



passive  
house



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17 Mile Haus  
Pebble Beach, CA

8/21/22

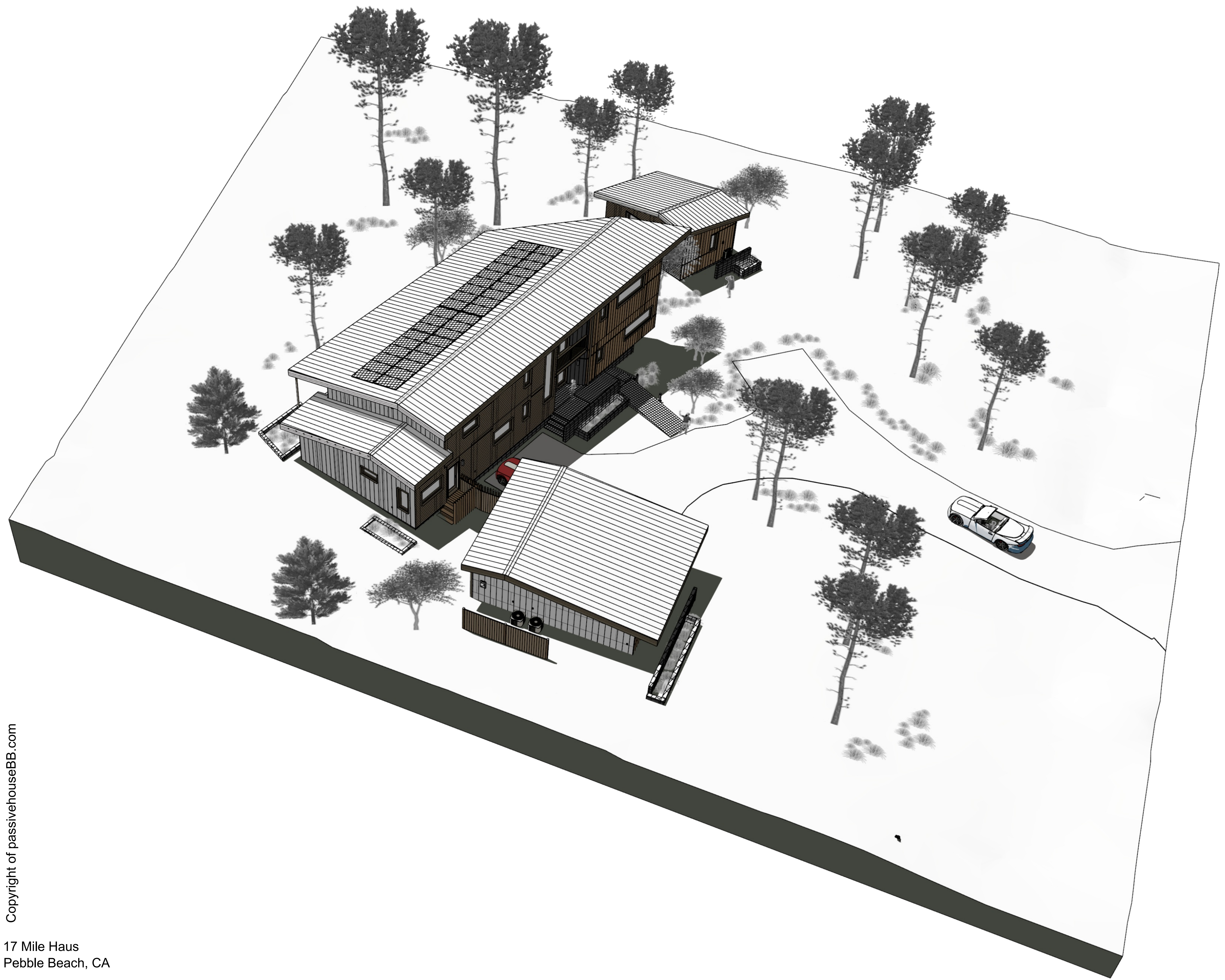




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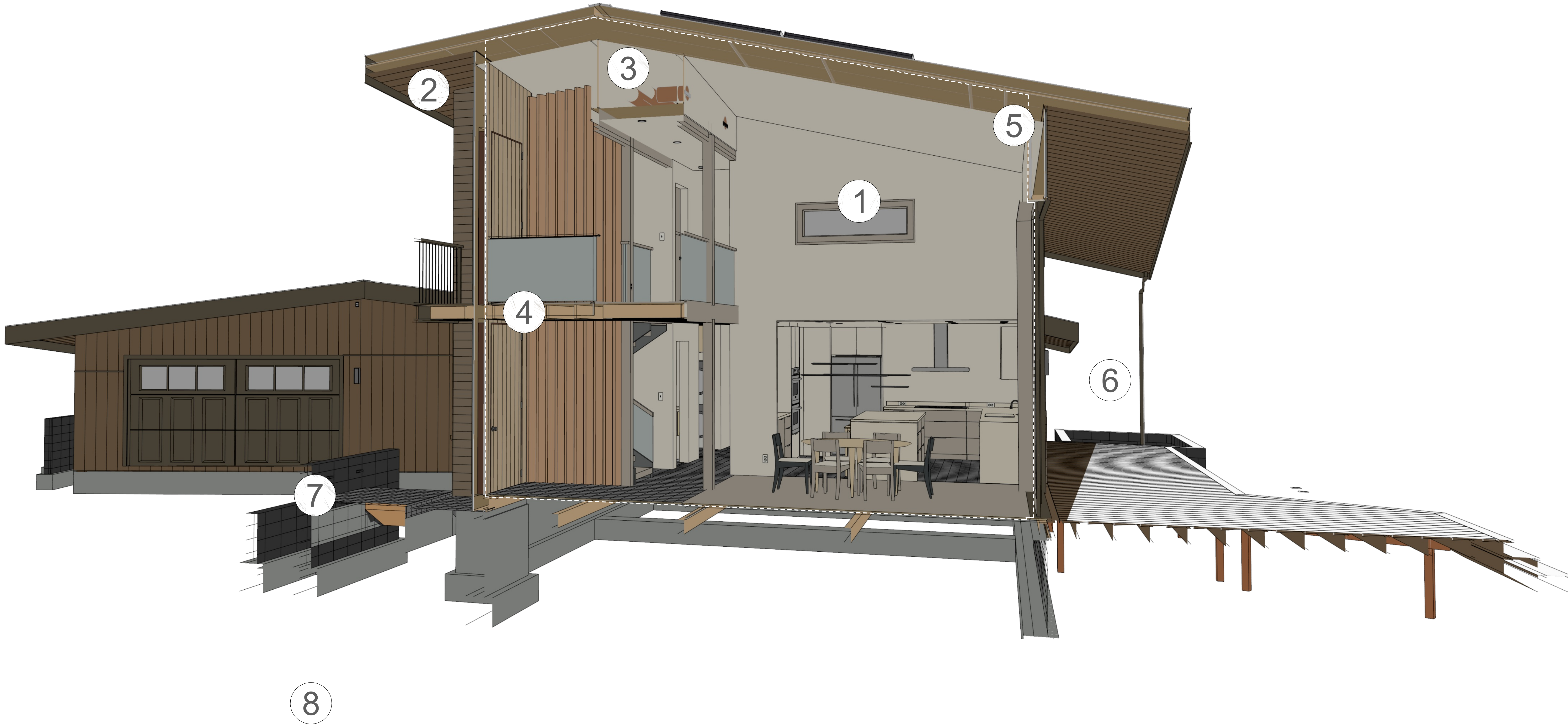


# Legend

- 1. Super-Windows & Doors
- 2. Fire Resilient
- 3. Heat Recovery Ventilation
- 4. No Thermal Bridges
- 5. Smoke-Tight
- 6. Well Shaded
- 7. Embodied Carbon Calcs
- 8. Passivhaus Certification



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## Super-windows & Doors

(These are wood framed, exterior insulated, triple-pane, with great spacers. Made in Kansas.)

