REGULAR

NUMBER: 65.148

TITLE: AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MILPITAS AMENDING CHAPTER 11 OF TITLE II OF THE MILPITAS MUNICIPAL CODE ADOPTING BY REFERENCE THE 2019 CALIFORNIA ENERGY CODE WITH AMENDMENTS

HISTORY: This Ordinance was introduced (first reading) by the City Council at its meeting of November 5, 2019, upon motion by Councilmember Phan, and was adopted (second reading) by the City Council at its meeting of _____, upon motion by _____. The Ordinance was duly passed and ordered published in accordance with law by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

ATTEST:

_____
Mary Lavelle, City Clerk

APPROVED:

_____
Rich Tran, Mayor

APPROVED AS TO FORM:

_____
Christopher J. Diaz, City Attorney

RECITALS:

WHEREAS, the California Building Standards Commission has adopted and published an updated Title 24 of the California Code of Regulations, also referred to as the 2019 California Building Standards Code, that will become effective statewide on January 1, 2020; and

WHEREAS, California Health and Safety Code Sections 17958, 17958.5, 17958.7 and 18941.5 establish the authority for a city to adopt and make local amendments and modifications to the building standards in the California Building Standards Code to establish more restrictive building standards than those contained in the California Building Standards Code; and

WHEREAS, California Health and Safety Code Sections 17958, 17958.5, 17958.7 and 18941.5 permit a city to make such local amendments and modifications as the city determines are reasonably necessary because of local climatic, geological or topographical conditions; and

WHEREAS, California Health and Safety Code Sections 17958, 17958.5, 17958.7 and 18941.5 require a city, before making any amendments and modifications to the California Building Standards Code, make an express finding that such amendments and modifications are reasonably necessary because of local climatic, geological or topographical conditions; and

WHEREAS, the City of Milpitas has reviewed and intends to adopt the 2019 California Energy Code; and

WHEREAS, pursuant to Public Resources Code Section 25402.1(h)(2), Section 10-106 Locally Adopted Energy Standards of the California Administrative Code, Title 24 of the California Code of Regulations, Part I, and the California Energy Commission's submission and approval process, the City Council finds that the requirements below will save energy and are cost-effective within the City; and

WHEREAS, the City Council wishes to amend portions of the California Energy Code to better address local conditions and makes express findings that such amendments are reasonably necessary because of local climatic, geological or topographical conditions as set forth in this Ordinance; and

WHEREAS, the City Council affirms that such modifications will result in designs that consume no more energy than that permitted under the 2019 California Energy Code.

NOW, THEREFORE, the City Council of the City of Milpitas does ordain as follows:

SECTION 1. RECORD AND BASIS FOR ACTION

The City Council has duly considered the full record before it, which may include but is not limited to the staff report, testimony by staff and the public, and other materials and evidence submitted or provided to the City Council. Furthermore, the recitals set forth above are found to be true and correct and are incorporated herein by reference.

SECTION 2. CALIFORNIA ENVIRONMENTAL QUALITY ACT

The City Council hereby finds and determines that this Ordinance has been assessed in accordance with the California Environmental Quality Act (Cal. Pub. Res. Code, § 21000 et seq.) ("CEQA") and the State CEQA Guidelines (14 Cal. Code Regs. § 15000 et seq.) and is categorically exempt from CEQA under CEQA Guidelines, § 15061(b)(3), which exempts from CEQA any project where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment. Adoption of the proposed Ordinance would not be an activity with potential to cause significant effect on the environment

because the changes made to the California Energy Code within are enacted to provide more protection to the environment, and therefore is exempt from CEQA. It is also exempt from CEQA pursuant to CEQA Guidelines, § 15038 which exempts actions taken by regulatory agencies for the enhancement and protection of the environment. As such, the Ordinance is categorically exempt from CEQA.

SECTION 3. AMENDMENT OF MILPITAS MUNICIPAL CODE TITLE II, CHAPTER 11

Chapter 11 of Title II of the Milpitas Municipal Code is hereby repealed in its entirety and replaced with the text below to read as follows:

Chapter 11 ENERGY CODE

Sections:
Section 1 – Adoption of the Energy Code
Section 2 – Amendments to the Energy Code

Section 1 Adoption of the Energy Code

II-11-1.01
The 2019 California Energy Code, published and copyrighted by the International Code Council, Inc. and the California Building Standards Commission in Part 6 of Title 24 of the California Code of Regulations, is hereby adopted and referred to, and by this reference expressly incorporated and made a part of this Chapter as though fully set forth herein. The adoption includes Appendices 1-A and 1-B. The 2019 California Energy Code shall be designated and referred to as the "Energy Code" for the City of Milpitas. There is one copy of said Code on file in the office of the Building Official for use and examination by the public.

