DATE: October 28, 2019

SUBJECT

Adoption of Reach Codes, and amendments to the Fire and Building Codes, waive first reading and introduce ordinance adopting fire and building codes by reference and ordinance amendments

RECOMMENDATION

1. Receive public comment and provide City Council input on the proposed ordinance amendments to the Energy and Green Building Standards towards the adoption of Reach Codes.

2. Waive first reading and introduce ordinances adopting Fire and Building Codes by reference and ordinances amending:

   a. An Ordinance Repealing Article II of Chapter 12 and Adopting a New Article II of Chapter 12, Adopting the 2018 International Fire Code along with the 2019 Edition of the California Fire Code;

   b. An Ordinance Repealing Articles IV, VI, VII, VIII, IX and X of Chapter 9 of the Redwood City Municipal Code and Adopting New Articles IV, V, VI, VII, VIII, IX and X of Chapter 9 of the Redwood City Municipal Code Adopting Title 24, Parts 2, 2.5, 3, 4, 5, 6, 8, 10 and 11 of the California Code of Regulations, namely the 2019 California Building (all chapters, including Chapter 1, Division I and Division II), Residential, Electrical, Mechanical, Plumbing, Energy, Historical Building, Existing Building, and Green Building Standards codes, as adopted by the California Building Standards Commission, the 2018 International Property Maintenance Code are hereby adopted by reference, with the amendments, additions and modifications set forth hereinafter in this Chapter;

   c. An Ordinance amending Chapter 9 (Buildings) to add Article XIV amending the Energy and Green Building Standards Codes towards the adoption of Reach Codes;

   d. An Ordinance amending Chapter 9 (Buildings) to add Article XIII regarding electric vehicle charging stations and setting forth procedures for expediting permitting processing for electric vehicle charging stations; An Ordinance amending Chapter 24 (Noise) adding a definition of “Construction,” a subsection to Excessive and Unreasonable Noises, and amending Construction Noise Time Limitations
e. An Ordinance amending Chapter 9 (Buildings) to add Article XV to regarding Safety Assessment Program Placards;

3. Set a Public Hearing on the adoption of these ordinances for November 25, 2019, commencing at 7:00 p.m. (or as soon thereafter as can be heard) in the Council Chambers of the City of Redwood City located at 1017 Middlefield Road, Redwood City and direct staff to publish the required notice.

4. Adopt a Resolution adopting findings of necessity and need for amendments, deletions, and additions to the 2019 Fire and Building Standards Codes.

5. Review and Consider the Statement of Exemption determination under CEQA.

STRATEGIC INITIATIVE

Public Safety

BACKGROUND

The City last updated its Building and Fire Codes in January 2017. New state codes become effective on January 1, 2020 and are applicable to the City whether adopted by the City or not. Therefore, it is important that these ordinances containing local amendments needed for Redwood City be adopted in a timely manner.

The Building and Fire Codes support one another; therefore, staff has brought both codes for concurrent review. Between June and October 2019, the Board of Building Review has held four meetings to review the recommended changes to the building codes and supports staff’s recommendations.

As noted, the City is adopting the state codes by reference, therefore it is necessary to notice and hold a public hearing prior to the adoption which is tentatively scheduled for November 25, 2019.

State law also requires the City to make findings that certain amendments to the state-adopted codes are necessary due to local climatic, geological, and topographical conditions. Amendments may also be made to administrative sections of the codes without State review. These findings are in the resolution presented for Council adoption. After the ordinances are adopted, they and the resolution must be submitted to the state for review and approval.

ANALYSIS

Fire Code

The California Building Standards Commission, appointed by the Governor, based the new code for this code adoption cycle on the 2018 edition of the International Fire Code. The proposed ordinance adopts the 2019 state code with local amendments including, but not limited to, codifying requirements for car stackers and car puzzler systems, defining what constitutes a high rise structure, and outlining prohibitions
regarding “safe and sane” fireworks. Additionally, the proposed ordinance includes changes to the compliance requirements for the Very High Fire Hazard Severity Zone Map; changes to fire hydrant specifications; and changes to emergency responder radio coverage system requirements. It also removes provisions related to the Fire Safety First program, which has proven to be impractical to implement due to the high cost of retrofitting buildings with custom fire sprinkler systems. Staff will return with alternative provisions to increase fire safety in older apartment buildings later this year.

