DOCKETED	
Docket Number:	22-BSTD-07
Project Title:	Local Ordinance Applications Exceeding the 2022 Energy Code
TN #:	259271
Document Title:	City of Brisbane Ordinance No 691
Description:	Plain text of City of Brisbane ordinance no. 691
Filer:	Anushka Raut
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	9/24/2024 11:38:29 AM
Docketed Date:	9/24/2024

ORDINANCE NO. 691

AN URGENCY ORDINACE OF THE CITY OF BRISBANE TO TAKE EFFECT IMMEDIATELY UPON ITS ADOPTION AMENDING SECTION 15.04.043 OF THE BRISBANE MUNICIPAL CODE, ADDING TO THE BRISBANE MUNICIPAL CODE A NEW CHAPTER 15.83 (ENERGY PERFORMANCE REACH CODE), AND AMENDING SECTIONS 15.84.050, 15.84.060, 15.84.070, AND 15.84.080 OF THE BRISBANE MUNICIPAL CODE CONCERNING ELECTRICAL VEHICLE INFRASTRUCTURE

WHEREAS, California Health and Safety Code section 17958 requires that cities adopt building regulations that are substantially the same as those adopted by the California Building Standards Commission and contained in the California Building Standards; and

WHEREAS, the California Energy Code is a part of the California Building Standards which implements minimum energy efficiency standards in building through mandatory requirements, prescriptive standards, and performance standards; and

WHEREAS, California Health and Safety Code Sections 17922, 17958, 17958.5, 17958.7, and 18941.5 provide that the City may make changes or modifications to the building standards contained in the California Building Standards based upon express finding that such changes or modifications are reasonably necessary because of local climatic, geological or topographical conditions; and

WHEREAS, the City Council of Brisbane finds and determines that the 2022 City of Brisbane Electric Vehicle Infrastructure Ordinance, as amended to coordinate with the intervening code, exceeds the EV infrastructure provisions required by the 2022 California Building Standards Code and are reasonably necessary by reason of the express findings noted Exhibit A; and

WHEREAS, the City Council of the Brisbane finds that each of the amendment, additions, and deletions to the California Energy Code contained in this ordinance are reasonably necessary because of the local climatic, geological, topographical, or environmental conditions summarized in Exhibit A; and

WHEREAS, Public Resources Code Section 25402.1(h)2 and Section 10-106 of the Building Energy Efficiency Standards (Standards) establish a process which allows local adoption of energy standards that are more stringent than the statewide Standards, provided that such local standards are cost effective and the California Energy Commission finds that the standards will require building to be designed to consume no more energy than permitted by the California Energy Code; and

WHEREAS, on or about September 20, 2016, the State of California enacted Senate Bill (SB) 32, which added Health and Safety Code Section 38566 to require greenhouse gas emissions to be reduced to 40 percent below 1990 levels by no later than December 31, 2030; and

WHEREAS, on September 17, 2015, the Brisbane City Council adopted the City's Climate Action Plan (CAP) which included the goal of reducing carbon emissions from fossil fuels to help curb global warming; and

WHEREAS, consistent with the CAP, the local amendments to the 2022 California Building Codes, including the California Green Building Code, establish requirements for single-family (e.g., townhomes), multifamily, and nonresidential structures which will reduce demands for local energy and resources, reduce regional pollution, and promote a lower contribution to greenhouse gases emissions; and

WHEREAS, staff has reviewed the cost effectiveness studies prepared by the California Statewide Codes and Standards Reach Code Program and associated study data and find them sufficient to illustrate compliance with the requirements set forth under California Administrative Code Chapter 10-106; and

WHEREAS, the modifications will result in building designs that consume less energy than they would under the 2022 State Energy Code, as demonstrated in the California Statewide Codes and Standards Reach Code Program's cost effectiveness analyses; such analyses are required by the California Energy Commission for the local amendments to the California Energy Code contained in this ordinance, and which analyses are hereby incorporated by reference; and

WHEREAS, based upon these analyses, the City Council of the City of Brisbane finds that the local amendments to the California Energy Code contained in this Ordinance have at least one cost effective pathway and will require buildings to be designed to consume no more energy than permitted by the California Energy Code; and

WHEREAS, scientific evidence has established that natural gas combustion, procurement and transportation produce significant greenhouse gas emissions that contribute to global warming and climate change; and

WHEREAS, this Ordinance is also reasonably necessary because of health and safety concerns as City residents suffer from asthma and other health conditions associated with poor indoor and outdoor air quality exacerbated by the combustion of natural gas; and

WHEREAS, using electric heating and cooling infrastructure in new buildings fueled by less greenhouse gas intensive electricity is linked to significantly lower greenhouse gas emissions and is cost competitive because of the cost savings associated with all-electric designs that avoid new gas infrastructure; and

WHEREAS, the most cost-effective time to integrate electrical infrastructure is in the design phase of a building project because building systems and spaces may be designed to optimize the performance of electrical systems and the project can take full advantage of avoided costs

and space requirements from the elimination of natural gas piping and venting for combustion air safety; and

WHEREAS, it is the intent of the City Council to eliminate natural gas emissions in new buildings where all electric infrastructure may be most practicably integrated, thereby reducing the environmental and health hazards produced by the consumption and transportation of natural gas.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF BRISBANE ORDAINS AS FOLLOWS:

SECTION 1: Section 15.04.043 of the Brisbane Municipal Code is amended as follows:

Section 15.04.043 Amendments to the California Building Standards Code

The 2022 California Building Code (CBC) California Residential Code (CRC) and the California Green Standards Code (CALGreen) are hereby amended as follows:

(Subsections A through I, no change.)

Subsections J through L are deleted in their entirety.

