYSTEMS							
01	02	03	04	05	06	07	08
Name	Type	Duct Leakage	Insulation R-value	Supply Duct Location	Return Duct	Bypass Duct	HERS Verification
Air Distribution System 1	Ducts located in a crawl space	Sealed and tested	6	Crawl Space	Crawl Space	None	Air Distribution System 1-hers-dist
Air Distribution System 2	Ducts located in unconditioned attic	Sealed and tested	6	Attic	Attic	None	Air Distribution System 2-hers-dist

HVAC DISTRIBUTION - HERS VERIFICATION					
01	02	03	04	05	06
Name	Duct Leakage Verification	Duct Leakage Target (%)	Verified Duct Location	Verified Duct Design	
				Return	Supply
Air Distribution System 1-hers-dist	Required	6.0	Not Required	Not Required	Not Required
Air Distribution System 2-hers-dist	Required	6.0	Not Required	Not Required	Not Required

What to Verify on a CF1R

■ HVAC Fan Systems and Fan Systems HERS Sections

- ☐ Verification of Fan Watt Draw by HERS Rater will be required on all ducted systems with A/C.
- ☐ If so, Cooling System will be checked by Rater (Will need CF3Rs.)

MED
Priority

HVAC - FAN SYSTEMS			
01	02	03	04
Name	Type	Fan Power (Watts/CFM)	HERS Verification
HVAC Fan 1	Single Speed PSC Furnace Fan	0.58	Required
HVAC Fan 2	Single Speed PSC Furnace Fan	0.58	Required

HVAC FAN SYSTEMS - HERS VERIFICATION		
01	02	03
Name	VerifiedFanWatt Draw	Required Fan Efficiency (Watts/CFM)
HVAC Fan 1-hers-fan	Required	0.58
HVAC Fan 2-hers-fan	Required	0.58

What to Verify on a CF1R

■ Indoor Air Quality Fans Section

- ☐ IAQ airflow almost always checked by Rater. (Will need CF3Rs.)
- ☐ Spot ventilation (kitchen hood, bathroom fans, laundry rooms, etc.) **NOT** checked by Rater.

MED
Priority

IAQ (Indoor Air Quality) FANS				
01	02	03	04	05
Name	IAQ CFM	IAQ Fan Type	IAQ Recovery Effectiveness(%)	HERS Verification
IAQ Fan	83	Exhaust	0	Required

■ Cooling Ventilation - Special cooling credits





- ☐ If listed, worth tracking and field verifying.
- ☐ Whole house fans
- ☐ Night ventilation

MED
Priority

What to Verify on a CF1R

- **Declaration Statements** - Provide accountability in the event of future problems.
 - ☐ The single MOST IMPORTANT item to check is that the documents are signed and registered.
 - ☐ Digital Signatures are Legal

**HIGH
Priority**

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT	
1. I certify that this Certificate of Compliance documentation is accurate and complete.	
Documentation Author Name: 	Documentation Author Signature: 
Company:	Signature Date: 2014-08-12 20:39:30
Address:	CEA/HERS Certification Identification (If applicable): 
City/State/Zip:	Phone:
RESPONSIBLE PERSON'S DECLARATION STATEMENT	
I certify the following under penalty of perjury, under the laws of the State of California:	
<ol style="list-style-type: none"> 1. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design identified on this Certificate of Compliance. 2. I certify that the energy features and performance specifications identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations. 3. 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. 	
Responsible Designer Name:	Responsible Designer Signature: 
Company:	Date Signed: 2014-08-13 11:54:07
Address:	License:
City/State/Zip:	Phone:

Class Wrap-up

Final Questions and Class Evaluation

Contact information:

- BayREN Codes & Standards Program
 - www.bayren.org/codes
 - codes@bayren.org

Updated: 02/20/2015