

DOCKETED

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Ordinance No. 5665

Emergency Ordinance of the Council of the City of Palo Alto Amending Chapter 16.17 (California Energy Code, California Code of Regulations, Title 24, Part 6) of the Palo Alto Municipal Code to Adopt the 2025 California Energy Code, Along With Local Amendments Thereto, to Add FlexPath and Air Conditioner Time-of-Replacement Requirements.

The Council of the City of Palo Alto does ORDAIN as follows:

SECTION 1. Findings and Declarations.

- A. The City of Palo Alto adopted a Sustainability and Climate Action Plan, or S/CAP, to meet the City's stated goal of "80 x 30": reducing greenhouse gas emissions 80% below 1990 levels by 2030.
- B. The S/CAP outlines goals and key actions in eight areas, one of which is energy and more specifically, energy efficiency and electrification. The goals for the energy area of the S/CAP are to reduce GHG emissions from the direct use of natural gas in Palo Alto's building sector by at least 60% below 1990 levels (116,400 MT CO2e reduction) and to modernize the electric grid to support increased electric demand to accommodate state-of-the-art technology.
- C. One key action the City is taking to accomplish those goals is to use codes and ordinances - such as the energy reach code, green building ordinance, zoning code, or other mandates - to facilitate electrification in both existing buildings and new construction projects where feasible.
- D. The purpose of this ordinance is to formally adopt California Code of Regulations, Title 24, Part 6, 2025 California Energy Code, with local amendments in furtherance of the City of Palo Alto's S/CAP goals and other sustainability-related goals included in the City's 2030 Comprehensive Plan. The amendments adopted herein are more restrictive than the building standards in Title 24, Part 6.
- E. Recent legislation, Assembly Bill (AB) 130 (2025), limits local jurisdictions' authority to amend the California Building Standards Code beginning October 1, 2025, and ending June 1, 2031. The Council desires to adopt these amendments before the AB 130 moratorium begins. The Council may in the future adopt additional amendments to the 2025 California Energy Code that are not subject to, or are exempt from, the AB 130 moratorium.

- F. The Council declares that this emergency ordinance is necessary as an emergency measure to preserve the public peace, health, or safety by ensuring that the City may enforce its local amendments to the California Energy Code during the AB 130 moratorium. These local amendments are necessary to mitigate the public health and safety impacts of GHG emissions from natural gas usage by incentivizing energy efficiency and electrification.
- G. Additionally, the Council finds that these changes or modifications to the California Energy Code are necessary to implement a local code amendment that is adopted to align with a general plan approved on or before June 10, 2025, and that permits mixed-fuel residential construction consistent with federal law while also incentivizing all-electric construction as part of an adopted greenhouse gas emissions reduction strategy. The City of Palo Alto's Comprehensive Plan was adopted on November 13, 2017, and amended on December 19, 2022. The relevant policies and goals in the Comprehensive Plan include, but are not limited to: Goal N-7 ("A clean, efficient energy supply that makes use of cost-effective renewable resources") and Goal N-8 ("Actively support regional efforts to reduce our contribution to climate change while adapting to the effects of climate change on land uses and city services") contained in the Natural Environment Element and associated policies and programs. These include Policy N-7.4 ("Maximize the conservation and efficient use of energy in new and existing residences and other buildings in Palo Alto"), Program N-7.4.1 ("Continue timely incorporation of State and federal energy efficiency standards and policies in relevant City codes, regulations and procedures and higher local efficiency standards that are cost-effective"), Policy N-7.7: ("Explore a variety of cost-effective ways to reduce natural gas usage in existing and new buildings in Palo Alto in order to reduce associated greenhouse gas emissions"), and especially Policy N-8.2 ("With guidance from the City's Sustainability and Climate Action Plan (S/CAP) and its subsequent updates and other future planning efforts, reduce greenhouse gas emissions from City operations and from the community").
- H. California Health and Safety Code sections 17958.5 and 17958.7 require that the City, in order to make changes or modifications in the requirements contained in the California Building Standards Code on the basis of local conditions, make express finding that such modifications or changes are reasonably necessary because of local climatic, geological or topographical conditions. The required findings are attached to this ordinance as Exhibit A.

SECTION 2. Chapter 16.17 (California Energy Code, California Code of Regulations, Title 24, Part 6) of the Palo Alto Municipal Code is hereby amended by repealing in its entirety existing Chapter 16.17 and adopting a new Chapter 16.17 to read as follows:

CHAPTER 16.17
CALIFORNIA ENERGY CODE,
CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 6

Sections

16.17.010	2025 California Energy Code, Title 24, Part 6 adopted.
16.17.020	Cross - References to California Energy Code
16.17.030	Local Amendments
16.17.040	Administration & Enforcement of 2025 California Energy Code
16.17.050	Violations – Penalties
16.17.060	Subchapter 1 All Occupancies – General Provisions
16.17.070	Reserved
16.17.080	Reserved
16.17.090	Reserved
16.17.100	Reserved
16.17.110	Reserved
16.17.120	Subchapter 7 Single-family Residential Building – Mandatory Features and Devices
16.17.130	Reserved
16.17.140	Subchapter 9 Single-Family Residential Buildings—Additions And Alterations To Existing Residential Buildings
16.17.150	Reserved
16.17.160	Reserved
16.17.170	Infeasibility Exemption
16.17.180	Appeal

16.17.010 2025 California Energy Code, Title 24, Part 6 adopted.

The California Energy Code, 2025 Edition, Title 24, Part 6 of the California Code of Regulations together with those omissions, amendments, exceptions and additions thereto, is adopted and hereby incorporated in this Chapter by reference and made a part hereof the same as if fully set forth herein. Except as amended herein, all requirements of the California Energy Code, 2025 Edition, Title 24, Part 6 of the California Code of Regulations shall apply.

Unless superseded and expressly repealed, references in City of Palo Alto forms, documents and regulations to the chapters and sections of the former editions of the California Code of Regulations, Title 24, shall be construed to apply to the corresponding provisions contained within the California Code of Regulations, Title 24, 2025. Ordinance No. 5627 of the City of Palo Alto and all other ordinances or parts of ordinances in conflict herewith are hereby suspended and expressly repealed.

One copy of the California Energy Code, 2025 Edition, has been filed for use and examination of the public in the Office of the Chief Building Official of the City of Palo Alto.

16.17.020 Cross - References to California Energy Code

The provisions of this Chapter contain cross-references to the provisions of the California Energy Code, 2025 Edition, in order to facilitate reference and comparison to those provisions.

16.17.030 Local Amendments

The provisions of this Chapter shall constitute local amendments to the cross-referenced provisions of the California Energy Code, 2025 Edition, and shall be deemed to replace the cross-referenced sections of said Code with the respective provisions set forth in this Chapter.

16.17.040 Administration & Enforcement of 2025 California Energy Code

Administration and enforcement of this code shall be governed by Chapter 1, Division II of the 2025 California Building Code as amended by Palo Alto Municipal Code Chapter 16.04.

16.17.050 Violations - Penalties

It is unlawful for any person to violate any provision or to fail to comply with any of the requirements of this Chapter or any permits, conditions, or variances granted under this Chapter. Violators shall be subject to any penalty or penalties authorized by law, including but not limited to: administrative enforcement pursuant to Chapters 1.12 and 1.16 of the Palo Alto Municipal Code; and criminal enforcement pursuant to Chapter 1.08 of the Palo Alto Municipal Code. Each separate day or any portion thereof during which any violation of this Chapter occurs or continues shall be deemed to constitute a separate offense.