SECTION 2: *Chapter 15.83 of the Brisbane Municipal Code is added to read as follows:*

"Chapter 15.83 – New Building Energy Performance Reach Code

15.83.010 – Adoption of Energy Performance Reach Code

Brisbane adopts California Building Energy Efficiency Standards, 2022 Edition, Title 24, Part 6 of the California Code of Regulations in its full form with the local amendments contained in this Chapter 15.83.

15.83.020 – Section 100.1(b) amended—Definitions and Rules of Construction.

Section 100.1(b) is amended to add the following:

ELECTRIC HEATING APPLIANCE. 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.

NET FREE AREA (NFA) is the total unobstructed area of the air gaps between louver and grille slats in a vent through which air can pass. The narrowest distance between two slats, perpendicular to the surface of both slats is the air gap height. The narrowest width of the gap is the air gap width. The NFA is the air gap height multiplied by the air gap width multiplied by the total number of air gaps between slats in the vent.

15.83.030 – Section 120.2 amended – Required Controls for Space-Conditioning Systems

Subchapter 3 is amended to add Section 120.2(l) to read as follows:

(a) – (k): Subsections 120.2(a) – (k) are adopted without modification.

(l) HVAC Hot Water Temperature. Zones that use hot water for space heating shall be designed for a hot water supply temperature of no greater than 130 °F.

15.83.040 – Subchapter 3 amended by adding subsection (k) to Section 120.6 – Mandatory Requirements for Covered Processes

Subchapter 3 is amended to add Section 120.6(k) to read as follows:

(a) – (j): Subsections 120.6(a) – (j) are adopted without modification.

(k) Mandatory requirements for commercial kitchens. Electric Readiness for Newly Constructed Commercial Kitchens shall meet the following requirements:

1. Quick-service commercial kitchens and institutional commercial kitchens shall meet all of the following requirements:

a. Include a dedicated branch circuit wiring and outlet that would be accessible to cookline appliances.

b. The branch circuit conductors shall be rated at 50 amps minimum.

c. The electrical service shall have a capacity not less than 800 amps.

2. Main electrical service panel shall be sized to accommodate at least two additional 50 amp breakers.

15.83.050 – Subchapter 4, Section 130.0 amended—Lighting Systems and Equipment, and Electrical Power Distribution Systems—General

Subchapter 4 Section 130.0 is amended to read as follows:

a. The design and installation of all lighting systems and equipment in nonresidential and hotel/motel buildings, outdoor lighting, and electrical power distribution systems within the scope of Section 100.0(a), shall comply with the applicable provisions of Sections 130.0 through 130.6.

NOTE: The requirements of Sections 130.0 through 130.6 apply to newly constructed buildings. Section 141.0 specifies which requirements of Sections 130.0 through 130.6 also apply to additions and alterations to existing buildings.

15.83.060 – Subchapter 4 amended by adding Section 130.6 —Electric Readiness Requirements for Systems Using Gas or Propane

Subchapter 4 is amended to add Section 130.6 to read as follows:

130.6 Electric Readiness Requirements for Systems Using Gas or Propane

Where nonresidential systems using gas or propane are installed, the construction drawings shall indicate electrical infrastructure and physical space accommodating the future installation of an electric heating appliance in the following ways, as certified by a registered design professional or licensed electrical contractor.

a. Branch circuit wiring, electrically isolated and designed to serve all electric heating appliances in accordance with manufacturer requirements and the California Electrical Code, including the appropriate voltage, phase, minimum amperage, and an electrical receptacle or junction box within five feet of the appliance that is accessible with no obstructions. Appropriately sized conduit may be installed in lieu of conductors; and
b. Labeling of both ends of the unused conductors or conduit shall be with "For Future Electrical Appliance"; and
c. Reserved circuit breakers in the electrical panel for each branch circuit, appropriately labeled (e.g. "Reserved for Future Electric Range"), and positioned on the opposite end of the panel supply conductor connection; and
d. Connected subpanels, panelboards, switchboards, busbars, and transformers shall be sized to serve the future electric heating appliances. The electrical capacity requirements shall be adjusted for demand factors in accordance with the California Electric Code; and
e. Physical space for future electric heating appliances, including equipment footprint, and if needed a pathway reserved for routing of ductwork to heat pump evaporator(s), shall be depicted on the construction drawings. The footprint necessary for future electric heating appliances may overlap with non-structural partitions and with the location of currently designed combustion equipment.

15.83.070 – Subchapter 5, Section 140.0 amended—Performance and Prescriptive Compliance Approaches

Subchapter 5 Section 140.0 is amended to read as follows:

Nonresidential and hotel/motel buildings shall comply with all of the following:

a. The requirements of Sections 100.0 through 110.12 applicable to the building project (mandatory measures for all buildings).
b. The requirements of Sections 120.0 through 130.6 (mandatory measures for nonresidential and high-rise residential and hotel/motel buildings).
c. Either the performance compliance approach (energy budgets) specified in Section 140.1 or the prescriptive compliance approach specified in Section 140.2 for Climate Zone 3.
d. NOTE to Section 140.0(c): The Commission periodically updates, publishes and makes available to interested persons and local enforcement agencies precise descriptions of

the Climate Zones, which is available by zip code boundaries depicted in the Reference Joint Appendices along with a list of the communities in each zone.

NOTE to Section 140.0: The requirements of Sections 140.1 through 140.9 apply to newly constructed buildings. Section 141.0 specifies which requirements of Section 140.1 through 140.9 also apply to additions or alterations to existing buildings.

15.83.080 – Section 140.1 amended—Non-Residential Performance Approach: Energy Budgets

Section 140.1 is amended to read as follows:

A building complies with the performance approach provided that:

1. The time-dependent valuation (TDV) energy budget calculated for the Proposed Design Building under Subsection (b) is no greater than the TDV energy budget calculated for the Standard Design Building under Subsection (a), and
2. The source energy budget calculated for the proposed design building under Subsection (b) has a source energy compliance margin, relative to the energy budget calculated for the standard design building under Subsection (a), of at least seven (7) percent for all nonresidential occupancies.

