

DOCKETED

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ATTACHMENT 3

The State requires amendments to the California Building Standards Code be expressly marked to **distinguish amendment text from the published text of the California Energy Code, Title 24**. In this exhibit, the amendments to the base code included in the proposed ordinance are indicated as follows:

Deleted language from the base code has been ~~stricken through~~.

Replacement language to the base code has been underlined.

14.05.021.1 Amendments to the California Energy Code

14.05.021.1.A Requirements for additions and alterations – Local amendments to 2022 California Energy Code

Section 100.0 – SCOPE – of Subchapter 1 – ALL OCCUPANCIES–GENERAL PROVISIONS – of the 2022 California Energy Code is amended to add new section (i) as follows:

(i) Single-Family Building Remodel Energy Reach Code. In addition to all requirements of the California Energy Code applicable to Existing Single-Family Building additions and alterations, the energy efficiency and renewable energy measures specified in Section 150.0(w) shall be required for Covered Projects.

Section 100.1(b) – Definitions – of Subchapter 1 of the 2022 California Energy Code is amended by adding the following definition:

“Covered Project(s)” means additions or alterations, as described below, to a single-family residential building originally permitted for construction on or before December 31, 2010, which equal or exceed 500 square feet of interior conditioned space. Any addition or alteration to the same structure in the preceding 36 months shall be counted towards the 500 square feet threshold, except those additions or alterations made prior to the initial adoption of this ordinance. When any changes are made in the building, such as walls, columns, beams or girders, floor or ceiling joists and coverings (subfloor and drywall), roof rafters, roof diaphragms, foundations, piles or retaining walls or similar components, the floor area of all rooms affected by such changes shall be included in computing floor areas for the purpose of applying this definition.

This definition does not apply to project scopes that are solely limited to any of the following: the replacement and upgrading of residential roof coverings, exterior wall finishes and/or floor finishes; alterations that add no more than 75 square feet of fenestration; alterations that add no more than 16 square feet of skylight area with a maximum U-factor of 0.55 and a maximum SHGC of 0.30; or alterations that are limited to providing access for persons with disabilities. A Covered Project shall not include a project that is considered to be a newly constructed building under the California Energy Code,

35 Title 24, Part 6. The final determination of whether a project meets the definition of a
36 Covered Project shall be made by the Building Official or designee.

37
38 The first two paragraphs of Section 150.0 of Subchapter 7 – SINGLE-FAMILY RESIDENTIAL
39 BUILDINGS - MANDATORY FEATURES AND DEVICES – are amended to read as follows:

40
41 Single-family residential buildings shall comply with the applicable requirements of
42 Sections 150(a) through 150.0(v). In addition, Covered Projects shall comply with the
43 applicable requirements of Section 150.0(w).

44
45 NOTE: The requirements of Sections 150.0(a) through 150.0(v) apply to newly
46 constructed buildings. Sections 150.2(a) and 150.2(b) specify which requirements of
47 Sections 150.0(a) through 150.0(v) also apply to additions or alterations, except that
48 Covered Projects shall also be required to comply with Section 150.0(w).

49
50 Section (w) is added to Section 150.0 as follows:

51 (w) A Covered Project shall install a set of measures based the “Energy and Electrification
52 Measures” Menu in Table 1 to achieve a total Measure Point Score that is equal to or
53 greater than the Target Score in Table 1. In addition, all mandatory measures listed in
54 Table 1 shall be installed. Installed measures shall meet the specifications in Table 2, List
55 of Measure Specifications.

56
57 Building vintage is the year in which the original construction permit for the building was
58 submitted, as documented by building department records, or the permit issue date of an
59 addition or alteration that satisfied the Performance Standards (California Energy Code,
60 Title 24, Part 6, Section 150.1(b)) that were in effect at that time, whichever is later.

61
62 Exceptions to 150.0(w):

63
64 (i) Residential buildings originally permitted for construction on or after January 1, 2011.