Section 2 Amendments to the Energy Code

II-11-2.01
Amend Section 100.1(b) of the Energy Code by adding the following definitions to read as follows:

ALL-ELECTRIC BUILDING is a building that has no natural gas or propane plumbing installed within the building and that uses electricity as the only source of energy for space heating, water heating (including pools and spas), cooking appliances, and clothes drying appliances.

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.

ELECTRICALLY HEATED MIXED-FUEL BUILDING is a mixed-fuel building that uses electricity as the source of energy for space heating and water heating appliances, including pools and spas, but uses gas or propane as fuel for cooking appliances or clothes drying appliances or is plumbed for such equipment.

FREE STANDING ACCESSORY DWELLING UNIT is a detached building that is not intended for sale separate from the primary residence, on a lot in any zoning district where a single-family detached primary dwelling or two-family dwelling has been legally established or is proposed to be established in conjunction with construction of an accessory dwelling unit, and does not exceed 50% of the existing living area or 800 square feet of total living area in the Non-Hillside Combining District, or 50% of the existing living area or 1,200 square feet in the Hillside Combining District, whichever is smaller.

MIXED-FUEL BUILDING is a building that is plumbed for the use of natural gas or propane as fuel for space heating, water heating (including pools and spas), cooking appliances or clothes drying appliances.

II-11-2.02
Amend Section 140.0(b) of the Energy Code to read as follows:

(b) The requirements of Sections 120.0 through 130.5 (mandatory measures for nonresidential, high-rise residential and hotel/motel buildings) and:

1. **Electric Readiness.** Mixed-fuel buildings shall include the following components for each gas terminal or stub-out for the appliance it is designed to serve:

A. Water Heating
   i. A dedicated 208 / 240-volt 30 amp or greater electrical receptacle that is connected to the electrical panel with conductors of adequate ampacity, installed within 3 feet from the water heater and accessible with no obstructions;
   ii. The ends of the conductors for this branch circuit terminating inside the electrical panel shall be labeled with the words "For Future Water Heating" and be electrically isolated;
   iii. A reserved double pole circuit breaker space in the electrical panel for the branch circuit above and labeled with the words "For Future Heat Pump Water Heater";
   iv. All electrical components including conductors, receptacles, and other components related to this section shall be installed in accordance with the current California Electrical Code.

B. Clothes Drying

   i. A dedicated 208 / 240-volt, 40 amp or greater electrical receptacle that is connected to the electrical panel with conductors of adequate ampacity, installed within 3 feet of the appliance and accessible with no obstructions;
   ii. The ends of the conductors for this branch circuit terminating inside the electrical panel shall be labeled with the words "For Future Heat Pump Clothes Dryer" and be electrically isolated;
   iii. A reserved double pole circuit breaker space in the electrical panel for the branch circuit above and labeled with the words "For Future Heat Pump Clothes Dryer";
   iv. All electrical components including conductors, receptacles, and other components related to this section shall be installed in accordance with the current California Electrical Code.

C. Cooktop or Range
   i. A dedicated 208 / 240-volt, 50 amp or greater electrical receptacle that is connected to the electrical panel with conductors of adequate ampacity, installed within 3 feet of the appliance and accessible with no obstructions;
   ii. The ends of the conductors for this branch circuit terminating inside the electrical panel shall be labeled with the words "For Future Electric Range" and be electrically isolated;
   iii. A reserved double pole circuit breaker space in the electrical panel adjacent to the branch circuit conductors and labeled with the words "For Future Electric Range";

iv. All electrical components including conductors, receptacles, and other components related to this section shall be installed in accordance with the current California Electrical Code.

D. Stand-Alone Cooking Oven
   i. A dedicated 208 / 240-volt, 50 amp or greater electrical receptacle that is connected to the electrical panel with conductors of adequate ampacity installed within 3 feet of the appliance and accessible with no obstructions;
   ii. The ends of the conductors for this branch circuit terminating inside the electrical panel shall be labeled with the words "For Future Electric Oven" and be electrically isolated;
   iii. A reserved double pole circuit breaker space in the electrical panel adjacent to the branch circuit conductors and labeled with the words "For Future Electric Oven";
   iv. All electrical components including conductors, receptacles, and other components related to this section shall be installed in accordance with the current California Electrical Code.

