

ORDINANCE NO. 22-02

AN ORDINANCE OF THE MORAGA-ORINDA FIRE DISTRICT OF CONTRA COSTA COUNTY, CALIFORNIA, ADOPTING REQUIREMENTS FOR UNDEVELOPED PARCELS AND CERTAIN LOW DENSITY LARGE DEVELOPED PARCELS, AND FINDINGS OF FACT ESTABLISHING ADDITIONAL REQUIREMENTS IN THE STATE RESPONSIBILITY AREAS AND LOCAL RESPONSIBILITY AREAS.

The Board of Directors, as the governing body of the Moraga-Orinda Fire District does ordain as follows:

SECTION 1. AUTHORITY

This Ordinance is authorized under, among other state statutes and regulations, Public Resources Code Sections 4117, 4119, 4290, and 5561.6, Health and Safety Code Sections 13801, 13804, 13861, 13862, and 13870, Government Code Section 51175, and Title 14, California Code of Regulations, Sections 1270.04 and 1270.05.

SECTION 2. FINDINGS OF FACT

- (a) Public Resources Code Section 4290, adopted in 1987, requires the Board of Forestry and Fire Prevention (“the Board”) to adopt regulations implementing minimum fire safety standards related to defensible space in State Responsibility Areas, including regulations requiring fuel breaks, green belts, and signs for identifying streets, roads, and buildings. In 2018 the Legislature amended Section 4290 to require that the regulations also apply to areas within Local Responsibility Areas classified as very high fire hazard severity zones. Section 4290(c) provides that such regulations will not supersede more restrictive local regulations that equal or exceed the state regulations.

- (b) In accordance with Public Resources Code Section 4290, the Board has adopted regulations setting minimum fire safety standards for some aspects of defensible space. These regulations, established in the California Code of Regulations, Title 14, Sections 1270.00-1276.04 (“the Fire Safe Regulations”), do not include standards for fuel breaks as specifically mandated by Public Resource Code 4290(b), which states that the Board shall, on and after July 21, 2021:
 - Periodically update regulations for fuel breaks and greenbelts near communities to provide greater fire safety for the perimeters to all residential, commercial, and industrial building construction within state responsibility areas and lands classified and designated as very high fire hazard severity zones, as defined in subdivision (i) of Section 51177 of the Government Code, after July 1, 2021.To date, no such regulations have been provided.

- (c) Fuel breaks are a critical tool intended to reduce fire spread rates and intensity to allow the timely containment of wildfire. By interrupting the continuity of the fuel beds through which fire spreads, their presence decreases the potential for small fires spreading to the lands of another and slows the rate at which large fires travel, buying time for orderly evacuations and the aggregation of an effective firefighting response for the protection of lives and structures.

(d) On October 27, 2021, the California Department of Forestry and Fire Protection (“CAL FIRE”) delegated to the Moraga-Orinda Fire District (“the District”) the authority to inspect and enforce the Fire Safe Regulations promulgated under Section 4290. These standards for fuel breaks on undeveloped parcels and large, low-density parcels are consistent with that delegation and with the provisions of Public Resources Code Section 4290(c).

(e) Pursuant to Sections 4117 of the Public Resources Code, which provides that fire prevention districts may adopt ordinances providing fire prevention regulations that are necessary “to meet local conditions of weather, vegetation, or other fire hazards,” the Board of Directors of the District finds that the fuel break standards in this Ordinance are necessary in light of the following local conditions. fire hazards created by the following local conditions..

i. Weather/Climactic Conditions

The ever-changing climatic conditions have increased the risk and severity of fires in the 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 District. The same climatic conditions may result in the concurrent occurrence of multiple fires in the District and throughout the region, resulting in inadequate District personnel to protect against and control these fires. The 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 District’s climate is more varied than that of its neighbors. The District receives slightly more rainfall than areas further inland, and often, during the summer months, portions of the District are enveloped in fog as the heat in the Central Valley draws cool air in from the San Francisco Bay. However, the District also experiences the hot, dry summer weather that is characteristic of central Contra Costa County. This climate promoted the growth of grasslands, chaparral, oaks, and other plant species indigenous to the area. The climate has encouraged development in the District, with 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 District. Due to the location of the 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 District is exposed to more of these wind events because 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 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 the 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 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 Kincadee fire burned in Sonoma County, five major fires broke out in Contra Costa County. Three of these fires burned in proximity to the 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 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. Fire spread is slowed or stopped when crossing areas in which fuels have been modified to interrupt the continuity of combustive vegetation. This is of particular importance in light of the local climatic conditions which support rapid wind-driven fire spread. Fuel breaks are the primary method used to modify vegetation to reduce the potential for the rapid spread of uncontrolled wildfire and are critical to preventing spread across property lines onto the lands of another and threatening lives and structures.