When the chief building official determines that a violation of this Chapter has occurred, the chief building official may record a notice of pendency of code violation with the Office of the County Recorder stating the address and owner of the property involved. When the violation has been corrected, the chief building official shall issue and record a release of the notice of pendency of code violation.

16.17.060 Subchapter 1 All Occupancies – General Provisions

Section 100.0 – SCOPE is amended to add new subsections (i) and (j) as follows:

- (i) Single Family Building Remodel Energy Reach Code - Purpose and Intent.

In addition to all requirements of the California Energy Code applicable to Single Family building additions and alterations, the energy efficiency, renewable energy, and electric readiness measures specified in Sections 150.0(w) and 150.0(x) shall be required for

certain single-family additions and alterations.

(j) **SUBSTANTIAL REMODEL** (or “50-50-50” RULE) Any project that affects the removal or replacement of 50% or more linear length of the existing exterior walls of the building, 50% or more linear length of the existing exterior wall where the plate height is raised, or 50% or more of the existing roof framing area is removed or replaced, over a 3-year period is considered a substantial remodel.

- a. Any permit(s) applied for will trigger a review of a 3-year history of the project. This review will result in determining if a substantial remodel has occurred.
- b. The Chief Building Official or designee shall make the final determination regarding the application if a conflict occurs.

Section 100.1(b) of Subchapter 1 of the California Energy Code is amended by adding the following definitions:

COVERED SINGLE FAMILY PROJECT shall mean any project in a Single-Family residential building originally permitted for construction before 2011 that meets any of the following criteria:

1. All residential building additions and/or alterations exceeding 1000 square feet, as amended by this Chapter and as applicable to the scope of work.

For Covered Single Family Projects, the area of alterations will include any construction or renovation to an existing structure other than repair or addition. Alterations include raising the plate height, historic restoration, changes or rearrangements of the structural parts or elements, and changes or rearrangement of bearing walls and full height partitions.

Normal maintenance, reroofing, painting or wall papering, floor finishes, replacement-in-kind of mechanical, plumbing and electrical systems, or replacing or adding new kitchen counter and similar furniture, plumbing fixture to the building are excluded for the purposes of establishing scope of Covered Single-Family Projects.

The area of alteration should be limited to the footprint of element(s) being altered.

The sum of the footprint of the elements being altered with respect to Covered Single Family Projects, shall be calculated using the following methodology:

1. Raising the plate height: The calculation with respect to raising of the plate height will be based on the area of the footprint in which the plate height is being increased. Plate height means the vertical distance measured from the top of the finished floor to the top of the plates.
2. Historic restoration: The calculation with respect to historic

restoration will be based on the area of work covered in the California Historical Building Code (Title 24, Part 8).

3. Structural parts or elements: The calculation with respect to changes or rearrangements of the structural parts or elements will be based on the sum of the individual footprints of each structural change or rearrangement. The footprint shall be calculated based on the proposed design and inclusive of any demolished structural parts or elements.
4. Bearing walls and full height partition: The calculation with respect to changes or rearrangement of walls and full height partitions will be based on the footprint of any demolished wall or full height partition and any new wall or new full height partition.

Exception: Attached and detached Accessory Dwelling Units, ADU conversions of existing structures shall meet the California Energy Code Mandatory measures only.

CERTIFIED ENERGY ANALYST is a person registered as a Certified Energy Analyst with the California Association of Building Energy Consultants as of the date of submission of a Certificate of Compliance as required under section 10-103 of Building Energy Efficiency Standards for residential and nonresidential buildings.

ELECTRIC EQUIPMENT OR APPLIANCE means one or more devices that use electric energy to serve the needs for heating and cooling, water heating, cooking, and electric vehicle charging. In addition, ancillary equipment such as an electric panel, photovoltaic equipment, and energy storage systems that are deployed to support such devices shall be considered Electric Equipment or Appliance.

ELECTRIC HEATING APPLIANCE is a device that produces heat energy to create a warm environment by the application of electric power to resistance elements, refrigerant compressors, or dissimilar material junctions, as defined in the California Mechanical Code.

SUBSTANTIAL REMODEL (or “50-50-50” RULE) Any project that affects the removal or replacement of 50% or more linear length of the existing exterior walls of the building, 50% or more linear length of the existing exterior wall where the plate height is raised, or 50% or more of the existing roof framing area is removed or replaced, over a 3-year period is considered a substantial remodel. (Refer to Section 100.0 (j)).

16.17.070 Reserved

16.17.080 Reserved

16.17.090 Reserved

16.17.100 Reserved

16.17.110 Reserved

**16.17.120 SUBCHAPTER 7 SINGLE-FAMILY RESIDENTIAL BUILDING –
MANDATORY FEATURES AND DEVICES**

Section 150.0 MANDATORY FEATURES AND DEVICES

Section 150.0 of Subchapter 7 of the California Energy Code is amended to read as follows (additions underlined, deletions ~~struck through~~):

Single-family residential buildings shall comply with the applicable requirements of Sections 150(a) through 150.0(x).

NOTE: The requirements of Sections 150.0 (a) through (v) apply to newly constructed buildings. Sections 150.2(a) and 150.2(b) specify which requirements of Sections 150.0(a) through 150.0(v) also apply to additions or alterations. The electric readiness requirements of Sections 150.0 (n), (t), (u) and (v) apply to residential remodels or additions when the applicable system is included in the remodel. In addition, Covered Single Family Projects shall also be required to comply with Section 150.0(w) and certain additions and alterations shall also be required to comply with Section 150.0(x).

Subsections 150.0 (a) – (s) are adopted without modification.

(t) Heat pump space heater ready. Systems using gas or propane furnace to serve individual dwelling units shall include the following:

1. A dedicated 240 volt branch circuit wiring shall be installed within 3 feet from the furnace and accessible to the furnace with no obstructions. The branch circuit conductors shall be rated at 30 amps minimum. The blank cover shall be identified as "240V ready." All electrical components shall be installed in accordance with the *California Electrical Code*.
2. The main electrical service panel shall have a reserved space to allow for the installation of a double pole circuit breaker for a future heat pump space heater installation. The reserved space shall be permanently marked as "For Future 240V use."
3. A designated exterior location for a future heat pump compressor unit.

Subsections 150.0 (u) – (v) are adopted without modification.

A new Subsection, (w), is added to Section 150.0 as follows:

(w) A Covered Single-Family Project shall install a set of measures based on the building vintage from the Measure Menu Table, Table 150.0-J, to achieve a total Measure Point Score that is equal to or greater than the Target Score in Table 150.0-I. In addition, all mandatory measures listed in Table 150.0-J shall be installed. Measure verification shall be explicitly included as an addendum to the Certificate of Compliance to be filed pursuant to 2025 Title 24, Part 6, Section 10-103.

Installed measures shall meet the specifications in Table 150.0-K. Building vintage is the year in which the original construction permit for the building was submitted, as documented by building department records, or the permit issue date of an addition or alteration that satisfied the Performance Standards (California Energy Code, Title 24, Part 6, Section 150.1(b)) that were in effect at that time. Unless otherwise specified, the requirements shall apply to the entire dwelling unit, not just the additional or altered portion. Measures from the Measure Menu table that are to be installed to satisfy requirements under the California Energy Code, Title 24, Part 6, may not count towards compliance with these requirements. Where these requirements conflict with other California Energy Code requirements, the stricter requirements shall prevail.