65
66 (ii) If a project is limited solely to a newly created Accessory Dwelling Unit (ADU) or
67 Junior Accessory Dwelling Unit (JADU) as defined in Mill Valley Municipal Code Section
68 20.08.070(E) and (F), the project shall be exempt from complying with this Section. A
69 newly created ADU and JADU shall include either additions or conversions of existing
70 space. This exception DOES NOT apply to a Covered Project of an existing ADU or
71 JADU.

72
73 (iii) If a project occurs in a Mobile Home, Manufactured Housing, or Factory-built
74 Housing as defined in Division 13 of the California Health and Safety Code (commencing
75 with Section 17000), the project shall be exempt from complying with this Section.

76
77 (iv) If, due to conditions specific to the project, it is technically or economically infeasible
78 to achieve compliance, the Building Official may reduce the Target Score and/or waive
79 some or all the mandatory requirements based on written documentation and evidence
80 submitted at the time of building permit application.

78 (v) If the applicant demonstrates that the Energy Budget of the Proposed Building Design
79 would be less than or equal to the Energy Budget of the building under the project if it
80 included any set of measures that would achieve compliance under this Section, the project
81 shall be exempt from complying with this Section.

82 (vi) If the applicant resides in the dwelling unit and demonstrates that they qualify for the
83 California Alternative Rates for Energy (CARE), or Family Electric Rate Assistance
84 (FERA) program, or if the applicant is the owner of the dwelling unit which is occupied by
85 a dependent who demonstrates that they qualify for the California Alternative Rates for
86 Energy (CARE), or Family Electric Rate Assistance (FERA) program is exempt from
87 complying with Table 1 but must install the following measures, as further specified and
88 defined in Table 2:

- 89 (a) E1: Lighting Measures; and
90 (b) E2: Water Heating Package

Table 1. Energy and Electrification Menu of Measures, Climate Zone 3

Measures		Points
Description	Specification ID (See Table 2)	Target Score = 6 Points
Mandatory Measures		
Electric Readiness, Service Upgrade	ER1	Mandatory for certain scopes, see Table 2.
Electric Readiness, End Uses	ER2	Mandatory for certain scopes, see Table 2.
Lighting Measures	E1	Mandatory
Optional Measures (6 points required)		
Water Heating Package	E2	1
Air Sealing	E3	1
Attic Insulation	E4	1
New Ducts + Duct Sealing	E6	2
Windows	E7	3
Wall Insulation	E8	5
Solar PV + Electric Ready Pre-Wire	PV1	12
Heat Pump Water Heater (HPWH), Replacing Gas	FS1	12

High Efficiency HPWH, Replacing Gas	FS2	13
Heat Pump Space Heater	FS5	10
High Efficiency Heat Pump Space Heater	FS6	11
Heat Pump Clothes Dryer	FS8	1
Induction Cooktop	FS9	1

91
 92
 93 The following conditions also apply to Table 1:

- 94
 95 (a) Unless otherwise specified, the requirements shall apply to the entire dwelling unit, not
 96 just the additional or altered portion.
- 97
 98 (b) Measures from the Measure Menu in Table 1 and specified in Table 2, that already
 99 exist in the home, may be counted towards compliance with these requirements, unless
 100 otherwise specified in Table 2.
- 101
 102 (c) Measures from the Measure Menu in Table 1 that are to be installed to satisfy
 103 requirements under the State Energy Code, Title 24, Part 6, may not be counted towards
 104 compliance with these requirements. Where these requirements conflict with other Energy
 105 Code requirements, the stricter requirements shall prevail.
- 106

Table 2. List of Measure Specifications

ID	Measure Specification
Energy (E) Measures	
E1	<u>Lighting Measures</u> : Mandatory measure. Replace all interior and exterior screw-in incandescent, halogen, and compact fluorescent lamps with LED lamps. Install photocell controls on all exterior lighting luminaires.
E2	<u>Water Heating Package</u> : Water Heating Package: Insulate all accessible hot water pipes with pipe insulation a minimum of $\frac{3}{4}$ inch thick. This includes insulating the supply pipe leaving the water heater, piping to faucets underneath sinks, and accessible pipes in attic spaces or crawlspaces. Upgrade fittings in sinks and showers to meet current California Green Building Standards Code (Title 24, Part 11) Section 4.303 water efficiency requirements. <ul style="list-style-type: none"> Exception 1: Water heater blanket is not required on water heaters less than 20 gallons. Exception 2: Water heater blanket not required if application of a water heater blanket voids the warranty on the water heater. Exception 3: Upgraded fixtures are not required if existing fixtures have rated or measured flow rates of no more than ten percent greater than 2022 California Green Building Standards Code (Title 24, Part 11) Section 4.303 water efficiency requirements.

