



**DATE:** November 19, 2019

**TO:** Mayor and City Council

**FROM:** Development Services Director and Fire Chief

**SUBJECT:** Introduction of an Ordinance Adopting the California Code of Regulations 2019 Edition of Title 24, Including the 2019 Building, Fire, Plumbing, Mechanical, Electrical, Energy and Green Building Codes; and Related Amendments, Into the Hayward Municipal Code

### **RECOMMENDATION**

That Council introduces the attached ordinances and adopts the attached resolutions.

### **SUMMARY**

Every three years, all the codes that regulate construction in California (Title 24 of the California Code of Regulations) are comprehensively updated by the State. Jurisdictions throughout California adopt the State codes to serve as local codes, sometimes with amendments to the State codes, as Hayward has done historically. Regardless of local adoption, the 2019 State codes will be in effect throughout California on January 1, 2020.

This report, along with attached resolutions and ordinances recommend that the City Council adopts the State Codes with some amendments and codifies the Building Codes to become part of Chapter 9 (Building Regulations) of the Hayward Municipal Code. The recommended action will allow the code regulations to be more accessible and usable by the public.

### **BACKGROUND**

The California Code of Regulations Title 24 is a comprehensive series of regulations that governs all aspects of construction. The purpose of this code is to establish the minimum requirements to safeguard the public health, safety, and general welfare. This set of codes covers everything from fire safety to green building and energy efficiency. State law requires that all communities enforce these building standards in their entirety. The enforcement of these regulations is accomplished through a combination of permitting, plan review, and onsite field inspections. The Building Division of the Development Services Department is responsible for enforcing the majority of Title 24 in Hayward. The Hayward Fire Department is specifically responsible for enforcing Part 9 of Title 24, which is the California Fire Code.

Title 24 covers five broad topics:

- LIFE SAFETY (earthquake and fire safety through the Building Code and Fire Code)
- ENVIRONMENTAL QUALITY, SAFETY and SANITATION (core system functioning - through the Plumbing Code, Electrical Code and Mechanical Code)
- CIVIL RIGHTS (disabled access provisions through the Building Code)
- ENERGY CONSERVATION (through the Energy Code)
- GREEN BUILDING (through the California Green Building Standards Code, or 'CalGreen')

## **DISCUSSION**

Most jurisdictions undergo a code adoption process every three years to formally incorporate the California Building Code and Fire Code into their municipal regulations. This local adoption process is not mandatory since state law automatically requires all jurisdictions in California to enforce the current version of Title 24 on the effective date. However, if the local jurisdiction chooses to modify the state codes in any way, this must be done through a local ordinance. There are specific guidelines for this local adoption process in state law. The modifications proposed by any local jurisdiction must meet the following criteria:

- Local code amendments must not be less restrictive than the state codes.
- Technical modifications must have reasonable findings based on climatic, geological, or topographical conditions that impose constraints within the jurisdiction.
- Findings related to local conditions must be submitted to the California Building Standards Commission for recordation.
- Changes to the administrative sections of the code (non-technical components) do not require findings. Examples include policies related to refunds or plan review expiration.

### *Building Code (Attachments II and IV)*

As part of this code cycle, staff is recommending making several changes to the administrative section of the Building Code and making three technical changes/amendments based on the City's seismic zone. To view these changes and a brief explanation of the rationale, please see the second page of Attachment II (2019 Building Code Ordinance) for a summary. For the full rationale, please see Attachment IV (2019 Building Code Resolution).

### Fire Code (Attachments III and V)

Staff is recommending that City Council adopts the 2019 California Fire Code and local amendments to the Hayward Fire Ordinance, which can be seen in Attachment III. The amendments are designed to ease the approval for development review by standardizing Hayward's local code with neighboring jurisdictions and deleting sections where the State Fire Code has caught up with the local code. In the past, Council passed reach codes that exceeded State requirements. Since then, the State has incorporated these elements into the State Code. The amendments to the local ordinance also include cleanup language to incorporate previously adopted amendments designating a Hazardous Fire Area in the Hayward Hills and clarifying the construction method requirements within the Hazardous Fire Area.

### **ECONOMIC IMPACT**

The California Energy Commission (CEC) estimates that the new 2019 standards will increase the construction costs of a home by an average of \$9,500. The same study notes that over a 30-year period, the cost of these enhanced energy efficiency features will yield an average savings of \$19,000 to the homeowner. The CEC also estimates that the standards will add about \$40 per month for the average home while saving \$80 per month on heating, cooling, and lighting bills. While these added costs will be absorbed over the life of a conventional loan, the initial price of a new (more energy-efficient home) will be slightly higher under these new standards. For nonresidential applications, the Energy Commission applied a weighted average cost increase per square foot (\$0.69) to a hypothetical new 15,000 square foot generic nonresidential building. This weighted average reflects a range of cost per square foot values from \$0.15 to \$4.87 for 13 standard nonresidential building types across all 16 Energy Code climate zones. It should be noted that, assuming nonresidential construction costs average \$150 per square foot, the additional costs from the proposed Energy Code will increase the estimated cost of the new building by approximately 0.46%.