Building Code

Staff has reviewed previous amendments and has compared them against current practice and the new building codes. Staff recommends including some of the City’s past amendments related to conditions found in Redwood Shores such as bay mud which interacts corrosively with metallic material. Additionally, the Board of Building Review has requested, and staff supports, the continued adoption of local amendments that are reasonably necessary due to local climatic, geological, and topographical conditions. For example the Building Code describing unsafe structures and equipment was amended to add a subsection requiring that buildings deemed structurally unsafe by the Building Division must be evaluated by a licensed structural engineer to ensure an assessment is adequate. The 2019 local amendments may only be more restrictive, not less, than the state codes.

Certain amendments were removed from Chapter 9 of the Municipal Code because many of these amendments were sufficiently addressed in the current Building Code, making the previous code changes redundant. For example, the amendments from previous Building Code adoptions that were removed include, but are not limited to, definitions for sheds or assembly areas, the required thickness for concrete slab floors, a requirement for permit cards to be in weather proof sleeves, etc. To better communicate the Building Division’s processes, staff plan to address and present the relevant information on the City’s website. This section will have material targeted to applicants for new construction, alterations, additions, or rebuilds. Staff anticipates having this information posted on the website by the end of the first quarter in 2020.

The amendments also set the fine amount for work done without a permit from the City. Another change was made to the previous amendment to Section 105.1. The section describes when permits would be required, and the previous amendment sought to identify when certain projects would be required to comply with certain standards, such as a requirement that new buildings be fitted with fire sprinklers. The previous language was not as clear and staff worked to better specify when additions, alterations, or other improvements would have to be brought into conformity with such standards for new construction.

Additionally, staff propose introducing the ordinances to add articles to Chapter 9 (Buildings) and amend Chapter 24 (Noise Regulation). These ordinances were included because of a legal requirement, to improve administration or oversight of the building code or construction related issues, or to address goals identified by the City:

a. Addition to Chapter 9: Safety Assessment Program Placards (improves administration of building code) establishes standard placards to be used to indicate the condition of a structure for continued occupancy.

b. Addition to Chapter 9: Expedited Permitting for Electric Vehicle Charging Stations (legal requirement) encourages the installation of electric vehicle charging stations by removing obstacles to permitting for charging stations so long as the action does not supersede the
Building Official’s authority to address higher priority life safety situations.

c. Addition to Chapter 9: Reach Codes (addresses City goals): Designed to encourage low-cost, all-electric, or mixed-fuel new construction, as well as facilitating easier electric vehicle charging, further discussed below

d. Amendment to Chapter 24: Construction Noise revision (improves oversight of issues related to construction) expands what is deemed to be excessive and unreasonable noises and addresses time limitations for construction related noises.

Reach Codes

Reach Codes are additional amendments to the Energy and Green Buildings Standards Codes. Reach Codes aim to reduce greenhouse gas emissions (GHGs) by reducing reliance on natural gas and gasoline through refocusing energy consumption towards electrification. Beginning in July 2019, City staff, Peninsula Clean Energy (PCE), and the San Mateo County Office of Sustainability have worked together to develop Reach Code recommendations for City Council to consider for adoption. PCE is a community choice energy program that provides San Mateo County residents an energy alternative and also implements programs and supports efforts to reduce GHGs.

On September 24, 2019, City Council hosted a presentation by PCE. PCE shared information on the Reach Codes and provided an update on City staff’s efforts towards developing Reach Code recommendations. In general, Reach Codes would only apply to new construction, but will include single-family, multi-family, office, and other non-residential buildings. Additionally, newly constructed buildings are allowed to be mixed-fuel but must be “All electric capable”. For example, this means that a residential or commercial property owner who is building their new structure from the ground up has the ability to install gas for cooking, structural heating and drying. However, the structure must have outlets capable of going all electric should the owner make the decision to switch to all electric appliances. This would include an electrical panel and wiring capable of handling an electric stove range, heater, and dryer.