	<ul style="list-style-type: none"> Exception 4: Water heaters with factory installed insulation of R-24 or greater.
E3	<p>Air Sealing: Seal all accessible cracks, holes, and gaps in the building envelope at walls, floors, and ceilings. Pay special attention to penetrations including plumbing, electrical, and mechanical vents, recessed can light luminaires, and windows. Weather-strip doors if not already present.</p> <p>Verification shall be conducted following a prescriptive checklist that outlines which building aspects need to be addressed by the permit applicant and verified by an inspector. Compliance can also be demonstrated with blower door testing conducted by a certified HERS Rater no more than three years prior to the permit application date that either: a) shows at least a 30 percent reduction from pre-retrofit conditions; or b) shows that the number of air changes per hour at 50 Pascals pressure difference (ACH50) does not exceed ten for Pre-1978 vintage buildings, seven for 1978 to 1991 vintage buildings and five for 1992-2010 vintage buildings. If combustion appliances are located within the pressure boundary of the building, conduct a combustion safety test by a professional certified by the Building Performance Institute in accordance with the ANSI/BPI-1200-S-2017 Standard Practice for Basic Analysis of Buildings, the Whole House Combustion Appliance Safety Test Procedure for the Comfortable Home Rebates Program 2020 or the California Community Services and Development Combustion Appliance Safety Testing Protocol.</p>
E4	<p>Attic Insulation: Attic insulation shall be installed to achieve a weighted assembly U-factor of 0.025 or insulation installed at the ceiling level shall have a thermal resistance of R-38 or greater for the insulation alone. Recessed downlight luminaires in the ceiling shall be covered with insulation to the same depth as the rest of the ceiling. Luminaires not rated for insulation contact must be replaced or fitted with a fire-proof cover that allows for insulation to be installed directly over the cover.</p> <ul style="list-style-type: none"> Exception: In buildings where existing R-30 is present and existing recessed downlight luminaires are not rated for insulation contact, insulation is not required to be installed over the luminaires.
E5	<p>Duct Sealing: Air seal all space conditioning ductwork to meet the requirements of Section 150.2(b)1E. The duct system must be tested by a HERS Rater no more than three years prior to the Covered Project permit application date to verify the duct sealing and confirm that the requirements have been met. This measure may not be combined with the New Ducts and Duct Sealing measure in this Table.</p> <ul style="list-style-type: none"> Exception: Buildings without ductwork or where the ducts are in conditioned space.
E6	<p>New Ducts + Duct Sealing: Replace existing space conditioning ductwork with new R-6 ducts that meet the requirements of Section 150.0(m)11. This measure may not be combined with the Duct Sealing measure in this Table. To qualify, a preexisting measure must have been installed no more than three years before the Covered Project permit application date.</p>