The remainder of the Building Code and Fire Code updates outside of the energy regulations are incremental in nature and do not represent any substantial changes that will have an economic impact.

### **FISCAL IMPACT**

With the increase in efficiency moving into Zero Net Energy standards (*ZNE*)<sup>1</sup>, enforcement of the new codes will have an impact on staff. Additional training is required, and projects will take longer to complete during the plan review and inspection stages. Staff does not foresee an immediate substantial fiscal impact from adopting the new codes; however, over the course of the code cycle, staffing may need to be adjusted (internally and/or through consulting services) to maintain current review timelines.

---

<sup>1</sup> **Zero Net Energy** means that the total amount of energy consumed by a building on an annual basis is equal to the amount of renewable energy produced on site.

There also may be a need to increase the training budget as staff learns and implements these new standards. Costs for additional staffing or consulting services are expected to be offset by revenues collected through permit fees.

## **STRATEGIC INITIATIVES**

This agenda item does not directly relate to one of Council's three Strategic Initiatives.

## **SUSTAINABILITY FEATURES**

The 2019 update to the CEC's Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings as well as additions and alterations to existing buildings. The most significant efficiency improvements to the Residential Standards include; the introduction of photovoltaic into the prescriptive package, improvements for attics and walls, Quality Insulation Inspections (QII), demand response controls, heat pump water heating, and high efficacy lighting. Significant efficiency improvements to the nonresidential Standards include alignment with the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE) 90.1 2017 national standards. The 2019 Standards also include changes made throughout all its sections to improve the clarity, consistency, and readability of the regulatory language. In terms of green building and energy efficiency, the new codes represent a significant leap forward in order to reach California's target of Zero Net Energy (ZNE) for all new residential buildings in 2020 and all new commercial buildings in 2030. While this code version is being touted as the first ZNE code, the new goal for the energy commission will be based on obtaining Zero Net Carbon by 2045 and dramatically reducing Green House Gases (GHG). The most notable shift will be to move away from the use of natural gas and fuel burning appliances, utilizing heat pump technology for water and space heating. The 2019 Energy Efficiency Standards will represent a 7% increase in residential building efficiency, and a 30% efficiency increase for nonresidential buildings from the previous code cycle.

The following strategies represent the accomplishment of the 2019 Standards Goals-Path to the Future:

- Increase building energy efficiency cost effectively by designing buildings that meet minimum **Energy Design Ratings (EDR)**<sup>2</sup>
- Contribute to the States GHG reduction goals

---

<sup>2</sup> **\*Energy Design Rating** – According to the California Energy Commission, the Energy Design Rating (EDR) is a way to express the energy performance of a building using a scoring system where 100 represents the energy performance of a home designed to meet the 2006 Energy Code and 0 represents the energy performance of a home that combines high levels of energy efficiency with renewable generation to “zero out” its time-dependent value (TDV) of energy. As defined in the cost-effectiveness studies, the TDV calculation is “intended to capture the “societal value or cost” of energy use including long-term projected costs such as the cost of providing energy during peak periods of demand and other societal costs such as projected costs for carbon emissions, as well as grid transmission and distribution impacts. This metric values energy uses differently depending on the fuel source (gas, electricity, and propane), time of day, and season. Electricity used (or saved) during peak periods has a much higher value than electricity used (or saved) during off-peak periods (Horii et al., 2014). This is the methodology used by the Energy Commission in evaluating cost-effectiveness for efficiency measures in Title 24, Part 6.

- Substantially reduce the homes impact on the grid through efficiency and Photovoltaic (PV)
- Promote grid harmonization and self-utilization of PV generation
- Provide independent compliance paths for both mixed fuel and all electric homes
- \*Provide tools for title 24 Part 11 (CalGreen) Reach Codes.

NOTE: Reach codes for 100% electrification of new structures as well as provisions for enhanced electric vehicle charging readiness are currently being developed by the Environmental Services Division and will be introduced separately from this standard code adoption process. For more information on the subject, please visit <https://www.hayward-ca.gov/reach-code>.

## **PUBLIC CONTACT**

Staff has directly contacted all developers with active projects that are nearing submittal to notify them of the upcoming code changes. Staff will also include notifications on the City's website and provide useful links for developers and homeowners to learn about the new codes.

## **NEXT STEPS**

If the City Council adopts the attached resolutions, determining the need to modify the 2019 California Building Code and California Fire Code, and introduces the attached ordinances, the ordinances will be adopted on November 26, 2019, and the new 2019 codes with amendments will be in effect on January 1, 2020.

*Prepared by:* Gary Nordahl, Chief Building Official and Miles Massone, Fire Marshal

*Recommended by:* Laura Simpson, Development Services Director, and  
Garrett Contreras, Fire Chief

Approved by:



---

Kelly McAdoo, City Manager