Exception 1 to Section 150.0(w): Creation of a new accessory dwelling unit or junior accessory dwelling unit that is within the existing space of a single family dwelling or accessory structure and include an expansion of not more than 150 square feet beyond the same physical dimensions as the existing accessory structure. An expansion beyond the physical dimensions of the existing accessory structure shall be limited to accommodating ingress and egress. Or, if the project would not otherwise be a Covered Single Family Project were it not for the inclusion of an accessory dwelling unit or junior accessory dwelling unit that meets the criteria above.

Exception 2 to Section 150.0(w): Mobile Homes, Manufactured Housing, or Factory-built Housing as defined in Division 13 of the California Health and Safety 12 Code (commencing with Section 17000 of the Health and Safety Code).

Exception 3 to Section 150.0(w): Emergency Housing pursuant to Appendix P of the California Building Code.

Exception 4 to Section 150.0(w): An alteration that consists solely of roof and/or fenestration projects.

Exception 5 to Section 150.0(w): If the project includes circumstances which constitute hardship or infeasibility, the applicant may request an exemption. In applying for an exemption, the burden is on the applicant to show hardship or infeasibility. Circumstances that constitute hardship or infeasibility shall include one or more of the following:

- (a) That the cost of achieving compliance exceeds 20% of the valuation of cost of the project;
- (b) That it is technically infeasible to achieve compliance through all packages due to conditions specific to the project;
- (c) That strict compliance with these standards would create or maintain a hazardous condition(s) and present a life safety risk to the occupants.

Applicants shall follow the Infeasibility procedures in PAMC 16.17.170.

Exception 6 to Section 150.0(w): If the applicant demonstrates, using Commission-certified compliance software as specified by Section 10-109(c) and Section 10-116, that the Energy Budget of the Proposed Building Design would be less than or equal to the Energy Budget of the building under the project if it included any set of measures that would achieve compliance under this Section 150.0(w).

Certificate of Compliance. The Certificate of Compliance shall be prepared and signed by a Certified Energy Analyst and the energy budget for the Proposed Design shall be no greater than the Standard Design Building.

Exception 7 to Section 150.0(w): If the dwelling unit has previously installed measures from the Measure Menu, Table 150.0-J, and compliance can be demonstrated to the building official, then these measures shall not be required to be newly installed, and appropriate credit shall be included in the applicable compliance calculations.

Exception 8 to Section 150.0(w): A measure that is necessary for compliance is prohibited because of a covenant or other deed restriction on the property, such as a homeowners association covenant.

Exception 9 to Section 150.0(w): A Covered Single-Family Project, other than an addition, that would not otherwise be subject to this section 150.0(w) but for installation of solar PV, solar water heating, EV charging, electrical upgrades for solar PV or EV charging, or energy storage.

Exception 10 to Section 150.0(w): The project is solely related to a repair, as defined by Title 24 Part 2 Section 202.

Exception 11 to Section 150.0(w) and 150.0(x): A Covered Single Family Project that consists solely of medically necessary improvements or solely of seismic safety improvements.

TABLE 150.0-I: TARGET SCORES

<u>Building Vintage</u>	<u>Pre-1978</u>	<u>1978-1991</u>	<u>1992-2010</u>
<u>Climate Zone 4</u>	<u>12</u>	<u>12</u>	<u>12</u>

TABLE 150.0-J: MEASURE MENU, CLIMATE ZONE 4

<u>ID</u>	<u>Measures</u>	<u>Building Vintage</u>		
		<u>Pre-1978</u>	<u>1978-1991</u>	<u>1992-2010</u>
<u>E1</u>	<u>Lighting Measures</u>		Mandatory	
<u>E2</u>	<u>Water Heating Package</u>	<u>1</u>	<u>1</u>	<u>1</u>
<u>E3</u>	<u>Air Sealing</u>	<u>2</u>	<u>1</u>	<u>1</u>
<u>E4.A</u>	<u>R-38 Attic Insulation</u>	<u>7</u>	<u>3</u>	<u>1</u>
<u>E4.B</u>	<u>R-49 Attic Insulation</u>	<u>7</u>	<u>3</u>	<u>1</u>
<u>E5</u>	<u>Duct Sealing</u>	<u>6</u>	<u>4</u>	<u>1</u>
<u>E6.A</u>	<u>New Ducts, R-6 Insulation + Duct Sealing</u>	<u>10</u>	<u>7</u>	<u>2</u>
<u>E6.B</u>	<u>New Ducts, R-8 Insulation + Duct Sealing</u>	<u>11</u>	<u>8</u>	<u>3</u>
<u>E7</u>	<u>Windows</u>	<u>6</u>	<u>5</u>	<u>3</u>
<u>E8</u>	<u>R-15 Wall Insulation</u>	<u>6</u>	--	--
<u>E10.A</u>	<u>R-19 Raised floor insulation</u>	<u>8</u>	<u>8</u>	--
<u>E10.B</u>	<u>R-30 Raised floor insulation</u>	<u>9</u>	<u>9</u>	--
<u>E11</u>	<u>Radiant Barrier Under Roof (when re-roofing)</u>	<u>3</u>	<u>2</u>	<u>1</u>
<u>FS1</u>	<u>Heat Pump Water Heater Replacing Gas</u>	<u>12</u>	<u>12</u>	<u>12</u>
<u>FS2</u>	<u>High Eff. Heat Pump Water Heater Replacing Gas</u>	<u>13</u>	<u>13</u>	<u>13</u>
<u>FS3</u>	<u>Heat Pump Water Heater Replacing Electric</u>	<u>4</u>	<u>4</u>	<u>4</u>
<u>FS4</u>	<u>High Eff. Heat Pump Water Heater Replacing Electric</u>	<u>5</u>	<u>5</u>	<u>5</u>

<u>FS5</u>	<u>Heat Pump Space Conditioning System</u>	<u>21</u>	<u>16</u>	<u>13</u>
<u>FS6</u>	<u>High Eff. Heat Pump Space Conditioning System</u>	<u>23</u>	<u>18</u>	<u>15</u>
<u>FS7</u>	<u>Dual Fuel Heat Pump Space Conditioning System</u>	<u>15</u>	<u>11</u>	<u>10</u>
<u>FS8</u>	<u>Heat Pump Clothes Dryer</u>	<u>1</u>	<u>1</u>	<u>1</u>
<u>FS9</u>	<u>Induction Cooktop</u>	<u>1</u>	<u>1</u>	<u>1</u>
<u>PV</u>	<u>Solar PV</u>	<u>17</u>	<u>17</u>	<u>15</u>

TABLE 150.0-K: MEASURE SPECIFICATIONS

<u>ID</u>	<u>Measure Specification</u>
Energy Efficiency Measures	
<u>E1</u>	<u>Lighting Measures</u> – Install lighting with an efficiency of 45 lumens per watt or greater in all interior and exterior screw-in fixtures. Install photocell, occupancy sensor or energy management system controls that meet the requirements of 150.0(k)3 in all outdoor lighting permanently mounted to a residential building or to other buildings on the same lot.
<u>E2</u>	<u>Water Heating Package</u> : 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. <u>Exception</u> : Upgraded fixtures are not required if existing fixtures have rated or measured flow rates of no more than ten percent greater than 2025 California Green Building Standards Code (Title 24, Part 11) Section 4.303 water efficiency requirements.
<u>E3</u>	<u>Air Sealing</u> : 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. 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 ECC 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 certified ECC Rater or a professional certified by the Building Performance Institute, in accordance with the BPI Technical Standards for the Building Analyst Professional.
<u>E4.A</u>	<u>R-38 Attic Insulation</u> : 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.