EXCEPTION 1 to 140.1 item 2: A source energy compliance margin of 0 percent or greater is required when nonresidential occupancies are designed with single zone space-conditioning systems complying with Section 140.4(a)2.

EXCEPTION 2 to 140.1 Item 2. Due to conditions specific to the project, it is technically infeasible to achieve compliance, the Building Official may reduce the compliance margin for a newly constructed building.

(a) – (c): Subsections 140.1 (a) – (c) are adopted without modification.

15.83.090 – Subchapter 7, Section 150.0 amended—Single-Family Residential Buildings—Mandatory Features and Devices

Subchapter 7 Section 150.0 is amended as follows:

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

NOTE: The requirements of Sections 150.0 (a) through (r<u>v</u>) apply to newly constructed buildings. Sections 150.2(a) and 150.2(b) specify which requirements of Sections 150.0(a) through 150.0(r) also apply to additions or alterations. The amendments to sections 150.0 (t) do not apply to additions or alterations.

(a) – (s): 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 with either a drain or natural drainage for condensate.

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

15.83.100 – Section 150.1 amended—Performance and Prescriptive Compliance Approaches for Single Family Residential Buildings

Section 150.1 is amended to read as follows:

(a) Section (a) is adopted without modification

(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, as specified in sub-sections 1, 2 and 3 below.

1. Newly Constructed Buildings. The Energy Budget for newly constructed buildings is expressed in terms of the Energy Design Ratings, which are based on source energy and time-dependent valuation (TDV) energy. The Energy Design Rating 1 (EDR1) is based on source energy. The Energy Design Rating 2 (EDR2) is based on TDV energy and has two components, the Energy Efficiency Design Rating, and the Solar Electric Generation and Demand Flexibility Design Rating. The total Energy Design Rating shall account for both the Energy Efficiency Design Rating and the Solar Electric Generation and Demand Flexibility Design Rating. The proposed building shall separately comply with the Source Energy Design Rating, Energy Efficiency Design Rating and the Total Energy Design Rating.

   A building complies with the performance approach if the TDV energy budget calculated for the proposed design building is no greater than the TDV energy budget calculated for the Standard Design Building AND Source Energy

compliance margin of at least 9, relative to the Source Energy Design Rating 1 calculated for the Standard Design building.

EXCEPTION 1 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.

EXCEPTION 2 to Section 150.1(b)1. A newly constructed building with a conditioned floor area less than 1,500 square feet shall achieve a Source Energy compliance margin of 4 or greater, relative to the Source Energy Design Rating 1 calculated for the Standard Design building.

EXCEPTION 3 to Section 150.1(b)1. If a newly constructed building with a conditioned floor area less than 625 square feet demonstrates that due to conditions specific to the project it is technically infeasible to achieve compliance, the Building Official may reduce the compliance margin for a newly constructed building.

2. Additions and Alterations to Existing Buildings. The Energy Budget for additions and alterations is expressed in terms of TDV energy.

3. Section (b)(3) is adopted without modification.

(c) Section (c) is adopted without modification.

15.83.110 – Subchapter 10, Section 160.4(a) removed—Mandatory Requirements for Water Heating Systems

Subchapter 10 Multifamily Buildings-Mandatory Requirements is amended to remove subsection (a) of Section 160.4 Mandatory Requirements for Water Heating Systems. Sections (b) to (f) are adopted without amendments.

15.83.120 – Section 160.9(d) – (f) added—Mandatory Requirements for Electric Ready Buildings

Section 160.9 Sections (a) to (c) are adopted without amendments. Sections (d) through (f) are added as follows:

(d) Individual Heat Pump Water Heater Ready. Systems using gas or propane water heaters to serve individual dwelling units shall include the following components and shall meet the requirements of Section 160.9(f):

1. A dedicated 125 volt, 20 amp electrical receptacle that is connected to the electric panel with a 120/240 volt 3 conductor, copper branch circuit rated to 30 amps, within 3 feet from the water heater and accessible to the water heater with no obstructions. In addition, all of the following:
    A. Both ends of the unused conductor shall be labeled with the word "spare" and be electrically isolated; and
    B. A reserved single 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 "Future 240V Use".
2. 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.
3. The construction drawings shall indicate the location of the future heat pump water heater. The reserved location shall have minimum interior dimensions of 39"x39"x96".
4. A ventilation method meeting one of the following:
    A. The location reserved for the future heat pump water heater shall have a minimum volume of 700 cu. ft.
    B. The location reserved for the future heat pump water heater shall vent to a communicating space in the same pressure boundary via permanent openings with a minimum total net free area of 250 sq. in., so that the total combined volume connected via permanent openings is 700 cu. ft. or larger. The permanent openings shall be:
        i. Fully louvered doors with fixed louvers consisting of a single layer of fixed flat slats; or
        ii. Two permanent fixed openings, consisting of a single layer of fixed flat slat louvers or grilles, one commencing within 12 inches from the top of the enclosure and one commencing within 12 inches from the bottom of the enclosure.
    C. The location reserved for the future heat pump water heater shall include two 8" capped ducts, venting to the building exterior.
        i. All ducts connections and building penetrations shall be sealed.
        ii. Exhaust air ducts and all ducts which cross pressure boundaries shall be insulated to a minimum insulation level of R-6.
        iii. Airflow from termination points shall be diverted away from each other.