2. **Solar Photovoltaic Systems.** Solar photovoltaics shall be installed as follows:

A. New non-residential buildings with less than 10,000 square feet of gross floor area shall provide a minimum of a 3-kilowatt photovoltaic system.
B. New non-residential buildings greater than or equal to 10,000 square feet of gross floor area shall provide a minimum of a 5-kilowatt photovoltaic system.

EXCEPTION to Section 140.0(b)2: As an alternative to a solar photovoltaic system, all of the building types listed above may provide a solar hot water system (solar thermal) with a minimum collector area of 40 square feet, additional to any other solar equipment otherwise required for compliance with Part 6.

II-11-2.03
Amend Section 140.1 of the Energy Code to read as follows:

An addition to an existing building or a newly constructed All-Electric Building complies with the performance approach if the energy budget calculated for the Proposed Design Building under Subsection (b) is no greater than the energy budget calculated for the Standard Design Building under Subsection (a).

A newly constructed Mixed-Fuel Building complies with the performance approach if the energy budget calculated for the Proposed Design Building under Subsection (b) has a compliance margin, relative to the energy budget calculated for the Standard Design Building under Subsection (a), of at least the value specified for the corresponding occupancy type in Table 140.1 below.

Table 140.1 MIXED FUEL BUILDING COMPLIANCE MARGINS

Occupancy Type	Compliance Margins
Office / Mercantile	14%
All other occupancies	6%

(a) Energy Budget for the Standard Design Building. The energy budget for the Standard Design Building is determined by applying the mandatory and prescriptive requirements to the Proposed Design Building. The energy budget is the sum of the TDV energy for space-conditioning, indoor lighting, mechanical ventilation, service water heating, and covered process loads.

(b) Energy Budget for the Proposed Design Building. The energy budget for a Proposed Design Building is determined by calculating the TDV energy for the Proposed Design Building. The energy budget is the sum of the TDV energy for space-conditioning, indoor lighting, mechanical ventilation and service water heating and covered process loads.

(c) Calculation of Energy Budget. The TDV energy for both the Standard Design Building and the Proposed Design Building shall be computed by Compliance Software certified for this use by the Commission. The processes for Compliance Software approval by the Commission are documented in the ACM Approval Manual.

EXCEPTION to Section 140.1: For newly constructed buildings, if the Certificate of Compliance is prepared by a Certified Energy Analyst and the energy budget for the Proposed Design Building is no greater that the Standard design Building, the required compliance margin is reduced by 1%.

II-11-2.04
Amend Section 140.2 of the Energy Code to read as follows:

To comply using the prescriptive approach, a building shall be designed with and shall have constructed and installed systems and components meeting the applicable requirements of Sections 140.3 through 140.9 and additionally the following measures as applicable, intended to exceed the prescriptive requirements:

a) Mixed-Fuel Buildings of Hotel, Motel, and High-Rise Multifamily Occupancies
   1. Install fenestration with a solar heat gain coefficient no greater than 0.22.
   2. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums.
   3. Include economizers and staged fan control in air handlers with a mechanical cooling capacity ≥ 33,000 Btu/h.
   4. Reduce the total lighting power density (Watts/ft^2) by ten percent (10%) from that required from Table 140.6-C.
   5. In common areas, without claiming any Power Adjustment Factor credits, do the following:
      A. Control to daylight dimming plus off per Section 140.6(a)2H; and
      B. Perform Institutional Tuning per Section 140.6(a)2J.
   6. Install one drain water heat recovery device per every three guest rooms that is field verified as specified in the Reference Appendix RA3.6.9.

b) All Other Mixed-Fuel Nonresidential Buildings
   1. Install fenestration with a solar heat gain coefficient no greater than 0.22.
   2. Limit the fenestration area on east-facing and west-facing walls to one-half of the average amount of north-facing and south-facing fenestration.
   3. Design Variable Air Volume (VAV) box minimum airflows to be equal to the zone ventilation minimums.
   4. Include economizers and staged fan control in air handlers with a mechanical cooling capacity ≥ 33,000 Btu/h.
   5. Reduce the total lighting power density (Watts/ft^2) by ten percent (10%) from that required from Table 140.6-C.
   6. Improve lighting without claiming any Power Adjustment Factor credits:
      A. In office spaces, control to daylight dimming plus off per Section 140.6(a)2H;
      B. Install Occupant Sensing Controls in Large Open Plan Offices per Section 140.6(a)2I;
      C. Perform Institutional Tuning per Section 140.6(a)2J.