	<u>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.</u>
E4.B	<u>R-49 Attic Insulation: Attic insulation shall be installed to achieve a weighted assembly U-factor of 0.020 or insulation installed at the ceiling level shall have a thermal resistance of R-49 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. 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.</u>
E5	<u>Duct Sealing: Air seal all space conditioning ductwork to meet the requirements of the 2025 Title 24, Part 6, Section 150.2(b)1E. The duct system must be tested by a ECC Rater no more than three years prior to the Covered Single Family 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.</u> <u>Exception: Buildings without ductwork or where the ducts are in conditioned space.</u>
E6.A	<u>New Ducts, R-6 insulation + Duct Sealing: Replace existing space conditioning ductwork with new R-6 ducts that meet the requirements of 2025 Title 24 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 Single Family Project permit application date.</u>
E6.B	<u>New Ducts, R-8 insulation + Duct Sealing: Replace existing space conditioning ductwork with new R-8 ducts that meet the requirements of 2025 Title 24 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 Single Family Project permit application date.</u>
E7	<u>Windows: Replace at least 50% of existing windows with high performance windows with an area-weighted average U-factor no greater than 0.27 in Climate Zones 4.</u>
E8	<u>R-15 Wall Insulation: Install wall insulation in all exterior walls to achieve a weighted U-factor of 0.095 or install wall insulation in all exterior wall cavities that shall result in an installed thermal resistance of R-15 or greater for the insulation alone.</u>
E9	<u>Reserved for future use</u>
E10. A	<u>R-19 Floor Insulation: Raised-floors shall be insulated such that the floor assembly has an assembly U-factor equal to or less than U-0.037 or shall be insulated between wood framing with insulation having an R-value equal to or greater than R-19.</u>
E10. B	<u>R-30 Floor Insulation: Raised-floors shall be insulated such that the floor assembly has an assembly U-factor equal to or less than U-0.028 or shall be insulated between wood framing with insulation having an R-value equal to or greater than R-30.</u>
E11	<u>Radiant Barrier: A radiant barrier that meets the requirements of Section 150.1(c)2 shall be installed under at least 50% of the roof surface.</u>
<u>Fuel Substitution and Solar PV Measures</u>	
FS1	<u>Heat Pump Water Heater (HPWH) Replacing Gas: Replace existing natural gas water heater with a heat pump water heater that meets the requirements of Sections 110.3 and 150.2(b)1.H.iii.b.</u>

FS2	<u>High Efficiency Heat Pump Water Heater (HPWH) Replacing Gas: Replace existing natural gas water heater with heat pump water heater with a Northwest Energy Efficiency Alliance (NEEA) Tier 3 or higher rating that also meets the requirements of Sections 110.3 and 150.2(b)1.H.iii.c.</u>
FS3	<u>Heat Pump Water Heater (HPWH) Replacing Electric: Replace existing electric resistance water heater with a heat pump water heater that meets the requirements of Sections 110.3 and 150.2(b)1.H.iii.b.</u>
FS4	<u>High Efficiency Heat Pump Water Heater (HPWH) Replacing Electric: Replace existing electric resistance water heater with heat pump water heater with a Northwest Energy Efficiency Alliance (NEEA) Tier 3 or higher rating that also meets the requirements of Sections 110.3, and 150.2(b)1.H.iii.c.</u>
FS5	<u>Heat Pump Space Conditioning System: Replace all existing gas and electric resistance primary space heating systems with a heat pump system that meets the requirements of Sections 110.3, 150.2(b)1.C, 150.2(b)1.E, 150.2(b)1.F, and 150.2(b)1.G.</u>
FS6	<u>High Efficiency Heat Pump Space Conditioning System: Replace all existing gas and electric resistance primary space heating systems with an electric-only heat pump system that meets the requirements of Sections 110.3 and 150.2(b)1.C, 150.2(b)1.E, 150.2(b)1.F, and 150.2(b)1.G and one of the following:</u> A. <u>A ducted 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</u> B. <u>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</u>
FS7	<u>Dual Fuel Heat Pump Space Conditioning System: Install a heat pump space conditioning system that meets the requirements of Sections 110.3 and 150.2(b)1.C, 150.2(b)1.E, 150.2(b)1.F, and 150.2(b)1.G and either:</u> A. <u>Replaces all existing gas and electric resistance primary heating systems with a hybrid gas and electric heat pump system, or</u> B. <u>Is an electric-heat pump system in tandem with a gas furnace and controls to use the gas furnace for backup heat only.</u>
FS8	<u>Heat Pump Clothes Dryer: Replace existing electric resistance or gas clothes dryer with heat pump dryer with no resistance element and cap gas line.</u>
FS9	<u>Induction Cooktop: Replace all existing gas and electric resistance stove tops with inductive stove top and cap the gas line.</u>
PV.A	<u>Solar PV: Install a solar PV system that meets the requirements of Section 150.1(c)14.</u>

A new Subsection, (x), is added to Section 150.0 as follows:

(x) Electric Readiness for Alterations

1. Electric range. Where branch circuits or receptacles are added or altered in a kitchen and the work requires a building permit, install electrical components in accordance with the California Electrical Code. The electrical components shall include either of the following:
 - A 125 volt, 20 amp electrical receptacle that is connected to the electric panel with a 120/240 volt 3 conductor branch circuit rated at 50 amps minimum, within 3 feet from the appliance and accessible to the appliance with no obstructions. Both ends of the unused conductor shall be

labeled with the word "spare" and be electrically isolated.
Space shall be reserved for a single pole circuit breaker in the
electrical panel adjacent to the circuit breaker for the branch
circuit and labeled with the words "Future Use".

- B. A pathway for a future 240 volt 50 amp minimum branch circuit that shall consist of either conductors or raceway from the main electrical service panel. The main electric panel shall have space reserved to allow for the installation of a double pole circuit breaker for a future electric range installation. The reserved space shall be permanently marked as "For Future 240V use". The raceway or conductors shall terminate at a junction box within 3 feet of the appliance. The blank cover shall be identified as "240V ready".
2. Electric dryer. Where a branch circuit is added or altered within 3 feet of a gas or propane clothes dryer and the work requires a building permit, install electrical components in accordance with the California Electrical Code. The electrical components shall include either of the following:

 - A. A dedicated 125 volt, 20 amp electrical receptacle that is connected to the electric panel with a 120/240 volt 3 conductor branch circuit rated at 30 amps minimum, within 3 feet from the appliance and accessible to the appliance with no obstructions. Both ends of the unused conductor shall be labeled with the word "spare" and be electrically isolated.
Space shall be reserved for a single pole circuit breaker in the electrical panel adjacent to the circuit breaker for the branch circuit and labeled with the words "Future Use"; or,
 - B. A pathway for a future 240 volt 30 amp minimum branch circuit that shall consist of either conductors or raceway from the main electrical service panel. The main electric panel shall have space reserved to allow for the installation of a double pole circuit breaker for a future heat pump dryer installation. The reserved space shall be permanently marked as "For Future 240V use". The raceway or conductors shall terminate at a junction box within 3 feet of the appliance. The blank cover shall be identified as "240V ready".
3. Heat pump water heater.