(e) Central Heat Pump Water Heater Electric Ready. Central water heating systems using gas or propane to serve multiple dwelling units shall include the following:

1. The system input capacity of the gas or propane water heating system shall be determined as the sum of the input gas or propane capacity of all water heating devices associated with each gas or propane water heating system.
2. Space reserved shall include:
   A. Heat Pump. The minimum space reserved shall include space for service clearances, and air flow clearances, and shall meet one of the following:
      i. If the system input capacity of the gas water heating system is less than 200,000 BTU/HR, the minimum space reserved for the heat pump shall be 2.0 square feet per input 10,000 Btu/ HR of the gas or propane water heating system, and the minimum linear dimension of the space reserved shall be 48 linear inches.
      ii. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU/HR, the minimum space reserved for the heat pump shall be 3.6 square feet per input 10,000 Btu/ HR of the gas or propane water heating system, and the minimum linear dimension of the space reserved shall be 84 linear inches.
      iii. The space reserved shall be the space required for a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project.
   B. Tanks. The minimum space reserved shall include space for service clearances and shall meet one of the following:
      i. If the system input capacity of the gas water heating system is less than 200,000 BTU/HR, the minimum space reserved for the storage and temperature maintenance tanks shall be 4.4 square feet per input 10,000 BTU/HR. of the gas or propane water heating system.
      ii. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU/HR, the minimum physical space reserved for the storage and temperature maintenance tanks shall be 3.1 square feet per input 10,000 BTU/HR. of the gas or propane water heating system.
      iii. The space reserved shall be the space required for a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project.
3. Ventilation shall be provided by meeting one of the following:
   A. Physical space reserved for the heat pump shall be located outside, or
   B. A pathway shall be reserved for future routing of supply and exhaust air via ductwork from the reserved heat pump location to an appropriate outdoor location. Penetrations through the building envelope for louvers and ducts shall be planned and identified for future use. The reserved pathway and penetrations through the building envelope shall be sized to meet one of the following:
      i. If the system input capacity of the gas water heating system is less than

200,000 BTU/HR, the minimum air flow rate shall be 70 CFM per input 10,000 BTU/HR of the gas or propane water heating system and the total external static pressure drop of ductwork and louvers shall not exceed 0.17 inches when the future heat pump water heater is installed.

ii. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU/HR, the minimum air flow rate shall be 420 CFM per input 10,000 BTU/HR of the gas or propane water heating system and the total external static pressure drop of ductwork and louvers shall not exceed 0.17" when the future heat pump water heater is installed.

iii. The reserved pathway and penetrations shall be sized to serve a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project.

4. Condensate drainage piping. An approved receptacle that is sized in accordance with the California Plumbing Code to receive the condensate drainage shall be installed within 3 feet of the reserved heat pump location, or piping shall be installed from within 3 feet of the reserved heat pump location to an approved discharge location that is sized in accordance with the California Plumbing Code, and meets one of the following:

   A. If the system input capacity of the gas water heating system is less than 200,000 BTU/HR, condensate drainage shall be sized for 0.2 tons of refrigeration capacity per input 10,000 BTU/HR

   B. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU/HR, condensate drainage shall be sized for 0.7 tons of refrigeration capacity per input 10,000 BTU/HR

   C. Condensate drainage shall be sized to serve a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project.

5. Electrical.

   A. Physical space shall be reserved on the bus system of the main switchboard or on the bus system of a distribution board to serve the future heat pump water heater system including the heat pump and temperature maintenance tanks. In addition, the physical space reserved shall be capable of providing adequate power to the future heat pump water heater as follows:

      i. Heat Pump. For the Heat Pump, the physical space reserved shall comply with one of the following:

         A. If the system input capacity of the gas water heating system is less than 200,000 BTU/HR, provide 0.1 kVA per input 10,000 BTU/HR

         B. If the system input capacity of the gas water heating system is greater

than or equal to 200,000 BTU/HR, provide 1.1 kVA per input 10,000 Btu/HR

C. The physical space reserved supplies sufficient electrical power required to power a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project.

ii. Temperature Maintenance Tank. For the Temperature Maintenance Tank, the physical space reserved shall comply with one of the following:

A. If the system input capacity of the gas water heating system is less than 200,000 BTU/HR, provide 1.0 kVA per input 10,000 BTU/HR

B. If the system input capacity of the gas water heating system is greater than or equal to 200,000 BTU/HR, provide 0.6 kVA per input 10,000 BTU/HR

C. The physical space reserved supplies sufficient electrical power required to power a heat pump water heater system that meets the total building hot water demand as calculated and documented by the responsible person associated with the project.

(f) The building electrical system shall be sized to meet the future electric requirements of the electric ready equipment specified in sections 160.9 a – e. To meet this requirement the building main service conduit, the electrical system to the point specified in each subsection, and any on-site distribution transformers shall have sufficient capacity to supply full rated amperage at each electric ready appliance in accordance with the California Electric Code.

15.83.130 – Subchapter 11, Section 170.1 amended—Multifamily Buildings—Performance Approach

Subchapter 11 Section 170.1 is adopted with amendments as follows:

A building complies with the performance approach if the TDV energy budget calculated for the proposed design building under Subsection (b) is no greater than the TDV energy budget calculated for
the Standard Design Building under Subsection (a). Additionally:

A. The energy budget, expressed in terms of source energy, of a newly constructed low-rise multifamily building (less than four habitable stories) shall be at least ten percent (10%) lower than that of the Standard Design Building.

EXCEPTION 1 to Section 170.1.1. Due to conditions specific to the project, it is technically infeasible to achieve compliance, the Building Official may reduce the compliance margin for a newly constructed building.

B. Newly Constructed high-rise multifamily buildings (greater than four habitable stories) shall be at least four percent (4%) lower than that of the Standard Design Building.

EXCEPTION 1 to Section 170.1.2. Due to conditions specific to the project, it is technically infeasible to achieve compliance, the Building Official may reduce the compliance margin for a newly constructed building.

Sub-sections (a) to (d) are adopted without amendments."