II-11-2.05
Amend the first and second paragraph of Section 150.0 of the Energy Code to read as follows:

Low-rise residential buildings shall comply with the applicable requirements of Sections 150(a) through 150(s).

NOTE: The requirements of Sections 150.0(a) through 150.0(s) apply to newly constructed buildings, free standing accessory dwelling units, and additions. Sections 150.2(a) and 150.2(b) specify which requirements of Sections 150.0(a) through 150.0(s) also apply to additions or alterations.

II-11-2.06
Amend Section 150.0(h) of the Energy Code by adding item 5 to read as follows:

5. Systems using natural gas or propane space heating equipment shall include the following components:
   A. A designated exterior location for a future heat pump compressor unit with either a drain or natural drainage for condensate from possible future operation as cooling equipment.
   B. A dedicated 208/240 volt, 30 amp or greater electrical circuit that is connected to the electric panel with conductors of adequate capacity, terminating within 3 feet of the designated future location of the compressor unit, and accessible with no obstructions. In addition, all of the following:
      i. The ends of the conductors for the branch circuit terminating inside the electrical panel shall be labeled with the words "For Future Heat Pump Space Heater" and be electrically isolated;
      ii. A reserved double pole circuit breaker space in the electrical panel adjacent to the branch circuit conductors and labeled with the words "For Future Heat Pump Space Heater";
      iii. All electrical components including conductors, receptacles, and other components related to this section shall be installed in accordance with the current California Electrical Code.

EXCEPTION to Section 150.0(h)5. If a 240-volt 30 amp or greater electrical circuit and compressor unit location exists for space cooling equipment.

II-11-2.07
Amend Section 150.0(n) item 1.A. of the Energy Code to read as follows:

1. Systems using natural gas or propane water heaters to serve individual dwelling units shall include the following components:
   A. A dedicated 240-volt, 30 amp or greater electrical receptacle that is connected to the electric panel with a 240 volt 3 conductor, 10 AWG copper branch circuit, within 3 feet from the water heater and accessible to the water heater with no obstructions. In addition, all of the following:
      i. The ends of the conductors for the branch circuit that terminates inside the electrical panel shall be labeled with the words "For Future Heat Pump Water Heater" and be electrically isolated;
      ii. A reserved double pole circuit breaker space in the electrical panel adjacent to the circuit breaker for the branch circuit in A above and labeled with the words "For Future Heat Pump Water Heater";

iii. All electrical components including conductors, receptacles, and other components related to this section shall be installed in accordance with the current California Electrical Code.

II-11-2.08

Amend Section 150.0(n) of the Energy Code by adding item 5 to read as follows:

5. Systems using natural gas or propane water heaters to serve multiple dwelling units and/or common areas shall:
   A. Be located in a space that can accommodate a heat pump water heating system of equivalent capacity and performance; and
   B. Have a condensate drain that is no more than 2 inches higher than the base of the installed water heater, and allows natural draining without pump assistance; and
   C. Include designated raceways and reserved capacity on the main electrical panel and subpanels, if applicable, sufficient to power a heat pump hot water heater of equivalent capacity and performance. Plans shall include calculations and installations for equivalent capacity and performance, electrical power, conductors, raceway sizes and panel capacities in accordance with the California Electrical Code.

II-11-2.09

Amend Section 150.0 of the Energy Code by adding Subsection (s) to read as follows:

s) **Clothes Drying and Cooking.** Buildings plumbed for natural gas or propane clothes drying or cooking equipment shall include the following components for each gas terminal or stub out:
   1. Clothes Drying
      A. A dedicated 208/240-volt, 40 amp or greater electrical receptacle that is connected to the electric panel with conductors of adequate capacity, within 3 feet of the appliance and accessible with no obstructions;
      B. The ends of the conductors for the branch circuit terminating inside the electrical panel shall be labeled with the words, "For Future Heat Pump Clothes Dryer" and be electrically isolated;
      C. A reserved double pole circuit breaker space in the electrical panel adjacent to the branch circuit conductors and labeled with the words, "For Future Heat Pump Clothes Dryer";
      D. All electrical components including conductors, receptacles, and other components related to this section shall be installed in accordance with the current California Electrical Code.
   2. Cooktop
      A. A dedicated 208/240-volt, 50 amp or greater electrical receptacle that is connected to the electric panel with conductors of adequate capacity, within 3 feet of the appliance and accessible with no obstructions;
      B. The ends of the conductors for the branch circuit terminating inside the electrical panel shall be labeled with the words, "For Future Electric Range" and be electrically isolated;
      C. A reserved double pole circuit breaker space in the electrical panel adjacent to the branch circuit conductors and labeled with the words, "For Future Electric Oven";
      D. All electrical components including conductors, receptacles, and other components related to this section shall be installed in accordance with the current California Electrical Code.
   3. Stand Alone Cooking Oven
      A. A dedicated 208/240-volt, 50 amp or greater receptacle within 3 feet of the appliance and accessible with no obstructions;

B. The ends of the conductors for the branch circuit terminating inside the electrical panel shall be labeled with the words, "For Future Electric Oven" and be electrically isolated;
C. A reserved double pole circuit breaker space in the electrical panel adjacent to the branch circuit conductors and labeled with the words, "For Future Electric Oven";
D. All electrical components including conductors, receptacles, and other components related to this section shall be installed in accordance with the current California Electrical Code.

II-11-2.10
Amend Section 150.1(b) item 1 through item 2 of the Energy Code to read as follows:

b) **Performance Standards**. A building complies with the performance standards if the energy consumption calculated for the Proposed Design Building is no greater than the energy budget calculated for the Standard Design Building using Commission-certified compliance software as specified by the Alternative Calculation Methods Approval Manual. Additionally, Mixed-Fuel Buildings must reach an EDR margin above the Standard Design in order to comply with performance standards.

1. **Newly Constructed Buildings.** The Energy Budget for newly constructed buildings is expressed in terms of the Energy Design Rating, which is based on TDV energy. The Energy Design Rating (EDR) has two components, the Energy Efficiency Design Rating, and the Solar Electric Generation and Demand Flexibility Design Rating. The Solar Electric Generation and Demand Flexibility Design Rating shall be subtracted from the Energy Efficiency Design Rating to determine the Total Energy Design Rating. The Proposed Building shall separately comply with the Energy Efficiency Design Rating and the Total Energy Design Rating in the following ways:

   A. **All-Electric Building or a Free Standing Accessory Dwelling Unit.** All Electric Buildings or Free Standing Accessory Dwelling Units comply if both the Total Energy Design Rating and the Energy Efficiency Design Rating for the Proposed Design Building are no greater than the corresponding Energy Design Ratings for the Standard Design Building.
   B. **Electrically-Heated Mixed-Fuel Buildings.** Buildings with a permanent supply of electricity as the only source of energy for water-heating and space-heating comply if:
      a. **Single family.** The energy consumption calculated for the Proposed Design Building shall be at least 2 EDR points less than the Energy Efficiency Design Rating calculated for the Standard Design Building.
      b. **Multifamily.** The energy consumption calculated for the Proposed Design Building shall be at least 1 EDR point less than the Energy Efficiency Design Rating calculated for the Standard Design Building.
   C. **Mixed-Fuel Buildings**: A Mixed-fuel Building complies with the performance standards if the Energy Efficiency Design Rating of the Proposed Building is no greater than the Energy Efficiency Design Rating for the Standard Design Building and:
      a. **Single family**. The energy consumption calculated for the Proposed Design Building shall be at least 10 EDR points less than the Total Energy Design Rating calculated for the Standard Design Building.
      b. **Multifamily**. The energy consumption calculated for the Proposed Design Building shall be at least 11 EDR Points less than the Total Energy Design Rating calculated for the Standard Design Building.

EXCEPTION to Section 150.1(b)1.C. Buildings with limited solar access are excepted if all of the following are true:

a. The Total Energy Design Rating for the Proposed Building is no greater than the Standard Design Building; and
b. A photovoltaic (PV) system(s) meeting the minimum qualification requirements as specified in Joint Appendix JA11 is installed on all available areas of 80 contiguous square feet or more with effective annual solar access. Effective annual solar access shall be 70 percent or greater of the output of an unshaded PV array on an annual basis, wherein shade is due to existing permanent natural or manmade barriers external to the dwelling, including but not limited to trees, hills, and adjacent structures; and
c. The Energy Efficiency Energy Design Rating for the Proposed Building is no greater than the respective value for the Standard Design Building by the EDR margin in Table 150.1(b)1 below.