 - A. If wall framing is removed or replaced within 3 feet of a gas or propane water heating appliance, space suitable for the future installation of a heat pump water heater (HPWH) shall be provided. The space shall be at least 2.5 feet by 2.5 feet wide and 7 feet tall and shall include a condensate drain that is no more than 2 inches higher than the base of an installed water heater and allows natural draining without pump assistance or installed piping or tubing within 3 feet of the water heater

location to a condensate drain or exterior location. If pump assistance is needed, a receptacle on a 120 volt, minimum 15 amp branch circuit for a condensate pump must be available within 3 feet of the water heater location.

B. Where branch circuits are altered or added within 3 feet of an existing gas or propane water heater or within 10 feet of the designated future location of a heat pump water heater as required under Section 150.0(x)3A, and the work requires a building permit, install electrical components in accordance with the California Electrical Code. The electrical components shall include either of the following:

- i. A dedicated 125 volt, 20 amp electrical receptacle that is connected to the electric panel with a 120/240 volt 3 conductor, 10 AWG copper branch circuit rated at 30 amps minimum, within 3 feet from the water heater and accessible to the water heater with no obstructions. Both ends of the unused conductor shall be labeled with the word "spare" and be electrically isolated. Space shall be reserved for a single pole circuit breaker space in the electrical panel adjacent to the circuit breaker for the branch circuit and labeled with the words "Future 240V Use"; or
- ii. A pathway for a future 240 volt 30 amp minimum branch circuit that shall consist of either conductors or raceway from the main electrical service panel. The main electric panel shall have space reserved to allow for the installation of a double pole circuit breaker for a future HPWH installation. The reserved space shall be permanently marked as "For Future 240V use". The pathway shall terminate at a junction box within 3 feet of the appliance. The blank cover shall be identified as "240V ready".

Exception 1 to Section 150.0(x): The project is the result of a repair as defined by Title 24 Part 2 Section 202.

Exception 2 to Section 150.0(x): If a building permit, is not otherwise required for the project other than compliance with this section.

Exception 4 to Section 150.0(x): The project is the result of a safety improvement to remove a known hazard.

Exception 5 to Section 150.0(x): Mobile Homes, Manufactured Housing, or Factory-built Housing as defined in Division 13 of the

California Health and Safety 12 Code (commencing with Section 17000 of the Health and Safety Code).

Exception 6 to Section 150.0(x): Emergency Housing pursuant to Appendix P of the California Building Code.

Exception 7 to Section 150.0(x): Creation of a new accessory dwelling unit or junior accessory dwelling unit that is within the existing space of a single family dwelling or accessory structure and includes an expansion of not more than 150 square feet beyond the same physical dimensions as the existing accessory structure. An expansion beyond the physical dimensions of the existing accessory structure shall be limited to accommodating ingress and egress. Or, if the project would not otherwise be a Covered Single Family Project were it not for the inclusion of an accessory dwelling unit or junior accessory dwelling unit that meets the criteria above.

16.17.130 Reserved

16.17.140 SUBCHAPTER 9 SINGLE-FAMILY RESIDENTIAL BUILDINGS—ADDITIONS AND ALTERATIONS TO EXISTING RESIDENTIAL BUILDINGS

The requirements of PAMC 16.17.140 shall apply to building permit applications submitted to the City on or after January 1, 2027 and shall apply to all building permit applications submitted to the City on or after that date.

Section 150.2 – ENERGY EFFICIENCY STANDARDS FOR ADDITIONS AND ALTERATIONS TO EXISTING SINGLE-FAMILY RESIDENTIAL BUILDINGS – of Subchapter 9 of the 2025 California Energy Code is adopted without amendment, except as follows (additions underlined, deletions ~~struck through~~):

Section 150.2(b)1C is hereby amended to read:

C. **Entirely new or complete replacement space-conditioning systems** installed as part of an alteration, shall include all the system heating or cooling equipment, including but not limited to: condensing unit cooling or heating coil, and air handler for split systems; or complete replacement of a packaged unit; plus entirely new or replacement duct system (Section 150.2(b)1Diia). Entirely new or complete replacement space-conditioning systems shall meet the requirements of Sections 150.0(h), 150.0(i), 150.0(j)1, 150.0(j)2, 150.0(m)1 through 150.0(m)10; 150.0(m)12; 150.0(m)13, 150.1(c)7, 150.2(b)1Fii, 150.2(b)1G, and TABLE 150.2-A. Additionally, where an entirely new or complete replacement space conditioning system includes a new or replacement air-cooled air conditioner in Climate Zones 1 through 14 and 16,

it shall meet the applicable requirements of Section 150.2(b)1Fiv. Where an entirely new or complete replacement space conditioning system includes a new or replacement heat pump, it shall meet the applicable requirements of Section 150.2(b)1Fv.

Section 150.2(b)1.F. is hereby amended to read:

F. **Altered space-conditioning system - mechanical cooling.** Alterations which install new or replacement air-cooled air conditioners shall meet the applicable requirements of subsections i and iv. Alterations which install new or replacement heat pumps shall meet the applicable requirements of subsections i, ii, iii, and v. All other alterations to refrigerant containing components such as the compressor, condensing coil, evaporator coil, refrigerant metering device, or refrigerant piping, shall meet the applicable requirements of subsections i, ii, and iii. When a space conditioning system is an air conditioner or heat pump that is altered by the installation or replacement of refrigerant containing system components such as the compressor, condensing coil, evaporator coil, refrigerant metering device or refrigerant piping, the altered system shall comply with the following requirements:

- i. All thermostats associated with the system shall be replaced with setback thermostats meeting the requirements of Section 110.2(c).
- ii. Air-cooled air conditioners in Climate Zones 2 and 8 through 15 and air-source heat pumps in all climate zones, including but not limited to ducted split systems, ducted package systems, small duct high velocity air systems, and minisplit systems, shall comply with Subsections a and b, unless the system is of a type that cannot be verified using the specified procedures. Systems that cannot comply with the requirements of 150.2(b)1Fii shall comply with Section 150.2(b)1Fiii.

Exception to Section 150.2(b)1Fii: Entirely new or complete replacement packaged systems for which the manufacturer has verified correct system refrigerant charge prior to shipment from the factory are not required to have refrigerant charge confirmed through field verification and diagnostic testing. The installer of these packaged systems shall certify on the Certificate of Installation that the packaged system was pre-charged at the factory and has not been altered in a way that would affect the charge. Ducted systems shall comply with minimum system airflow rate requirement in Section 150.2(b)1Fii, provided that the system is of a type that can be verified using the procedure specified in RA3.3 or an approved alternative in RA1.

- a. Minimum system airflow rate shall comply with the applicable Subsection I or II below as confirmed through field verification and diagnostic testing in accordance with the procedures specified in Reference Residential Appendix Section RA3.3 or an approved

alternative procedure as specified in Section RA1.

- I. Small duct high velocity systems shall demonstrate a minimum system airflow rate greater than or equal to 250 cfm per ton of nominal cooling capacity; or
- II. All other air-cooled air conditioner or air-source heat pump systems shall demonstrate a minimum system airflow rate greater than or equal to 300 cfm per ton of nominal cooling capacity; and

Exception 1 to Section 150.2(b)1Fii_a: Systems unable to comply with the minimum airflow rate requirement shall demonstrate compliance using the procedures in Section RA3.3.3.1.5; and the system's thermostat shall conform to the specifications in Section 110.12.

