RESOLUTION NO. 23-04

A RESOLUTION OF THE MORAGA-ORINDA FIRE DISTRICT OF CONTRA COSTA COUNTY, CALIFORNIA, ADOPTING FINDINGS JUSTIFYING AMENDMENTS TO THE 2022 EDITION OF THE CALIFORNIA FIRE CODE.

WHEREAS, Section 13869.7 of the Health and Safety Code allows a fire protection district, subject to subdivision (b) of Section 18941.5 of the Health and Safety Code, to adopt building standards relating to fire and panic safety that are more stringent than those building standards adopted by the State Fire Marshal and contained in the California Building Standards Code; and

WHEREAS, Subdivision (b) of Section 18941.5 of the Health and Safety Code provides that the more restrictive buildings standards adopted by local public agencies must, in accordance with Section 17958.7, be based upon express findings that the more restrictive standards are reasonably necessary due to local climatic, geological, or topographical conditions; and

WHEREAS, The Fire District's Ordinance No. 23-01, which adopts the California Fire Code, 2022 Edition, contains specific amendments that are more restrictive than those adopted by the State Fire Marshal and contained in the California Building Standards Code; and

WHEREAS, These amendments to the California Fire Code, 2022 Edition, have been developed by the Fire District as a tool for addressing climatic, geological and topographical conditions within the Fire District, and they will establish and maintain an environment for a high level of fire and life safety for all persons who work and live within the Fire District's boundaries.

NOW, THEREFORE, BE IT RESOLVED, pursuant to Sections 13869.7, 18941.5, 17958.7, and 17958.5 of the California Health and Safety Code, that the Board of Directors of the Moraga-Orinda Fire District hereby finds that the amendments to the California Fire Code, 2022 Edition contained in Ordinance 23-01 are reasonably necessary due to climatic, geologic, and topographical conditions ("the Conditions") that exist in the Fire District. The Conditions are as follows:

Climatic Conditions

Ever-changing climatic conditions have increased the risk and severity of fires in the Fire District. Local climatic conditions of limited rainfall, low humidity, high temperatures, and high winds, along with existing building construction and landscaping, create extremely hazardous fire conditions that adversely affect the potential fire line intensity, spread rates, and size of fires in the Fire District. The same climatic conditions may result in the concurrent occurrence of multiple fires in the Fire District and throughout the region resulting in inadequate Fire District personnel to protect against and control these fires.

The Fire District is the gateway to central Contra Costa County. It is located amongst rolling hills and valleys created by the Berkeley/Oakland hills to the west and open plains of central Contra Costa County to the east. Due to its location, the Fire District's climate is more varied than that of its neighbors. The Fire District receives slightly more rainfall than areas further inland, and often, during the summer months, portions of the Fire District are enveloped in fog

as the heat in the Central Valley draws cool air in from the San Francisco Bay. However, the Fire District also experiences the hot, dry summer weather that is characteristic of central Contra Costa County. This climate has promoted the growth of native grasslands, chaparral, oaks, and other indigenous plant species in the area. The climate has encouraged development in the Fire District and the addition of primarily residential areas surrounded by large numbers of non-indigenous plant species. Due to the systematic exclusion of naturally occurring fire for over 100 hundred years, and a reduction in historical grazing activity as pasture has been developed, these indigenous and non-indigenous plant species have created significant fuel loads throughout the Fire District. Due to the location of the Fire District in proximity to the Oakland/Berkeley Hills, in the fall the hot dry summer weather gives way to Diablo Wind events characterized by high winds and very low relative humidity. These conditions have contributed to major fire loss in the region and throughout the state, with 17 of the 20 most destructive fires in California history occurring in the fall. The Fire District is exposed to more of these wind events as climate change has delayed the onset of the rainy season, thus increasing the risk of major fires.

In September 1923, during critical climatic fire conditions, a fire started in the wilderness lands of the Fire District's northern area. This fire spread into the city of Berkeley and, within two hours, was attacking houses within the City limits. A total of 130 acres of built- up territory burned. 584 buildings were wholly destroyed, with roughly 30 others seriously damaged. At that time, this was the most destructive fire in California history.

In September 1970, during critical climatic fire conditions characterized by hot, dry winds out of the northeast, a fire started along Fish Ranch Road and Grizzly Peak. This fire rapidly spread into the surrounding neighborhoods of Oakland, burning 400 acres and destroying 37 homes. An additional 18 homes were badly damaged before the fire was brought under control.

In August 1988, during critical climatic fire conditions, a small fire started near Crestview in Lost Valley and within minutes destroyed 5 homes. This fire's spread rate was increased by the prevalence of light flashy fuels and steep slopes in alignment with strong winds.

In October 1991, a disastrous firestorm burned through the Oakland hills from an ignition point just west of the Fire District's border. Within the first few hours, thousands of people were evacuated. Ultimately over 3,000 dwelling units were destroyed in what replaced the 1923 fire as the most destructive fire in California history.

On October 27, 2019, sustained single-digit relative humidity and 30+ mph winds created explosive fire conditions throughout the region. On the same day that the Kincade fire burned in Sonoma County, five major fires broke out in Contra Costa County. Three of these fires burned in proximity to the Fire District in Lafayette, Crockett, and Martinez and resulted in the depletion of available mutual aid resources as available firefighting units were committed to each new fire.