Table 150(b)1

Building Type	Energy Efficiency EDR Margin
Single Family	2
Multifamily	1

EXCEPTION to Section 150.1(b)1. A community shared solar electric generation system, or other renewable electric generation system, and/or community shared battery storage system, which provides dedicated power, utility energy reduction credits, or payments for energy bill reductions, to the permitted building and is approved by the Energy Commission as specified in Title 24, Part 1, Section 10-115, may offset part or all of the solar electric generation system Energy Design Rating required to comply with the Standards, as calculated according to methods established by the Commission in the Residential ACM Reference Manual.

2. **Additions and Alterations to Existing Buildings**. The Energy Budget for additions and alterations is expressed in terms of TDV energy. A building complies with the performance standards if the energy consumption calculated for the Proposed Design Building is no greater than the energy budget calculated for the Standard Design Building.

II-11-2.11

Amend Section 150.1(b) item 3A of the Energy Code to read as follows (note that Exception remains):

3. **Compliance Demonstration Requirements for Performance Standards.**
   A. **Certificate of Compliance and Application for a Building Permit.** The application for a building permit shall include documentation pursuant to Sections 10-103(a)1 and 10-103(a)2 which demonstrates, using an approved calculation method, that the building has been designed so that its Energy Efficiency Design Rating and the total EDR meets or exceeds the Standard design EDR for the applicable Climate Zone. The Certificate of Compliance must be prepared and signed by a Certified Energy Analyst.

II-11-2.12

Amend Section 150.1(c) of the Energy Code by adding item 15 to read as follows:

15. Additional Prescriptive Requirements for Mixed-Fuel Buildings.
   A. Mixed-Fuel Single Family
      a. Ducts shall comply with 2019 Reference Appendices RA3.1.4.1.3, which requires that all ductwork shall be located entirely in conditioned space and shall be confirmed to have

less than or equal to 25 cfm leakage to outside when measured as specified by Section RA3.1.4.3.8.

b. Slab floor perimeter insulation shall be installed with an R-value equal to or greater than R10. The minimum depth of concrete-slab floor perimeter insulation shall be 16 inches or the depth of the footing of the building, whichever is less.

c. Design the hot water distribution system to meet minimum requirements for the basic compact hot water distribution credit according to the procedures outlined in the 2019 Reference Appendices RA4.4.6.

d. Central Fan Integrated Ventilation Systems. The duct distribution system shall be designed reduce external static pressure to meet a maximum fan efficacy equal to:
Gas Furnaces: 0.35 Watts per cfm
Heat Pumps: 0.45 Watts per cfm,
according to the procedures outlined in the 2019 Reference Appendices RA 3.3.

e. Include either:
   i. 5 kWh battery of battery storage, OR
   ii. A solar water heating system with a minimum solar savings fraction of 0.20.

EXCEPTION to 150.1(c)15.A.e. Electrically-Heated Mixed-Fuel buildings do not need to include battery or solar water heating.

B. Mixed-Fuel Multifamily

a. Slab floor perimeter insulation shall be installed with an R-value of equal to or greater than R10. The minimum depth of concrete-slab floor perimeter insulation shall be 16 inches or the depth of the footing of the building, whichever is less.

b. Design the hot water distribution system to meet minimum requirements for the basic compact hot water distribution credit according to the procedures outlined in the 2019 Reference Appendices RA4.4.6.

c. Central Fan Integrated Ventilation Systems. Central forced air system fans used to provide outside air, shall have an air-handling unit fan efficacy less than or equal to 0.35 W/CFM. The airflow rate and fan efficacy requirements in this section shall be confirmed through field verification and diagnostic testing in accordance with all applicable procedures specified in Reference Residential Appendix RA3.3. Central Fan Integrated Ventilation Systems shall be certified to the Energy Commission as Intermittent Ventilation Systems as specified in Reference Residential Appendix RA3.7.4.2.

d. Include either:
   i. 2.75 kWh of battery storage per dwelling unit, OR
   ii. A solar water heating system with a minimum solar savings fraction of 0.20.