E7	<u>Windows</u> : Replace at least 50% of existing windows with high performance windows with an area-weighted average U-factor no greater than 0.30.
E8	<u>Wall Insulation</u> : Install wall insulation in all exterior walls to achieve a weighted U-factor of 0.102 or install wall insulation in all exterior wall cavities that shall result in an installed thermal resistance of R-13 or greater for the insulation alone.
Fuel Substitution (FS) Measures	
FS1	<u>Heat Pump Water Heater (HPWH) Replacing Gas</u> : Replace all existing electric resistance and natural gas storage water heaters with heat pump water heaters.
FS2	<u>High Efficiency Heat Pump Water Heater (HPWH) Replacing Gas</u> : Replace all existing natural gas water heaters with heat pump water heaters with a Northwest Energy Efficiency Alliance (NEEA) Tier 3 or higher rating.
FS3	<u>Heat Pump Water Heater (HPWH) Replacing Electric</u> : Replace existing electric resistance water heater with a heat pump water heater.
FS4	<u>High Efficiency Heat Pump Water Heater (HPWH) Replacing Electric</u> : Replace existing electric resistance water heater with heat pump water heater with a Northwest Energy Efficiency Alliance (NEEA) Tier 3 or higher rating.
FS5	<u>Heat Pump Space Heater</u> : Replace all existing gas and electric resistance primary space heating systems with an electric-only heat pump system.
FS6	<u>High Efficiency Heat Pump Space Heater</u> : Replace all existing gas and electric resistance primary space heating systems with one of the following: A. A ducted electric-only heat pump system with a SEER2 rating of 16.5 or greater, an EER2 rating of 12.48 or greater and an HSPF2 rating of 9.5 or greater; or B. A ductless mini-split heat pump system with a SEER2 rating of 14.3 or greater, an EER2 rating of 11.7 or greater and an HSPF2 rating of 7.5 or greater
FS8	<u>Heat Pump Clothes Dryer</u> : Replace all existing gas and electric resistance clothes dryers with heat pump dryers with no resistance element and cap the gas lines.
FS9	<u>Induction Cooktop</u> : Replace all existing gas and electric resistance stove tops with inductive stove tops and cap the gas lines.
Solar Photovoltaics (PV) and Electric-Readiness (ER) Measures	
PV1	<p><u>Solar PV+ Electric Ready Pre-Wire</u>:</p> <p>Installation of New Solar PV Systems: Install a new solar PV system that meets the requirements of Section 150.1(c)14. In addition, upgrade the panelboard to meet the requirements of ER1 and install any two of the other measures from ER2.A - ER2.F.</p> <p>Existing PV Systems: If the home already has an existing solar PV system that meets the requirements of Section 150.1(c)14, to claim credit for this measure, PV1, upgrade the panelboard to meet the requirements of ER1 and install any two</p>

	of the other measures from ER2.A - ER2.F.
ER1	<p><u>Electric Readiness - Service Upgrade</u>: Mandatory measure for scopes of work identified below. Upgrade the panelboard serving the individual dwelling unit to provide circuit breaker spaces for a heat pump water heater, heat pump space heater, electric cooktop and electric clothes dryer with the capacities specified in Section 150.0 (n), (t), (u) and (v); or, provide electrical load calculations and appliance specifications for serving all of these end-uses with a minimum 100-amp panel.</p>
ER2	<p><u>Electric Readiness Measures - End Uses</u>: Mandatory measure for scopes of work identified below.</p> <p>For any covered project, if the service panel is being upgraded or to claim the Solar PV + Electric Ready Pre-Wire credit, satisfy any two of the electric-readiness measures below.</p> <ul style="list-style-type: none"> • If the kitchen is being remodeled, make the range electric ready as specified in ER2, Item C below and upgrade the panelboard as specified under ER1. • If the laundry room is being remodeled, make the dryer electric ready as specified in Item D below and upgrade the panelboard as specified under ER1. <p>Meet the requirements below, that otherwise apply to newly constructed buildings:</p> <ol style="list-style-type: none"> A. Heat Pump Water Heater Ready, as specified in Section 150.0(n)1. B. Heat Pump Space Heater Ready, as specified in Section 150.0(t). C. Electric Cooktop Ready, as specified in Section 150.0(u). D. Electric Clothes Dryer Ready, as specified in Section 150.0(v). E. Energy Storage Systems (ESS) Ready, as specified in Section 150.0(s). F. EV Charger Ready. Install a dedicated 208/240-volt branch circuit as specified in the California Green Building Code, Title 24, Part 11, Section A4.106.8.1, which otherwise applies to new construction. <ul style="list-style-type: none"> • Exception: If an electrical permit is not otherwise required for the project other than compliance with the laundry room and kitchen remodel requirements of this Item, ER2.