Section 3. Sections 15.84.050, 15.84.060, 15.84.070, and 15.85.070 of the Brisbane Municipal Code are amended to read as follows:

"15.84.050 – Coordination with state codes

This chapter does not replace the most recent edition of the California Building Code, Title 24, as adopted by the City in Chapter 15.04 of this code. This chapter 15.84 amends the state code, to place additional requirements on new residential and nonresidential development projects. To the extent the provisions of this chapter conflict with any current or subsequently adopted state code provisions, then the most stringent provisions shall supersede and control.

15.84.060 - Definitions:

For the purposes of this chapter, the following definitions shall apply:

(Current subsections A and B, no change.)

C. **Low Power Level 2 EV Parking Space.** "Low Power Level 2 EV Ready Parking Space" means a parking space served by a complete electric circuit with two hundred eight/two hundred forty (208/240) volt, twenty-ampere capacity including electrical panel capacity, overprotection device. The following shall be addressed in designating a Low Power Level 2 EV Ready Parking Space.

1. It is to be a minimum one inch diameter raceway that may include multiple circuits as allowed by the California Electrical Code.
2. Wiring shall be included and either:
    a. A Receptacle labeled "Electric Vehicle Outlet" with at least a one-half inch font adjacent to the parking space; or
    b. Electric vehicle supply equipment (EVSE) with a minimum output of fifteen (15) amperes.

(Current Subsections C and D no change but re-letter to subsections D and E.)

F. **Electric vehicle supply equipment (EVSE):** "Electric Vehicle Supply Equipment (EVSE)" means the conductors, including the ungrounded, grounded and equipment grounding conductors and the electric vehicle connectors, attachment plugs, personnel protection system, and all other fittings, devices, power outlets or apparatus installed specifically for the purpose of transferring energy between the premises wiring and the electric vehicle.

(Current subsections E and F no change but re-letter to subsections G and H.)

I. **Unassigned or Common Use Parking:** "Unassigned or Common Use Parking" means parking spaces in a residential parking facility that are not reserved for or assigned to a specific living unit within the building or residence, including guest, staff, or other non-resident parking.

15.84.070 Residential Requirements

New residential construction shall comply with the following:

A. **New single-family residences, duplexes, townhouses, and new garages at existing single-family residences, duplexes, and townhouses.**

1. Electric Vehicle (EV) Standards:

a. For each dwelling unit where two (2) or more parking spaces are required, at least one Level 2 EV Ready Circuit and one Level 1 EV Ready circuit is to be installed.

b. Where only one parking space is required per dwelling unit as provided in Chapter 17.34, only one Level 2 EV Ready circuit shall be required to be installed.

2. Exceptions: The following exceptions apply, subject to building official approval:

a. Carports without electrical service.

b. A reduction in the EV standards may be allowed if requested in writing by the applicant based on demonstration that the provisions of this section would render the development project infeasible due to associated utility costs. Documentation is to take into account short term and long term cost analysis to the satisfaction of the building official.

B. **New multifamily dwellings.** The following shall apply to multifamily developments whether parking spaces are assigned or unassigned to individual units:

1. EV Standards:

a. A minimum of one (1) Level 2 EV Ready Circuit Parking Space per unit shall be provided; and

b. A minimum of ten percent (10%) of the spaces required in paragraph a above shall be equipped with Level 2 EVSE; and

c. A minimum of fifty percent (50%) of required guest parking spaces shall be EVCS parking spaces.

d. In no case shall less than forty percent (40%) of the total parking spaces provided be EV Ready or EVSE.

2. Receptacle power source. EV charging receptacles and EVSE in multifamily facilities shall be provided with a dedicated branch circuit connected to the dwelling unit's electrical panel, unless determined as infeasible by the project builder or designer and subject to concurrence of the local enforcing agency.

    a. Exceptions: Unassigned or guest parking spaces and areas of parking facilities served by lifts, including but not limited to automated mechanical-access open parking garages as defined by the California Building Code; or parking facilities otherwise incapable of supporting electric vehicle charging.

3. Rounding. Calculations for the required minimum number of spaces equipped with Level 2 EVSE and EVCS parking spaces shall all be rounded up to the nearest whole number.

4. Exceptions: The following exceptions apply, subject to building official approval:

    a. Where less than one parking space per unit is required as provided in Chapter 17.34, the Level 2 EV Ready Circuit parking space requirements shall apply only to the parking required as provided in Chapter 17.34. This subparagraph does not alter the required minimum number of parking spaces as provided in Chapter 17.34.

    b. When more than twenty (20) multifamily dwelling units are constructed, load balancing systems may be installed. In such cases, the panel capacity must average a minimum of sixteen (16) amperes per EV space. Load balancing systems may be installed to increase the number of EV chargers or the amperage or voltage beyond the minimum required.

    c. A reduction in the EV standards may be allowed, if requested in writing by the applicant based on demonstration that the provisions of subsection B would render the development project infeasible due to associated utility costs. However, the maximum feasible amount of EV infrastructure shall be provided. Documentation is to take into account short term and long term cost analysis to the satisfaction of the building official.

15.84.080 Non-Residential Requirements

New nonresidential construction shall comply with the following provisions:

A. Building Uses with Lower Parking Turnover Rates: For buildings designed for primarily low parking turnover uses, such as administrative office, R&D, industrial, hotels and school uses, the following provisions apply to construction of new buildings, as determined by the building official. These building uses typically have longer average parking durations as compared to those included in Section 17.84.080.B.

1. EV Standards:

a. When ten (10) or more parking spaces are required, a total of 50% of the parking spaces required per Chapter 17.34 shall be EV, as follows:
   i. Fifteen percent (15%) of the required parking spaces on site shall be equipped with Level 2 EVCS;
   ii. An additional thirty-five percent (35%) of the required parking spaces on site shall be provided with at least Low Power Level 2 EV Ready Circuits.

b. When nine (9) or fewer parking spaces are required, at least one Level 2 EV Ready Circuit Parking Space or EVCS must be provided.

c. Rounding: Calculations for the required minimum number of spaces equipped with Level 2 EVCS and Low Power Level 2 EV Ready spaces shall all be rounded up to the nearest whole number.