Exception 2 to Section 150.2(b)1Fii_a: Entirely new or complete replacement space conditioning systems, as specified by Section 150.2(b)1C, without zoning dampers may comply with the minimum airflow rate by meeting the applicable requirements in Tables-150.0-B or 150.0-C as confirmed by field verification and diagnostic testing in accordance with the procedures in Reference Residential Appendix Section RA3.1.4.4 and RA3.1.4.5. The design clean-filter pressure drop requirements of Section 150.0(m)12C for the system air filter device(s) shall conform to the requirements given in Tables150.0-B and 150.0-C.

- b. The installer shall charge the system according to manufacturer's specifications. Refrigerant charge shall be verified according to one of the following options, as applicable.
 - I. The installer and rater shall perform the standard charge verification procedure as specified in Reference Residential Appendix Section RA3.2.2, or an approved alternative procedure as specified in Section RA1; or
 - II. The installer shall perform the weigh-in charging procedure as specified by Reference Residential Appendix Section RA3.2.3.1 provided the system is of a type that can be verified using the RA3.2.2 standard charge verification procedure and RA3.3 airflow rate verification procedure or approved alternatives in RA1. The ECC-Rater shall verify the charge using RA3.2.2 and RA3.3 or approved alternatives in RA1.

Exception 1 to Section 150.2(b)1Fii_b: When the outdoor temperature is less than 55° F and the installer utilizes the weigh-in charging procedure in Reference Residential Appendix Section RA3.2.3.1to demonstrate compliance, the installer may elect to utilize the verification procedure in Reference Residential

Appendix Section RA3.2.3.2. If the verification procedure in Section RA3.2.3.2 is used for compliance, the system's thermostat shall conform to the specifications in Section 110.12. Ducted systems shall comply with the minimum system airflow rate requirements in Section 150.2(b)1Fiiia.

iii. Air-cooled air conditioners in Climate Zones 2 and 8 through 15 and air-source heat pumps in all climate zones, including but not limited to ducted split systems, ducted package systems, small duct high velocity, and minisplit systems, which are of a type that cannot comply with the requirements of 150.2(b)1Fiiib shall comply with subsections a and b, as applicable.

- a. The installer shall confirm the refrigerant charge using the weigh-in charging procedure specified in Reference Residential Appendix Section RA3.2.3.1, as verified by an ECC-Rater according to the procedures specified in Reference Residential Appendix RA3.2.3.2; and
- b. Systems that utilize forced air ducts shall comply with the minimum system airflow rate requirement in Section 150.2(b)1Fiiia provided the system is of a type that can be verified using the procedures in Section RA3.3 or an approved alternative procedure in Section RA1.

Exception to Section 150.2(b)1Fiii: Entirely new or complete replacement packaged systems for which the manufacturer has verified correct system refrigerant charge prior to shipment from the factory are not required to have refrigerant charge confirmed through field verification and diagnostic testing. The installer of these packaged systems shall certify on the Certificate of Installation that the packaged system was pre-charged at the factory and has not been altered in a way that would affect the charge. Ducted systems shall comply with minimum system airflow rate requirement in Section 150.2(b)1Fiiib, provided that the system is of a type that can be verified using the procedure specified in Section RA3.3 or an approved alternative in Section RA1.

iv. New or replacement air-cooled air conditioners in Climate Zones 1 through 14 and 16 shall meet the requirements of Section 150.2(b)1Fiva or 150.2(b)1Fivb.

- a. Systems with existing duct distribution systems shall meet the following requirements:
 - I. In all climate zones, meet the airflow and fan efficacy requirements of Section 150.0(m)13B, 150.0(m)13C, or 150.0(m)13D.

Exception 1 to Section 150.2(b)1Fival: Single zone central forced air systems and zonally controlled central forced air systems may demonstrate compliance with an airflow greater than or equal to 300 CFM per ton of nominal cooling capacity.

- II. In all climate zones, meet the refrigerant charge verification requirements of Section 150.2(b)1Fii; and
- III. In all climate zones, vented attics shall have insulation installed to achieve a U-factor of 0.020 or insulation installed at the ceiling level shall result in an insulated thermal resistance of R-49 or greater for the insulation alone; luminaires not rated for insulation contact must be replaced or retrofitted with a fireproof cover that allows for insulation to be installed directly over the cover; and

Exception 1 to Section 150.2(b)1FivalIII: Dwelling units with at least R-38 existing insulation installed at the ceiling level.

Exception 2 to Section 150.2(b)1FivalIII: Dwelling units where the alteration would directly cause the disturbance of asbestos unless the alteration is made in conjunction with asbestos abatement.

Exception 3 to Section 150.2(b)1FivalIII: Dwelling units with knob and tube wiring located in the vented attic.

Exception 4 to Section 150.2(b)1FivalIII: Where the accessible space in the attic is not large enough to accommodate the required R-value, the entire accessible space shall be filled with insulation provided such installation does not violate Section 806.3 of Title 24, Part 2.5.

Exception 5 to Section 150.2(b)1FivalIII: Where the attic space above the altered dwelling unit is shared with other dwelling units and the requirements of Section 150.2(b)1FivalIII are not triggered for the other dwelling units.

- IV. In all climate zones, air seal all accessible areas of the ceiling plane between the attic and the conditioned space in accordance with Section 110.7.

Exception 1 to Section 150.2(b)1FivalIV: Dwelling units with at least R-38 existing insulation installed at the ceiling level.

Exception 2 to Section 150.2(b)1FivalIV: Dwelling units where the alteration would directly cause the disturbance of asbestos unless the alteration is made in conjunction with asbestos abatement.

Exception 3 to Section 150.2(b)1FivalIV: Dwelling units with atmospherically vented space heating or water heating

combustion appliances located inside the pressure boundary of the dwelling unit.

- b. Systems with entirely new or complete replacement duct systems shall meet the following:
 - I. R-8 duct insulation shall be installed for all new ducts located in unconditioned space; and
 - II. In all climate zones, meet the airflow requirements of Section 150.0(m)13B, 150.0(m)13C, or 150.0(m)13D and demonstrate an air-handling unit fan efficacy of less than or equal to 0.35 W/CFM.
 - III. In all climate zones, meet the refrigerant charge verification requirements of Section 150.2(b)1Fii;

Exception 1 to Section 150.2(b)1Fiv: Where the capacity of the existing main electrical service panel is insufficient to supply the electrical capacity of a heat pump and where the existing main electrical service panel is sufficient to supply a new or replacement air conditioner, as calculated according to the requirements of California Electrical Code Article 220.83 or Article 220.87, systems shall comply with the applicable requirements of Sections 150.2(b)1Fi, 150.2(b)1Fii, and 150.2(b)1Fiii. Documentation of electrical load calculations in accordance with Article 220 must be submitted to the enforcement agency prior to permitting for both the heat pump and proposed air conditioner.

Exception 2 to Section 150.2(b)1Fiv: Where the required capacity of a heat pump to meet the system selection requirements of Section 150.0(h)5 is greater than or equal to 12,000 Btu/h more than the greater of the required capacity of an air conditioner to meet the design cooling load OR the capacity of the existing air conditioner, systems shall comply with the applicable requirements of Sections 150.2(b)1Fi, 150.2(b)1Fii, and 150.2(b)1Fiii. Documentation of heating and cooling load calculations in accordance with 150.0(h) must be submitted to the enforcement agency prior to permitting for both the heat pump and proposed air conditioner.