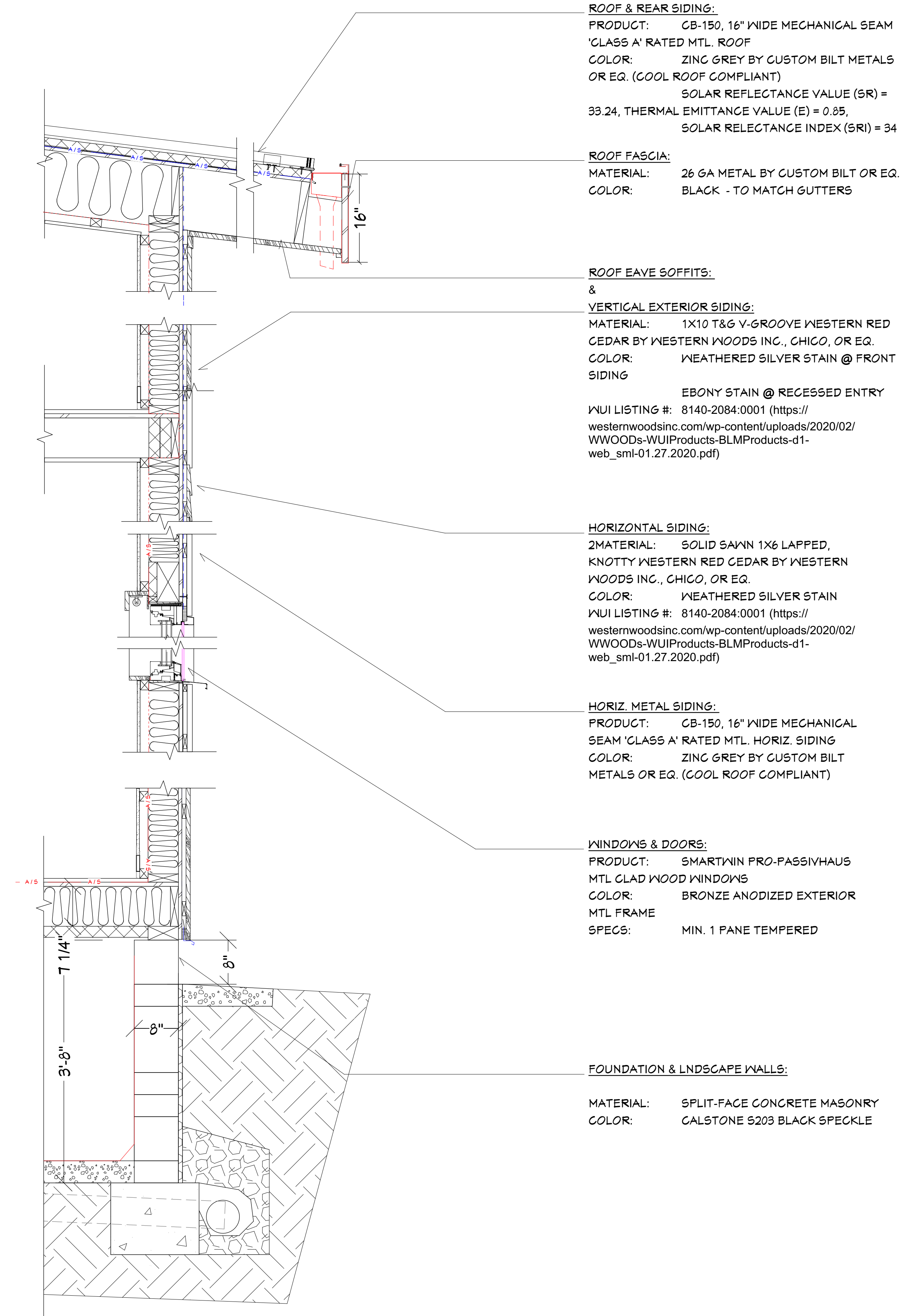




# Fire Resilient

(This house is WUI compliant - a code requirement for this area.)