2. Exceptions: No change

B. Building Uses with Higher Parking Turnover Rates: The following provisions apply to construction of new buildings designed for the primary uses of restaurant, retail, meeting halls, gyms, commercial recreation, professional office and similar, as determined by the Building Official. These building uses typically have shorter average parking durations as compared to those included in Section 17.84.080.A.

1. EV Standards:

a. When ten (10) or more parking spaces are required, a total of twenty-five percent (25%) of the parking spaces required per Chapter 17.34 shall be EV, as follows:
   i. Fifteen percent (15%) of the required parking spaces on site shall be equipped with Level 2 EVCS;
   ii. An additional ten percent (10%) shall be at least Level 2 EV Ready.

b. When nine (9) or less parking spaces are required, at least one Level 2 EV Ready Circuit Parking Space or EVCS must be provided.

c. Rounding: Calculations for the required minimum number of spaces equipped with Level 2 EVCS and Level 2 EV Ready spaces shall be rounded up to the nearest whole number.

2. **Exceptions: No change**."

Section 4. Adoption of this Ordinance is not subject to further environmental review under the California Environmental Quality Act (CEQA) in that it is general policy and procedure making activity that will not result in direct or indirect physical changes to the environment. CEQA Guidelines, Section 15378 (b)(3) and (b)(5).

Section 5. Effective Date. This Ordinance is adopted on an urgency basis, to take effect immediately upon its adoption and the reasons for adopting it on an urgency basis are several fold. Concerning electrical vehicle infrastructure amendments, the intervening cycle of the California Building Code went into effect State wide on July 1, 2024 and it is in the community interest of public health, safety and welfare for the City's reach code provisions to be in full force and effect as close as possible to the provisions of the California Building Code; if the Ordinance were not adopted on an urgency basis, the local amendments would not be in effect until mid-October due to the City Council's meeting schedule, leading to a conflict between the State adopted provisions and the local provisions. Concerning the new electrical reach codes, those amendments are necessary in order to implement the City's Climate Action Plan and the City's Declaration of a Climate Emergency Declaration, the intent of which is reduce carbon emissions from fossil fuels to help curb global warming; one critical method to accomplish that is by limiting the installation of new fossil fuel infrastructure and appliances.

The above Ordinance was adopted on an urgency basis (a 4/5 vote) at a regular meeting of the City Council of the City of Brisbane held on July 18, 2024, by the following vote:

AYES: Councilmembers Cunningham, Davis, Lentz, Mackin and Mayor O'Connell

NOES: None

ABSENT: None

ABSTAIN: None

Terry O'Connell
Mayor of the City of Brisbane

ATTEST:

Ingrid Padilla

Ingrid Padilla, City Clerk

APPROVED AS TO FORM:

Thomas R. McMorrow, City Attorney

Exhibit A

Findings Supporting the City of Brisbane Electric Vehicle Infrastructure Ordinance

By reason of the express findings noted in A and C below, it is necessary to amend the provisions of Brisbane's Electric Vehicle Infrastructure Ordinance.

Findings Supporting Local Amendments to Title 24 of the California Code of Regulations, 2022 Edition of the California Building Standards Code

Section 17958 of the California Health and Safety Code provides that the City may make changes to the provisions in the uniform codes that are published in 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 in the uniform codes and published in 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. Similar findings must be made to adopt model code appendices. Amendments to provisions not regulating buildings used for human habitation, including amendments made only for administrative consistency, do not require findings.

Code: California Energy Code					
Section(s)	**Title**	**Add**	**Delete**	**Amended**	**Justification (see Key)**
100.1(b)	Electric Heating Appliance			X	A, B, C
102.2(l)	Required Controls for Space-Conditioning Systems	X			A, B, C
102.6(k)	Mandatory Requirements for Covered Processes	X			A, B, C
130.0	Lighting Systems and Equipment, and Electrical Power Distribution Systems—General			X	A, B, C
130.6	Electric Readiness Requirements for Systems Using Gas or Propane	X			A, B, C
140.0	Performance and Prescriptive Compliance Approaches			X	A, B, C
140.1	Non-Residential Performance Approach: Energy Budgets			X	A, B, C
150.0	Single-Family Residential Buildings—Mandatory Features and Devices			X	A, B, C

Section(s)	Title	Add	Delete	Amended	Justification (see Key)
150.1	Performance and Prescriptive Compliance Approaches for Single Family Residential Buildings			X	A, B, C
160.4(a)	Mandatory Requirements for Water Heating Systems		X		A, B, C
160.9(d) – (f)	Mandatory Requirements for Electric Ready Buildings	X			A, B, C
170.1	Multifamily Buildings— Performance Approach			X	A, B, C

Key:

A. Climatic

The local amendments are justified on the basis of a local climatic conditions in Brisbane. 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 City homes and businesses, public facilities, and Highway 101 (Bayshore Freeway), particularly the mapped Flood Hazard areas of the City. Electric vehicle (EV) charging infrastructure and elimination of the burning of fossil fuels used in gas appliances for the heating of buildings are key components in reducing GHG emissions.

EV charging installations can help the City of Brisbane reduce its share of the GHG emissions that contribute to climate change and contribute to the reduction of GHG emissions by supporting the demand for EVs and the associated charging infrastructure. Provision of EV charging infrastructure is most cost effective as part of new development projects versus existing building/site retrofit projects. Furthermore, electricity will become cleaner over time as utilities achieve more stringent Renewable Portfolio Standard requirements and translate the clean energy benefits to electric vehicles.