- v. In all climate zones, heat pumps with supplementary heat, including, but not limited to, electric resistance heaters or gas furnace supplementary heating, shall comply with Section 150.0(h)7 and shall lock out supplementary heating above an outdoor air temperature of no greater than 35°F.

Section 150.2(b)2 is hereby amended to read:

2. Performance approach.

The energy budget for alterations is expressed in terms of Long-term System Cost (LSC), and the altered component(s) and any newly installed

equipment serving the alteration shall meet the applicable requirements of Subsections A, B, and C below.

A. The altered components shall meet the applicable requirements of Sections 110.0 through 110.9, Sections 150.0(a) through (l), Sections 150.0(m)1 through 150.0 (m)10, and Sections 150.0(p) through (q). Entirely new or complete replacement mechanical ventilation systems as these terms are used in Section 150.2(b)1L, shall comply with the requirements in Section 150.2(b)1L. Altered mechanical ventilation systems shall comply with the requirements of Section 150.2(b)1M. Entirely new or complete replacement space-conditioning systems, and entirely new or complete replacement duct systems, as these terms are used in Sections 150.2(b)1C and 150.2(b)1Diia, shall comply with the requirements of Sections 150.0(m)12 and 150.0(m)13. New or replacement air-cooled air conditioners in Climate Zones 1 through 14 and 16 shall meet the applicable requirements of Section 150.2(b)1Fiv.

B. The standard design for an altered component shall be the higher efficiency of existing conditions or the requirements stated in Table 150.2-G. For components not being altered, the standard design shall be based on the existing conditions. When the third party verification option is specified as a requirement, all components proposed for alteration for which the additional credit is taken, must be verified by a certified ECC-rater.

Table 150.2-G is hereby amended to read:

Table 150.2-G Standard Design for an Altered Component

Altered Component	Standard Design Without Third Party Verification of Existing Conditions Shall be Based On	Standard Design With Third Party Verification of Existing Conditions Shall be Based On
Ceiling Insulation, Wall Insulation, and Raised-floor Insulation	The requirements of Sections 150.0(a), (c), and (d). <u>The requirements of Section 150.2(b)1J for altered ceilings and for entirely new or complete replacement duct systems where the air handler and ducts are located within a vented attic.</u> <u>The requirements of Section 150.2(b)1Fiv for alterations which include new or replacement air-cooled air conditioners.</u>	The existing insulation R-value
Fenestration	The requirements of Section 150.1(c)3A.	The existing fenestration U-factor

		and SHGC values as verified.
Window Film	The requirements of Section 150.1(c)3A.	The existing fenestration in the alteration shall be based on TABLE 110.6-A and TABLE 110.6-B.
Doors	The U-factor of 0.20. The door area shall be the door area of the existing building.	If the proposed U-factor is < 0.20, the standard design shall be based on the existing U-factor value as verified. Otherwise, the standard design shall be based on the U-factor of 0.20. The door area shall be the door area of the existing building.
Space-Heating and Space-Cooling Equipment	Table 150.1-A for equipment efficiency requirements; Section 150.2(b)1C for entirely new or complete replacement systems; Section 150.2(b)1F for refrigerant charge verification, <u>airflow, and fan efficacy</u> requirements. <u>Section 150.2(b)1Fiv for new or replacement air-cooled air conditioners</u>	The existing efficiency levels.
Air Distribution System – Duct Sealing	The requirements of Sections 150.2(b)1D and 150.2(b)1E	The requirements of Sections 150.2(b)1D and 150.2(b)1E
Air Distribution System – Duct Insulation	The proposed efficiency levels. <u>The requirements of Sections 150.2(b)1D, and for new or replacement air-cooled air conditioners, Section 150.2(b)1Fiv.</u>	The existing efficiency levels.
Water Heating Systems	The requirements of Section 150.2(b)1Hii	The existing efficiency level.
Roofing Products	The requirements of Section 150.2(b)1I.	The requirements of Section 150.2(b)1I

All Other Measures	The proposed efficiency levels.	The existing efficiency levels.
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C. The proposed design shall be based on the actual values of the altered components.

16.17.150 Reserved

16.17.160 Reserved

16.17.170 Infeasibility Exemption.

(a) **Exemption.** If an applicant for a Covered Project believes that circumstances exist that makes it infeasible to meet the requirements of this Chapter, the applicant may request an exemption as set forth below. In applying for an exemption, the burden is on the Applicant to show infeasibility.

(b) **Application.** If an applicant for a Covered Project believes such circumstances exist, the applicant may apply for an exemption at the time of application submittal in accordance with the Planning and Development Services administrative guidelines. The applicant shall indicate the maximum threshold of compliance the energy compliance design professional believes is feasible for the covered project and the circumstances that make it infeasible to fully comply with this Chapter. Circumstances that constitute infeasibility include, but are not limited to the following:

- (1) There is conflict with the compatibility of the currently adopted California Building Standards Code;
- (2) There is a lack of commercially available materials and technologies to comply with the requirements of this Chapter;
- (3) Applying the requirements of this Chapter would effectuate an unconstitutional taking of property or otherwise have an unconstitutional application to the property.

(c) **Granting of Exemption.** If the Director of Planning and Development Services, or designee, determines that it is infeasible for the applicant to fully meet the requirements of this Chapter based on the information provided, the Director, or designee, shall determine the maximum feasible threshold of compliance reasonably achievable for the project. The decision of the Director, or designee, shall be provided to the applicant in writing. If an exemption is granted, the applicant shall be required to comply with this Chapter in all other respects and shall be required to

NOT YET APPROVED

achieve, in accordance with this Chapter, the threshold of compliance determined to be achievable by the Director or designee.

- (d) **Denial of Exemption.** If the Director of Planning and Development Services or designee determines that it is reasonably possible for the applicant to fully meet the requirements of this Chapter, the request shall be denied, and the Director or designee shall so notify the applicant in writing. The project and compliance documentation shall be modified to comply with this Chapter prior to further review of any pending planning or building application.
- (e) **Council Review of Exemption.** For any covered project that requires review and action by the City Council, the Council shall act to grant or deny the exemption, based on the criteria outlined above, after recommendation by the Director of Planning and Development Services.

16.17.180 Appeal.

- (a) Any aggrieved Applicant may appeal the determination of the Director of Planning and Development Services or designee regarding the granting or denial of an exemption pursuant to 16.17.170.
- (b) Any appeal must be filed in writing with the Planning and Development Services Department not later than fourteen (14) days after the date of the determination by the Director. The appeal shall state the alleged error or reason for the appeal.
- (c) The appeal shall be processed and considered by the City Council in accordance with the provisions of Section 18.77.070 (f) of the City of Palo Alto Municipal Code.

SECTION 3. The Council adopts the findings for local amendments to the California Energy Code, 2025 Edition, attached hereto as Exhibit "A" and incorporated herein by reference.

SECTION 4. Under the authority granted by Public Resources Code Section 25402.1(h)(2), which permits local California Energy Code amendments, and based on staff's analysis of the "2022 Cost-Effectiveness Study: Existing Single Family Building Upgrades," "2025 Cost-Effectiveness Study: Single Family AC to Heat Pump Replacement," and "Application of the 2022 Studies to the 2025 Energy Code: Existing Single Family Building Upgrades" developed for the California Energy Codes and Standards Program and attached to staff's report to Council, the Council finds that the proposed local amendments to the 2025 California Energy Code that affect building energy performance are cost-effective and will require buildings to be designed to consume less energy than permitted by Title 24, Part 6.