2



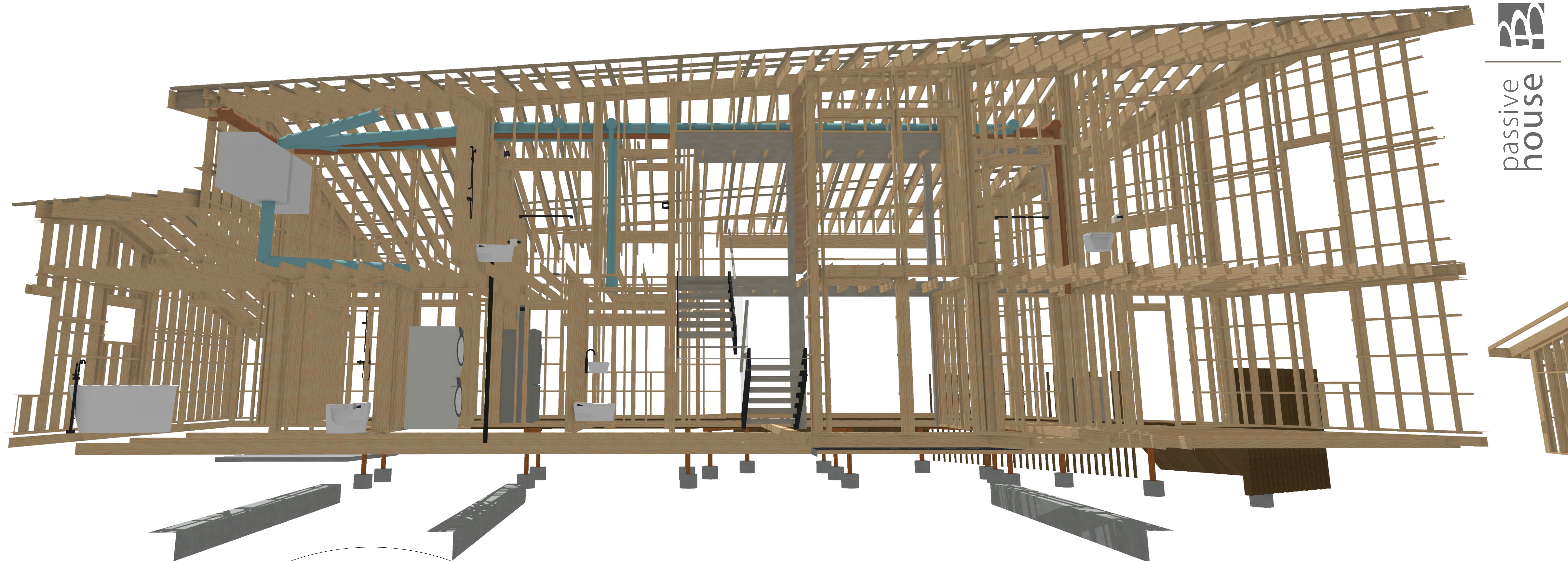
2. TYP. SECTION & ASSEMBLIES

Scale: 1" = 1'-0"

1. EXTERIOR MATERIALS PALETTE & SPECS







# Heat Recovery Ventilation

(A 95% recovery efficiency ventilation unit will be installed, using dedicated extract and supply ducts to supply continuous 100% filtered air to this home.)







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# Smoke-Tight

(This house will be blower-door tested to ensure minimal air leaks in or out of the walls, roof and floor.)