Natural gas combustion and gas appliances emit a wide range of air pollutants, such as carbon monoxide (CO), nitrogen oxides (NOx, including NO2), particulate matter (PM), and formaldehyde, which according to a UCLA study, have been linked to various acute and chronic health effects, and additionally exceed levels set by national and California-based ambient air quality standards. The burning of fossil fuels used in gas appliances for the heating of buildings contributes to climate change and GHG emissions. All-electric new buildings benefit the health, safety, and welfare of Brisbane residents. Requiring all-electric construction and limiting gas infrastructure in new construction will reduce the amount of GHG emissions produced in Brisbane.

B. Topographical

The local amendments are justified on the basis of local topographic conditions in Brisbane. The City of Brisbane is located at the western edge of the San Francisco Bay and along the eastern flanks of San Bruno Mountain. The City has vacant development sites in flood prone areas as well as areas that may be subject to slope movement in steep areas of the City.

The City's topography and location, adjacent to the San Francisco Bay and San Bruno Mountain, present a number of hazards that include, but is not limited to flooding and slope stability. The reduction of natural gas infrastructure in new buildings and the transition to electric appliances in buildings would reduce fire hazards in buildings in hazards areas.

C. Environmental

The local amendments improve 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 local amendments are consistent with the goals of the Green Building Code and help achieve the following goals:

- Reduce the use of natural gas in buildings which improves indoor environmental quality and health;
- Reduce the use of natural gas which will reduce the natural gas infrastructure and fire risk over time;
- Promote the health and productivity of residents, workers, and visitors to the city; and
- Increase electric vehicle charging infrastructure to encourage electric vehicle adoption which in turn reduces greenhouse gas emissions and improves air quality.

Attachment 2: Additional Context on Energy Performance Reach Code

Legal Landscape

The City of Berkeley had adopted regulations requiring electric appliances in 2019, which was subject to an unsuccessful challenge from the California Restaurant Association in federal district court that the federal Energy Policy and Conservation Act (EPCA) preempted Berkeley's all-electric ordinance. However, on April 17, 2023, the United States Court of Appeals for the Ninth Circuit ("Ninth Circuit") reversed a district court's decision and ruled that the EPCA preempted the City of Berkeley's all-electric ordinance. The EPCA (42 U.S.C. § 6297(c)) states that "no State [or local] regulation concerning the energy efficiency, energy use, or water use, of [a] covered product shall be effective with respect to such covered product." In response to the Ninth Circuit's ruling, Brisbane temporarily suspended implementation of the all-electric requirement for new buildings.

On January 2, 2024, the Ninth Circuit denied the City of Berkeley's petition for rehearing and issued a modified opinion affirming that Berkeley's regulation is preempted by federal law. The City of Berkeley subsequently announced that it would not pursue an appeal of the Ninth Circuit ruling, effectively solidifying the Ninth Circuit's ruling on April 17, 2023 as final law.

The California Restaurant Association v. City of Berkeley ruling limits how the City can reduce emissions from new buildings and adds new context for what constitutes as a preemption to federal appliance regulations. Staff have identified increased building energy performance requirements via local amendments to the California Energy Code (i.e. "reach codes") as the preferred alternative approach that will not conflict with EPCA under the most recent ruling.

The California Energy Code establishes whole-building efficiency requirements, which account for a building's water heater, HVAC (heating, ventilation, and air conditioning) system, solar generating system, and insulation, among other design elements. The California Energy Code includes both a prescriptive option and performance option per building type. The proposed reach code primarily amends the performance pathway of the California Energy Code and does not regulate cooking equipment, laundry dryers, or other energy uses not addressed by the performance path of the California Energy Code.

EPCA has a specific exemption, referred to as the 7-factor test, which allows policies to require energy efficiency without pre-empting EPCA. The CEC has used this exemption for several code cycles, most recently through the use of the Energy Design Rating in the current Energy Code. Table 1 below references several of the factors from the 7-factor test and explains the technical aspects of the Energy Performance Approach in reference to the factor.

Table 1. 7-Factor Test for Pre-Emption Compared to the Energy Performance Approach

EPCA Requirements	Energy Performance Approach
Permit a builder to [...] select items whose combined energy efficiency meet an overall building energy target.	Instead of regulating appliance fuel infrastructure, the Energy Performance Approach sets a target energy score using the EDR1/Source Energy margin (used in the California Energy Code performance option).
Not specifically require any EPCA-covered appliance to exceed federal standards.	This approach sets the Source Energy target energy score assuming federally required minimum equipment efficiencies.
Offer options for compliance, on a 1-for-1 equivalent energy use or equivalent cost basis.	This approach sets a common Source Energy target energy margin for both mixed-fuel and all-electric buildings.

Energy Performance

The California Energy Code provides different metrics for different types of buildings:

1. Single-Family Residential: A new single-family residential building must meet or exceed all "Energy Design Ratings" (EDR). There are three EDR categories:
    - EDR1 (Source Energy) – EDR1 is a score representing a building's energy *efficiency expressed in terms that serve as a proxy for greenhouse gas emissions.*
    - EDR2 (Efficiency) – EDR2 is a score representing a building's energy efficiency expressed in terms of the value and cost of energy consumed at different times of the day and year.
    - EDR Total (Total Energy Design Rating) is a score representing the building's total energy expressed in terms of the value and cost of energy consumed at different times of the day and year while factoring in solar and energy demand flexibility.
2. Multi-Family Residential: A new multi-family residential building must meet or exceed a standard that combines the value and cost of energy consumed at different times of the day and year (referred to as Time Dependent Valuation of energy, or TDV), and the emissions from the building's energy source. The 2022 Source Energy metric is new and was added to support decarbonization and electrification policy goals.
3. Non-Residential: A new non-residential building must also meet or exceed a standard that uses TDV energy and Source Energy emissions scores.