Throughout the Fire District, homes are surrounded by heavy vegetation with interspersed open areas, creating a semi-rural character. The resulting exposure to wildfire risk is increased by the negative effects of high wind conditions during the fire season. During May to October, critical climatic fire conditions regularly occur when the temperature exceeds 80F, wind speed is greater than 15 mph, fuel moisture is less than or equal to 10 percent, wind direction is from north to the east-southeast, and the ignition component is 65 or greater. These conditions occur more frequently during the fire season, but this does not preclude the possibility that a serious fire could occur during other months of the year.

The critical climate fire conditions create a situation conducive to rapidly moving, high-intensity fires. Fires starting in the wildland areas along the northern border are likely to move rapidly southward into the populated areas creating the potential for significant property loss and a very challenging evacuation problem.

Geological Conditions

Local geological conditions include high potential for seismic activity. The Fire District is made up of built-up suburban areas having buildings and structures constructed near three major fault systems capable of producing major earthquakes. The Fire District's amendments to the 2022 Fire Code are intended to better limit life safety hazards and property damage in the aftermath of seismic activity.

The Fire District is in a region of high seismic activity with the Hayward fault running just west of its border. The San Andreas fault is farther to the west and the Calaveras Fault to the east. All three faults are known to be active, as evidenced by the damaging earthquakes they have produced in the last 100 years, and they can be expected to do damage in the future. Of primary concern to the Fire District is the Hayward Fault, which has been estimated to be capable of earthquakes exceeding a magnitude of 7.0 on the Richter scale. Many underground utilities cross the fault, including major water supply lines. Intensified damage during an earthquake may be expected in slide areas, as well as residential hillside areas located within or near the fault zone. Some areas are steep and have previously been subjected to slides.

Additional potential events following an earthquake include broken natural gas mains and ensuing fires in the streets, building fires as the result of broken service connection, trapped occupants in collapsed structures, and requirements to render first aid and other medical attention to many residents.

Topographical Conditions

Local topographical conditions include hillside housing with many narrow and winding streets with slide potential for blocking roads and limiting firefighting water supply. These conditions create the potential for delays in responding when a major fire or earthquake occurs. Many situations will result in limited or totally blocked emergency vehicular traffic, overtaxed Fire District personnel, and a lack of resources for the suppression of fire in both structures and vegetated areas in the Fire District. To mitigate the conditions that hinder the rapid response of suppression resources to a fire, automatic fire-extinguishing systems and other changes to the 2022 Fire Code are required. These requirements will buy time for residents to execute an orderly evacuation while allowing for access by firefighting resources.

The Fire District has many homes that are reached by narrow and winding paved streets, which hamper access for fire apparatus and provide limited evacuation routes for residents. In addition, many of the hillside homes are in outlying areas that require longer response times for the total required firefighting force. El Toyonal, Sleepy Hollow, the Downs, Canyon, and other areas with limited access via narrow and winding streets may face the problem of isolation from the rest of the Fire District and will suffer from the need for two-way traffic as evacuation and suppression response travel in opposite directions over limited roadways.

Effective road widths are further reduced by encroaching vegetation and mid-slope roads built without shoulders. This is particularly pronounced in older neighborhoods of North Orinda,

some of which were laid out in the 1920s when vehicles were smaller, codes less stringent, and population density much lower.

Due to steep slopes that characterize many areas of the Fire District, the establishment of infrastructure to support adequate fire protection needs is not feasible. It is difficult to widen existing streets to meet present standards for emergency operations, and fire hydrants, especially in the hillside areas, often have less than optimum water pressure levels.

In summary, portions of the Fire District have limited water supplies or roadways that delay the response of emergency equipment to carry out the extinguishment of a fire allowing the fire to increase in area. To mitigate the above situation that hinders the quick response to a fire, built-in automatic fire-extinguishing systems are required over and above state code requirements. The requirement and installation of such a system will allow for occupants to evacuate and allow the fire to be controlled before the Fire District arrives. This control of the fire also eliminates the potential for fire to spread beyond the structure into the vegetation.

PASSED, APPROVED, and ADOPTED this 15th day of February 2023 at the regular meeting of the District Board of Directors, held virtually on a motion made by Director Jorgens and seconded by Director Hasler and duly carried with the following roll call vote:

AYES: DIRECTORS DANZIGER, HASLER, JORGENS, AND ROEMER

NOES: NONE

ABSENT: JEX

ABSTAIN: NONE

RESOLUTION 23-04

ATTEST:

John Jex, President
Board of Directors

I certify that this is a full, true, and correct copy of the original document, which is on file in my office, was passed and adopted by the Moraga-Orinda Fire District on the date shown.

ATTEST:

Marcia Holbrook
District Secretary/District Clerk

APPROVED AS TO FORM:

Jonathan Holtzman (Feb 28, 2023 14:58 PST)

Jonathan V. Holtzman
District Counsel

23-04 Resolution Adopting Findings for 2022 Fire Code (v.2 1-12-22) (adopted 2.15.23)

Final Audit Report 2023-02-28

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