After the presentation, the City Council provided general feedback and sought to understand how the proposed Reach Code may impact residents or businesses. Based on this feedback, staff made changes to the recommendations contained in this report. Councilmembers commented on the following topics:

- **Providing incentives vs. punitive actions:** Staff’s recommendation for Reach Codes are to allow mixed fuel options in the event that a property owner chooses to install gas and use gas appliances. For those wishing to switch to all electric appliances, the City provides information on its website on where to find rebates. PCE, Pacific Gas & Electric (PG&E), and BayREN provide incentives for all electric appliances.

- **Concern about consistency across jurisdictions:** PCE and the County Office of Sustainability have worked to ensure consistency amongst Reach Codes. Nonetheless, it is up to each jurisdiction to adopt what is applicable to them. While there may be variance in Reach Code requirements, there is similar variance in local jurisdictions’ amendments to the California Building Code. Contractors may adapt to differences for Reach Codes in the same way that they adapt to other variations in building codes.
• **Impact on already permitted projects:** Projects in receipt of a building permit prior to the effective date of the Reach Code will be subject to the building codes applicable at the time they received the permit. Reach Codes will not be retroactive.

• **EV charging infrastructure:** Currently, the City does not have an electric vehicle charging requirement, and instead has followed the state requirements. With the adoption of the proposed Reach Code, Redwood City would go above what is required by the state.

Staff expanded accessibility to electrical vehicle charging by requiring more electric vehicle capable circuits (Table 1), including more financially feasible options for multi-family affordable housing projects. Staff have also sought to go beyond the state requirements for EV capable parking spaces. However, this is not a requirement to provide a charging station but to provide the infrastructure to charge electrical vehicles such as capacity in the electrical panel and an outlet. Requiring the installation of a charging station would be an added cost to the developer.

For example, the cost for a Level 2 charging station is approximately $1,000 to $6,000. If there is no charging station, a vehicle owner could purchase a Level 2 charging cable for $100 to $300. To provide further incentives to expanded electric vehicle usage, PCE offers the following programs or planned programs:

- A $4,000 subsidy to low income households towards the purchase of a used electric vehicle, and
- Incentive program for the installation of electric vehicle charging infrastructure in affordable housing.

### Table 1: Electrical Vehicle Charging Requirements

<table>
<thead>
<tr>
<th>Project Type</th>
<th>EV Capable Circuit Required</th>
<th>Proposed RWC Requirement</th>
<th>State requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>One &amp; two family Dwellings</td>
<td>Level 1 EV Capable (Level 1) and Level 2 EV Capable (Level 2)</td>
<td>One of each per dwelling unit</td>
<td>One per dwelling unit</td>
</tr>
<tr>
<td>Multifamily dwellings with equal to or less than 20 units</td>
<td>Level 2</td>
<td>One per dwelling</td>
<td>10% Level 2 EV Capable</td>
</tr>
<tr>
<td>Multifamily dwellings with more than 20 units</td>
<td>Level 1 and Level 2</td>
<td>25% of dwelling units must each have at least one Level 2; 75% shall each have Level 1</td>
<td>10% Level 2 EV Capable</td>
</tr>
</tbody>
</table>

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1 A Level 1 EV Capable Circuit is the standard 20 amp capacity outlet that would be used for a countertop microwave. It would typically take 8 to 24 hours to fully charge an electrical vehicle. A Level 2 EV Capable Circuit has a 40 amp capacity and is the most common outlet that is installed specifically for electric vehicle charging. It would typically take up to 4 hours to fully charge an electrical vehicle on a Level 2 EV Capable outlet.
### Table 1: Electrical Vehicle Charging Requirements