The proposed Reach Code would increase the required EDR1 score for single family residential buildings and the required Source Energy scores for all other buildings. Source Energy acts as a proxy for carbon emissions. By increasing these requirements, the result is a decrease in energy use and emissions from newly constructed buildings. Table 2 below shows the performance requirement for different building types.

Table 2. Proposed Improved Energy Performance Standards

Building Type	Performance Requirement
Single Family Residential Buildings	Exceed the standard EDR1 requirement by at least 9
Multi-Family Residential (Low-rise, ≤ 3 stories)	Exceed the standard Source Energy requirement by 10%
Multi-Family Residential (High-rise, ≥ 4 stories)	Exceed the standard Source Energy requirement by 4%
Non-Residential	Exceed the standard Source Energy requirement by 7%

Because of how the EDR1 and Source Energy scores are calculated in the 2022 California Energy Code, the higher standards proposed in the Reach Code would allow new buildings to include electric appliances and/or mechanical systems, or allow the use of mixed-fuel appliances and systems which would include additional energy efficiency measures, PV systems, and/or a battery. The enhanced performance requirements would apply equally to mixed-fuel and all-electric buildings and are cost-effectively achievable through the energy code's performance pathway without requiring appliances that exceed federal efficiency standards.

Electric Ready Requirements

Table 3 represents the current 2022 California Energy Code requirements and those proposed to be added in the reach code.

Table 3. Electric Ready Infrastructure

Building Type	Current Energy Code	Proposed Reach Code
Single-Family Residential	o Gas-fueled furnaces o Gas-fueled water heaters o Gas-fueled clothes dryers o Gas-fueled cooktops	o No additions
Multifamily Residential	o Gas-fueled furnaces o Gas-fueled water heaters (Excludes central water-heating systems) o Gas-fueled clothes dryers o Gas-fueled cooktops	o Gas-fueled water heaters (Includes central water-heating systems)
Nonresidential	o No current requirements	o Commercial kitchens o Control for HVAC hot water temperature o Any other systems using gas or propane

Practical Effect of the Energy Performance Reach Code

Because the City is working within the confines of the California Energy Code, the description of the proposed approach above is inherently technical. This section illustrates the practical effect of the proposed approach by providing a simplified example of how a single-family home designer would comply with the proposed Reach Code.

Under the current California Energy Code, a building designer working on a single-family home built to the code minimum would likely include high efficiency LED lighting, rooftop solar, an electric heat pump hot water heater, a natural gas furnace, insulated walls, an insulated attic, and efficient windows, among other design elements that are similar to the prescriptive pathway in the California Energy Code. The designer would input the proposed building design into a computer building simulation model and estimate its energy performance. The energy modeling software would provide standard reporting metrics, including an EDR1. The designer would then calculate the compliance margin by subtracting the standard design building's EDR1 rating from the proposed designed building's EDR1. In this case, the proposed designed building's EDR1 score would be equal to the standard design building's EDR1 score, resulting in a compliance margin of 0, which meets the compliance requirement for that part of the California Energy Code.

With the proposed reach code in place, the designer would now need to achieve a compliance margin of 9. That means that the EDR1 of the proposed designed building needs to be 9 or more points better than the standard design building. If this building designer replaced the gas furnace with a commonly available heat pump HVAC system, the building would achieve a score that is 9 EDR1 points better than the code minimum standard design and would be consistent with the proposed Reach Code requirements. Alternatively, the building designer could keep the gas furnace and install a battery storage system, which would also result in an increase of more than 9 EDR1 points. The building designer also has the option to develop a package of efficiency and solar measures; so long as the measures lead to an increase of 9 or more EDR1 points better than the code minimum standard design, it is consistent with the reach code.

This illustrative example for single family homes is similar for the other building types where the proposed compliance margins reflect the designer selection of either installing electric heat pump equipment or gas equipment alongside some package of additional solar capacity, battery storage systems, and efficiency measures.

Available Resources for Lower Cost All-Electric Buildings

For projects that chose to go all-electric, the state of California and regional entities are providing technical assistance, substantial rebates, and incentives for all-electric new buildings. Current programs include:

- *California Electric Homes* is provided by the CEC and provides base incentives for all-electric new market rate residential buildings including $3,000 for single-family homes, $1,750 per multi-family residential unit, $1,750 per accessory dwelling unit, and $6,000 per modular or manufactured home. Program participation is capped at $1.5 million per builder and includes additional incentives for items like induction cooktop and beyond code efficiency measures.

- *The Building Initiative for Low-Emissions Development (BUILD) Program* is provided by the CEC and includes technical support and incentives for all-electric new affordable housing including approximately $3,399 per multifamily unit and $5,500 per single-family home.
- *Peninsula Clean Energy's EV Ready Program* provides incentives for the installation of Electric Vehicle charging. While the program is primarily for existing buildings, new multi-family developments are eligible for $1000-$2500 per port/outlet depending on type with higher incentives for affordable housing.

Cost Effectiveness

Table 4. Summary of Cost-Effectiveness

Building Type	Performance Requirement	All Electric Building w/ Efficiency Measures		Mixed-Fuel w/ Efficiency Measures, Additional Solar & Battery System	
		Performance Achieved	Benefit-to-Cost Ratio[1]	Performance Achieved	Benefit-to-Cost Ratio[1]
Single Family Residential	EDR1 margin 9+	11	>1	12.8	1.1
Low-rise Multi-Family	Source Energy savings 10+%	10%	9.8	17%	1.5
High-rise Multi-Family	Source Energy savings 4+%	7%	2.4	4%	3.5
Non-Residential[2]	Source Energy savings 7+%	7+%	>1	7+%	>1

[1] A benefit-cost value of "1" or greater illustrates that the measures save more than they cost and are therefore "cost effective."

[2] varies by building type, some non-residential building prototypes are exempt