SECTION 5. If any section, subsection, clause or phrase of this Ordinance is for any reason held to be invalid, such decision shall not affect the validity of the remaining portion or sections of the Ordinance. The Council hereby declares that it should have adopted the Ordinance

and each section, subsection, sentence, clause or phrase thereof irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid.

SECTION 6. The Council finds that this ordinance is exempt from the provisions of the California Environmental Quality Act (“CEQA”), under Section 15308 of the CEQA Guidelines, because it is a regulatory action for the protection of the environment, and under Section 15061(b)(3) on the grounds that the proposed standards are more stringent than the State energy standards, there are no reasonably foreseeable adverse environmental impacts and there is no possibility that the activity in question may have a significant effect on the environment.

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SECTION 7. Pursuant to Palo Alto Municipal Code Section 2.04.270, this ordinance shall be effective immediately upon adoption if passed by a vote of four-fifths of the council members present. Unless otherwise specified in this ordinance, its provisions shall become applicable 180 days after publication of the 2025 Edition of California Energy Code, Title 24, Part 6. Until that date, the provisions of the 2022 Edition of the California Energy Code, as adopted and amended by Ordinance 5627, shall apply and remain in effect.

INTRODUCED: SEPTEMBER 8, 2025

PASSED: BURT, LAUING, LU, LYTHCOTT-HAIMS, RECKDAHL, STONE, VEENKER

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

Signed by:


Makelani Ah Yuen
6F2B313F18434B0...
City Clerk

Signed by:


Ed Lauing
880C20B663824E6...
Mayor

APPROVED AS TO FORM:

Signed by:


Madeleine Salah
52E3D6948EBE44D...
City Attorney or Designee

APPROVED:

DocuSigned by:


Ed Shikada
F2DCA19CCC8D4F9...
City Manager
Signed by:

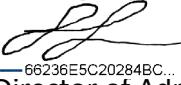
Jonathan Lait
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Director of Planning and
Development Services
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Director of Administrative Services

Exhibit A
FINDINGS FOR LOCAL AMENDMENTS TO CALIFORNIA ENERGY CODE, 2025 EDITION
TITLE 24, PART 6

Section 17958 of the California Health and Safety Code provides that the City may make changes to the provisions of the California Building Standards Code. Sections 17958.5 and 17958.7 of the Health and Safety Code require that for each proposed local change to those provisions of the California Building Standards Code which regulate buildings used for human habitation, the City Council must make findings supporting its determination that each such local change is reasonably necessary because of local climatic, geological, or topographical conditions.

Regarding the Energy Code, local jurisdictions have the authority to adopt local energy efficiency ordinances—or reach codes—that exceed the minimum standards defined by Title 24 (as established by Public Resources Code Section 25402.1(h)2 and Section 10-106 of the Building Energy Efficiency Standards), provided the City Council finds that the requirements of the proposed ordinance are cost-effective and do not result in buildings consuming more energy than is permitted by Title 24.

Local building regulations having the effect of amending the uniform codes, which were adopted by the City prior to November 23, 1970, were unaffected by the regulations of Sections 17958, 17958.5 and 17958.7 of the Health and Safety Code. Therefore, amendments to the uniform codes which were adopted by the City Council prior to November 23, 1970 and have been carried through from year to year without significant change, need no required findings. Also, amendments to provisions not regulating buildings used for human habitation do not require findings.

Code: California Energy Code, Title 24, Part 6					
Chapter(s), Sections(s), Appendices	Title	Add	Deleted	Amended	Justification (See below of keys)
100.0	Scope			X	C & E
100.1(b)	Definitions			X	C & E
150.0	Mandatory Features and Devices			X	C & E
150.2(b)	Energy Efficiency Standards for Additions and Alterations to Existing Single-Family Residential Buildings - Alterations			X	C & E
Table 150.2-G	Standard Design for an Altered Component			X	C & E

	Infeasibility Exemption	X			A
	Appeal	X			A

Key to Justification for Amendments to Title 24 of the California Code of Regulations

A This is an administrative amendment to clarify and establish civil and administrative procedures, regulations, or rules to enforce and administer the activities by the Palo Alto Building Inspection Department. These administrative amendments do not need to meet HSC 18941.5/17958/13869 per HSC 18909(c).

C This amendment is justified on the basis of a local climatic condition. The seasonal climatic conditions during the late summer and fall create severe fire hazards to the public health and welfare in the City. The hot, dry weather frequently results in wild land fires on the brush covered slopes west of Interstate 280. The aforementioned conditions combined with the geological characteristics of the hills within the City create hazardous conditions for which departure from California Energy Code is required. Failure to address and significantly reduce greenhouse gas (GHG) emissions could result in rises in sea level, including in San Francisco Bay, that could put at risk Palo Alto homes and businesses, public facilities, and Highway 101 (Bayshore Freeway), particularly the mapped Flood Hazard areas of the City. Energy efficiency is a key component in reducing GHG emissions, and the construction of more energy efficient buildings can help Palo Alto reduce its share of the GHG emissions that contribute to climate change. The burning of fossil fuels used in the generation of electric power and heating of buildings contributes to climate change, which could result in rises in sea level, including in San Francisco Bay, that could put at risk Palo Alto homes and businesses 1 public facilities, and Highway 101. Due to a decrease in annual rainfall, Palo Alto experiences the effect of drought and water saving more than some other communities in California.

E Energy efficiency enhances the public health and welfare by promoting the environmental and economic health of the City through the design, construction, maintenance, operation, and deconstruction of buildings and sites by incorporating green practices into all development. The provisions in this Chapter are designed to achieve the following goals:

- (a) Increase energy efficiency in buildings;
- (b) Increase resource conservation;
- (c) Provide durable buildings that are efficient and economical to own and operate;
- (d) Promote the health and productivity of residents, workers, and visitors to the city;
- (e) Recognize and conserve the energy embodied in existing buildings; and
- (f) Reduce disturbance of natural ecosystems.

G This amendment is justified on the basis of a local geological condition. The City of Palo Alto is subject to earthquake hazards caused by its proximity to San Andreas fault. This fault runs from Hollister, through the Santa Cruz Mountains, epicenter of the 1989 Loma Prieta earthquake, then on up the San Francisco Peninsula, then offshore at Daly City near Mussel Rock. This is the approximate location of the epicenter of the 1906 San Francisco

earthquake. The other fault is the Hayward Fault. This fault is about 74 mi long, situated mainly along the western base of the hills on the east side of San Francisco Bay. Both of these faults are considered major Northern California earthquake faults which may experience rupture at any time. Thus, because the City is within a seismic area that includes these earthquake faults, the modifications and changes cited herein are designed to better limit property damage as a result of seismic activity and to establish criteria for repair of damaged properties following a local emergency.

T The City of Palo Alto **topography** includes hillsides with narrow and winding access, which makes timely response by fire suppression vehicles difficult. Palo Alto is contiguous with the San Francisco Bay, resulting in a natural receptor for storm and waste water run-off. Also the City of Palo Alto is located in an area that is potentially susceptible to liquefaction during a major earthquake. The surface condition consists mostly of stiff to dense sandy clay, which is highly plastic and expansive in nature. The aforementioned conditions within the City create hazardous conditions for which departure from California Building Standards Codes is warranted.

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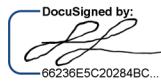
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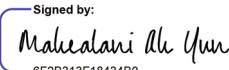
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