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<tbody>
<tr>
<td>Multifamily affordable housing</td>
<td>Level 1 and Level 2</td>
<td>10% of dwelling units must each have at least one Level 2; 90% shall each have Level 1</td>
<td>10% Level 2 EV Capable</td>
</tr>
<tr>
<td>Office buildings (with at least 10 or more parking spaces)</td>
<td>Level 1 and Level 2</td>
<td>10% of spaces shall have at least Level 2; 10% of spaces shall be at least Level 1; 30% shall be wired for Level 1</td>
<td>6% Level 2 EV Capable</td>
</tr>
<tr>
<td>Other non-residential with 10 or more spaces</td>
<td>Level 1 and Level 2</td>
<td>6% of spaces shall have at least Level 2; 5% of spaces shall be at least wired for Level 1</td>
<td>4% minimum Level 2 EV Capable</td>
</tr>
</tbody>
</table>

- **Solar**: The 2019 state codes require solar installations for new one and two-family residential buildings. Staff are not recommending that solar be required for residential remodels; however, solar will be required for new commercial buildings. In all situations, there are exceptions for the solar requirement if installation is deemed infeasible. An example of this would be where a home has a lack of sun exposure due to tree coverage.

- **Impact of electrification on efforts to capture methane gas**: Electrification is not anticipated to affect efforts to capture methane gas. This is due to two things: First, energy generated from methane capture is relatively low. Second, collective energy consumption remains high and still exceeds the amount of methane generated energy, in other words, there would still be an energy deficit. For example, the Point Reyes Farmstead Cheese Company in Marin County has over 500 cattle and captures much of its own methane for use on the farm, but still needs to supplement its energy usage. More importantly, the greatest benefit from methane capture is the reduction of GHGs, while energy generation is a secondary benefit.

- **Impact of increased electricity usage to the electrical grid managed by PG&E**: Impacts to the electric distribution system from increased electricity usage is accounted for during PG&E’s annual load forecasting process. The California Public Utilities Commission requires PG&E to provide sufficient service, so if there is added electricity usage they must ensure proper voltage is maintained and available throughout their system.

### FISCAL IMPACT

There is no fiscal impact to the City associated with the adoption of these code updates.
ENVIRONMENTAL REVIEW

This activity is not a project under California Environmental Quality Act (CEQA) as defined in CEQA Guidelines, section 15378, because it has no potential for resulting in either a direct or reasonably foreseeable indirect physical change in the environment.

PUBLIC NOTICE

Public Notification was achieved by posting the agenda, with the agenda items being listed, at least 72 hours prior to the meeting. The notice of the public hearing for the adoption of the California Building and Fire Codes will be published once a week for a period of two successive weeks prior to the proposed public hearing date of November 25, 2019 in a newspaper of general circulation in Redwood City in accordance with California Government Code § 6066. Copies of the state codes being adopted by reference will be kept on file in the Office of the City Clerk open to public inspection.

ALTERNATIVES

1. Do not adopt the local amendments to the state codes which will result in Redwood City being regulated by the state codes as adopted by the State of California.

2. Direct staff to further review the proposed ordinance based upon public comments and/or Council feedback.

ATTACHMENTS

Attachment A - Fire Code Adoption Ordinance
Attachment B - Building Code Adoption Ordinance
Attachment C - Reach Code Ordinance
Attachment D - Expedited Process for Permitting Electric Vehicle Charging Stations Ordinance
Attachment E - Amendment to Noise Regulation Ordinance
Attachment F - Safety Assessment Placard Program Ordinance
Attachment G - Resolution adopting findings of necessity and need for amendments, deletions, and additions to the 2019 Fire and Building Standards Codes
REPORT PREPARED BY:

Gareth Harris, Fire Marshal  
gharris@redwoodcity.org  
(650) 780-7457

Christina McTaggart, Building Official/Community Development Services Manager  
cmctaggart@redwoodcity.org  
(650) 780-7228

Christopher Dacumos, Management Analyst II  
cdacumos@redwoodcity.org  
(650) 780-5957

APPROVED BY:

Mark Muenzer, Community Development & Transportation Director  
Melissa Stevenson Diaz, City Manager