EXCEPTION to 150.1(c)15.B.d. Electrically Heated Mixed-Fuel buildings do not need to include battery or solar water heating.

e. All ductwork shall be located entirely in conditioned space with ducts tested to have less than or equal to 25 cfm leakage to outside. Ductwork shall meet the requirements of Verified Low Leakage Ducts in Conditioned Space (VLLDCS) in the 2019 Reference Appendices RA3.1.4.3.8.

f. Buildings with steep-sloped roofs shall have a minimum aged solar reflectance of 0.25.

II-11-2.13

Amend the first paragraph of Section 150.2 of the Energy Code to read as follows (note that Exceptions 1 through 7 remain):

a) **Additions.** Additions to existing low-rise residential buildings shall meet the requirements of Sections 110.0 through 110.9, Sections 150.0(a) through (q) and 150.0(s), and either Section 150.2(a) 1 or 2.

SECTION 4. EXPRESS FINDINGS

Pursuant to California Health and Safety Code Sections 17958.7 and 18941.5, the City Council hereby finds that the above amendments are necessary due to local climatic, geological or topographical conditions as set forth in **Exhibit A**.

SECTION 5. REPEAL OF CONFLICTING ORDINANCES

Upon adoption of each new California Building Standards Code, the Ordinance adopting the previously adopted California Building Standards Code is superseded in its entirety. This Ordinance does not repeal Ordinance No. 65.147, which adopts by reference and amends parts of the 2019 California Building Standards Code, Ordinance No. 65.149, which adopts by reference and amends the 2019 California Green Building Standards Code, nor Ordinance No. 113.25, which adopts by reference and amends the 2019 California Fire Code.

SECTION 6. SEVERABILITY

The provisions of this Ordinance are separable, and the invalidity of any phrase, clause, provision or part shall not affect the validity of the remainder.

SECTION 7. EFFECTIVE DATE AND POSTING

In accordance with Section 36937 of the Government Code of the State of California, this Ordinance shall take effect thirty (30) days from and after the date of its final adoption by the City Council, and after approval of the City of Milpitas application to enforce its locally adopted energy standards by the California Energy Commission, but no sooner than January 1, 2020. The City Clerk of the City of Milpitas shall cause this Ordinance or a summary thereof to be published in accordance with Section 36933 of the Government Code of the State of California.

EXHIBIT A

FINDINGS IN SUPPORT OF AMENDMENTS TO TITLE 24 OF THE CALIFORNIA CODE OF REGULATIONS: LOCAL CLIMATIC, GEOLOGICAL OR TOPOGRAPHICAL CONDITIONS

Amendments to the Energy Code:

II-11-2.01	Section 100.1(b)	Definitions
II-11-2.02	Section 140.0(b)	1. Electric readiness; 2. Solar photovoltaic systems
II-11-2.03	Section 140.1	Energy budget calculations
II-11-2.04	Section 140.2	Prescriptive approach requirements for High-Rise buildings
II-11-2.05	Section 150.0	Prescriptive requirements for Low-Rise residential buildings
II-11-2.06	Section 150.0(h)	Space heating requirements
II-11-2.07	Section 150.0(n)1.A.	Water heater requirements
II-11-2.08	Section 150.0(n)	Water heater requirements
II-11-2.09	Section 150.0	Clothes drying and cooking
II-11-2.10	Section 150.1(b)	Performance standards for Low-Rise residential buildings
II-11-2.11	Section 150.1(b)3.A	Compliance demonstration requirements for performance standards
II-11-2.12	Section 150.1(c)	Additional prescriptive requirements for mixed-fuel buildings
II-11-2.13	Section 150.2	Additions

The following findings support that the above amendments and modifications are reasonably necessary because of local climatic, geological or topographical conditions:

Express Findings – Climatic

The effects of climate change caused by Green House Gas (GHG) emissions are increasingly self-evident, and very costly. Higher temperatures are contributing to record heat waves and droughts, rising sea levels, more intense storms, wildfires and floods.

Climate change is the fundamental design problem of our time. The threat that climate change poses is existential, and buildings together with transportation are large contributors.

Amending all of the above referenced code sections is necessary to combat the ever-increasing harmful effects of climate change. Implementation of the proposed code amendments will provide an accelerated path to reduce Green House Gas (GHG) emissions and carbonization in an effort to stem the tide of GHG emissions and the effects of global warming and climate change.