Code = 3 ACH (no testing req'd)  
Passive House = 0.6 ACH minimum



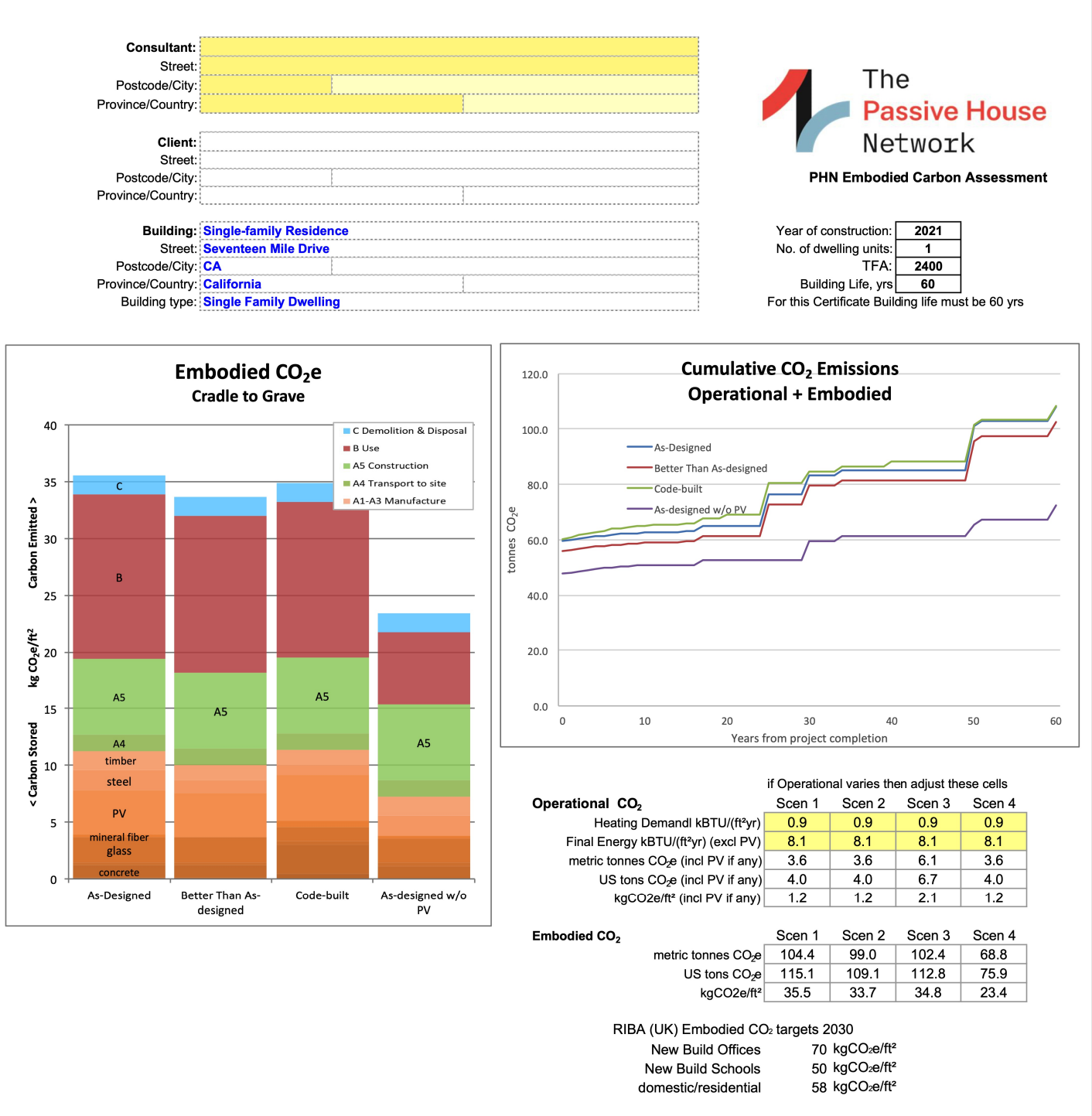
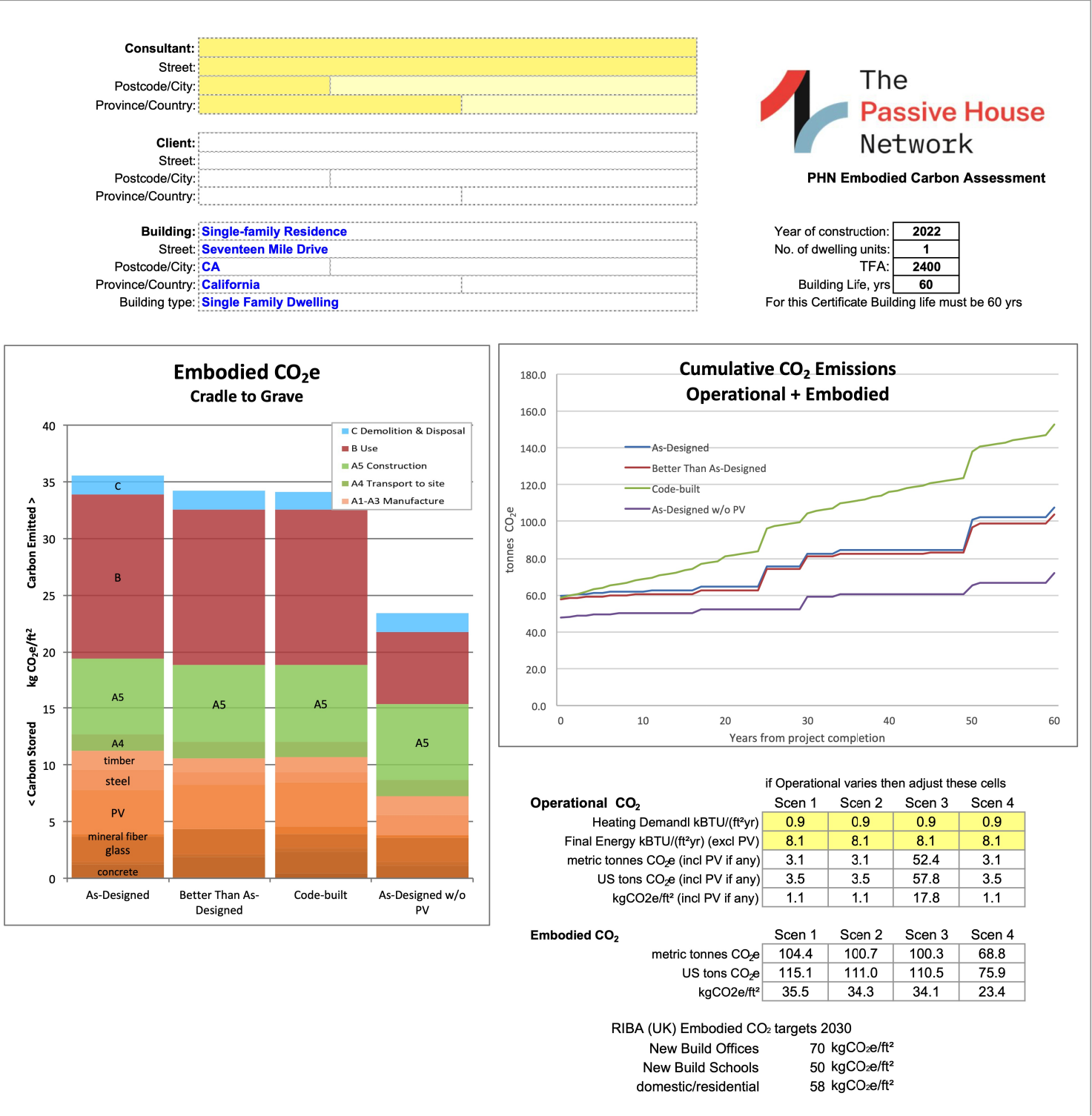


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## Well Shaded

(The extended overhangs on this home will keep it cool - a VERY important PH feature in California!)





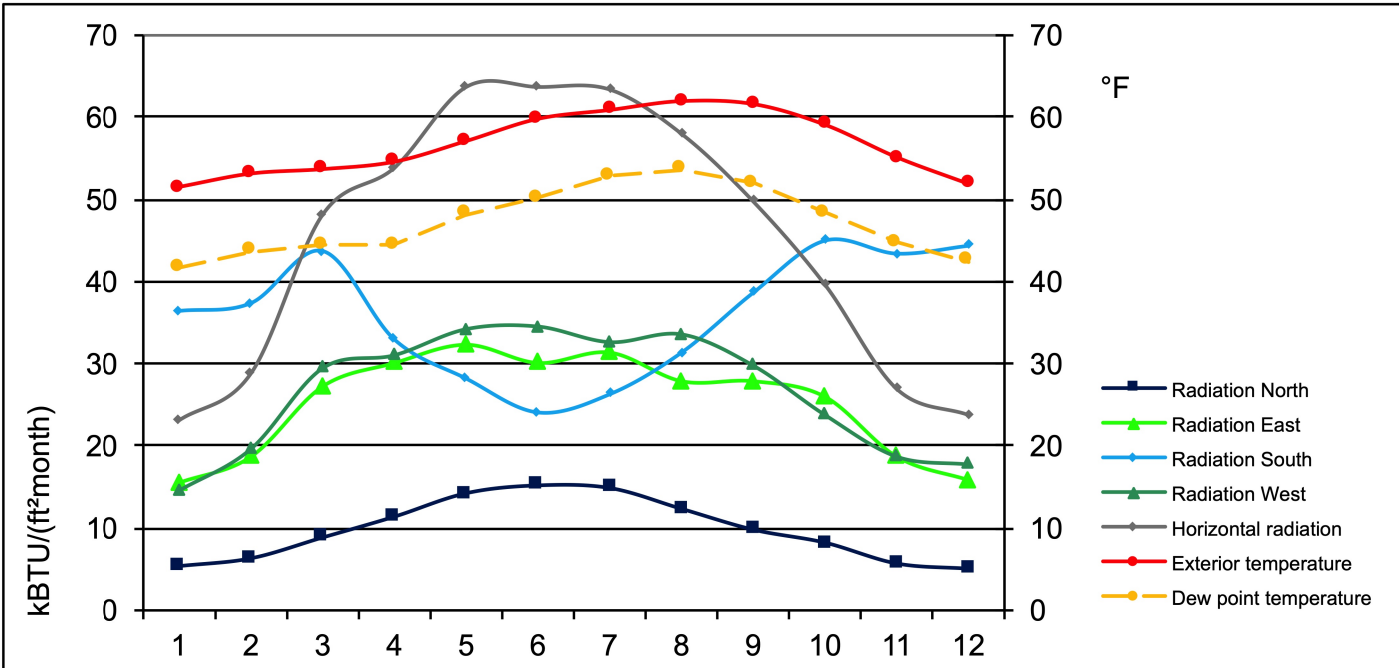
# Embodied Carbon Calcs

(We've reviewed the impact of our material choices, combined with our operational impact.)





	Data for heating	Data from monthly balance		
	Annual method	Heating	Cooling	
Heating / cooling period	102	365	365	day/yr
Heating / cooling degree hours	2022	4651	-7969	°F.day/yr
Radiation North	20	153	153	kBTU/(ft².yr)
Radiation East	57	214	214	kBTU/(ft².yr)
Radiation South	104	418	418	kBTU/(ft².yr)
Radiation West	59	320	320	kBTU/(ft².yr)
Horizontal radiation	93	543	543	kBTU/(ft².yr)



### Passive House Verification

**Architecture:** Passive House BB  
Street:   
Postcode/City: CA 94110 San Francisco  
Province/Country: California

**Energy consultancy:** Hyperlocal Workshop  
Street: PO Box 241  
Postcode/City: 80541 Masonville  
Province/Country: Colorado US-United States of America

Year of construction: 2021  
No. of dwelling units: 1  
No. of occupants: 2.0

**Building:** Anis Residence  
Street: 2821 Seventeen Mile Drive  
Postcode/City: CA  
Province/Country: US-United States of America  
Building type: Single Family Dwelling Unit  
Climate data set: us-01-Monterey, CA  
Climate zone: 5: Warm  
Altitude of location: 20 ft

**Home owner / Client:** Anis  
Street:   
Postcode/City:   
Province/Country:

**Mechanical engineer:**   
Street:   
Postcode/City:   
Province/Country:

**Certification:** Steve Mann  
Street:   
Postcode/City:   
Province/Country:

Interior temperature winter [°F]: 68.0  
Interior temp. summer [°F]: 77.0  
Internal heat gains (IHG) heating case [BTU/(hr.ft²)]: 0.74  
IHG cooling case [BTU/(hr.ft²)]: 0.74  
Specific capacity [BTU/F per ft² TFA]: 10.6  
Mechanical cooling: x

Specific building characteristics with reference to the treated floor area			Criteria	Alternative criteria	Fulfilled? <sup>2</sup>	
Space heating	Treated floor area ft²	2196				
	Heating demand kBTU/(ft².yr)	1.12	≤	4.75	-	yes
Space cooling	Heating load BTU/(hr.ft²)	1.89	≤	-	3.17	
	Cooling & dehum. demand kBTU/(ft².yr)	2.39	≤	4.75	4.75	yes
	Cooling load BTU/(hr.ft²)	1.97	≤	-	3.25	
	Frequency of overheating (> 77 °F) %	-	≤	-	-	-
	Frequency of excessively high humidity (> 0.012 lb/lb) %	0.0	≤	3.17	-	yes
Airtightness	Pressurization test result n <sub>50</sub> 1/hr	0.6	≤	0.19	-	yes
Non-renewable Primary Energy (PE)	PE demand kBTU/(ft².yr)	23.23	≤	-	-	-
	PER demand kBTU/(ft².yr)	10.45	≤	19	19	
Primary Energy Renewable (PER)	Generation of renewable energy (in relation to projected building footprint area)	6.04	≥	-	-	yes

<sup>2</sup> Empty field: Data missing; '-': No requirement

I confirm that the values given herein have been determined following the PHPP methodology and based on the characteristic values of the building. The PHPP calculations are attached to this verification.

Task: First name: Surname: Issued on: City:

Passive House Classic? yes Signature:

# Seeking Certification

(We're aiming for PHI's Classic Certification.)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year	°F.day/yr
Heating degree hours - Exterior	837	710	770	723	664	563	545	512	508	605	704	827	7969	°F.day/yr
Heating degree hours - Ground	528	494	554	530	529	488	479	461	439	460	463	503	5930	°F.day/yr
Losses - Exterior	7271	6165	6678	6256	5747	4858	4703	4410	4373	5221	6094	7182	68958	kBTU
Losses - Ground	1133	1060	1188	1137	1136	1047	1029	989	942	987	993	1080	12721	kBTU
Losses summer ventilation	144	120	129	118	106	86	82	76	75	93	115	141	1284	kBTU
Sum spec. heat losses	3.89	3.34	3.64	3.42	3.18	2.73	2.65	2.49	2.45	2.87	3.28	3.83	37.78	kBTU/ft²
Solar load North	268	372	572	708	870	935	876	805	623	452	315	288	7082	kBTU
Solar load East	33	42	65	81	93	90	92	76	70	61	38	29	771	kBTU
Solar load South	2060	2155	2801	2094	1679	1635	1766	1978	2352	2645	2461	2467	26993	kBTU
Solar load West	0	0	0	0	0	0	0	0	0	0	0	0	0	kBTU
Solar load Horiz.	0	0	0	0	0	0	0	0	0	0	0	0	0	kBTU
Solar load Opaque	480	570	844	893	1002	987	989	929	852	748	565	520	9377	kBTU
Internal heat gains	1214	1097	1214	1175	1214	1175	1214	1214	1175	1214	1175	1214	14300	kBTU
Sum spec. loads solar + internal	1.85	1.93	2.41	2.25	2.30	2.20	2.25	2.28	2.31	2.33	2.07	2.06	26.24	kBTU/ft²
Utilisation factor losses	46%	55%	62%	62%	66%	71%	73%	77%	79%	72%	60%	52%	63%	
Useful cooling energy demand	89	180	346	319	428	545	716	774	841	593	258	153	5242	kBTU
Spec. cooling demand	0.04	0.08	0.16	0.15	0.19	0.25	0.33	0.35	0.38	0.27	0.12	0.07	2.39	kBTU/ft²
Specif. dehumidification demand	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	kBTU/ft²
Sensible fraction	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