ii Vegetation

The District is located in a "Chaparral Biome." In its natural state, chaparral is characterized by infrequent fires, with intervals ranging between 10–15 years to over a hundred years. Mature chaparral (stands that have been allowed greater intervals between fires) is characterized by nearly impenetrable, dense thickets. These plants are highly

flammable. They grow as woody shrubs with hard and small leaves, are non-leaf dropping (non-deciduous), and are drought tolerant. After the first seasonal rains following a fire, the landscape is dominated by soft-leaved, non-woody annual plants, known as fire followers, which die back with the summer dry period. The California Interior Chaparral and Woodlands Eco-Region cover 24,900 square miles in an elliptical ring around the California Central Valley. It occurs on hills and mountains ranging from 300 to 3,000 feet in elevation. It is part of the Mediterranean forests, woodlands, and scrub biome. Many of the plants are pyrophytes, or “fire-loving,” adapted (or even depending on) fire for reproduction, recycling of nutrients, and the removal of dead or senescent vegetation. Many plant and animal species in this ecoregion are adapted to periodic fire.

The District’s chaparral vegetation includes chamise, manzanita, buckeye, and ceanothus. Oak Woodlands is the most widespread, with blue oak dominating, but the chaparral vegetation also includes scrub oak, coast live oak, canyon live oak, valley oak, and interior oak. Open grasslands are the primary understory within the oak savannah woodlands. In areas with interlocking tree canopy, primarily North and East facing slopes, the understory is primarily tree duff and litter.

All vegetation in the District reaches some degree of combustibility during the dry summer months, and under certain conditions, during the winter months. For example, as chaparral and other brush species age, twigs and branches within the plants die and are held in place, increasing the decadent material component. A stand of 10 to 20-year-old brush typically contains enough dead material to produce rates of spread equivalent to fully cured grass. Due to the higher fuel load, fires in brush fields also yield much higher fire line intensity.

In severe drought years, additional plant material may die, contributing to the fuel load. There will normally be enough dead fuel load that has accumulated in 20 to 30-year-old brush to give rates of spread about twice as fast as the rates of spread in a grass fire. Under moderate weather conditions that produce a spread rate of a one-half foot per second in grass, a 20- to 30-year-old stand of brush may have a rate of fire spread of approximately one foot per second. Fire spread in old brush (40 years or older) has been measured at eight times faster than grass (4 feet per second). Under extreme weather conditions these rates can be much higher with the fastest fire spread rate in grass at up to 12 feet per second or about eight miles per hour. Residential structures within the wildland intermix or interface near mature brush fields are thus at greater threat from a wildfire.

iii Other Fire Hazards

A. Geological Conditions

Local geological conditions include high potential for seismic activity. The 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 fuel breaks required by this Ordinance are intended to better limit life safety hazards and property damage in the aftermath of seismic activity. The 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 can, therefore, be

expected to do the same in the future. Of primary concern to the District is the Hayward Fault, which has been estimated to be capable of earthquakes exceeding a magnitude of 7.0 on the Richter scale. A large number of 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 of these 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 a large number of residents.

B. Topographical Condition

Local topographical conditions include hillside housing with many narrow and winding streets, slide potential for blockage, and limited firefighting water supply. These conditions create the potential for delays in responding when a major fire or earthquake occurs. Many situations will result in limiting or totally blocking District emergency vehicular traffic, overtaxed District personnel, and a lack of resources for the suppression of fire in both structures and vegetated areas in the District. In order to mitigate the conditions that hinder the rapid response of suppression resources to a fire, enhanced fuel mitigation requirements in the form of fuel breaks are required over and above state code requirements. These requirements will buy time for residents to execute an orderly evacuation while allowing for access by firefighting resources. The 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 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 midslope 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 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 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. In order to mitigate the above situation that hinders the quick response to a fire, more stringent fuel mitigation standards and fuel breaks are required over and above state code requirements. These standards will operate to slow or stop a fire's advance, thus allowing residents to evacuate, and buying time for the aggregation of

an effective firefighting response. These standards also reduce the potential for fire to spread beyond the parcel of origin.

SECTION 3. DEFINITIONS

Combustible Material. Rubbish, litter, or material of any kind, other than hazardous vegetation, that is combustible and endangers the public safety by creating a fire hazard as determined by the Fire Chief or their designee.

Developed Parcel. A portion of land of any size, the area of which is determined by the legal lot record and/or may be identified by an Assessor's Parcel Number, and on which a habitable structure is located.

District Board. The Board of Directors of the Moraga-Orinda Fire District.

Fire Break. As distinguished from a fuel break, a continuous strip of land upon and from which all vegetation has been removed to bare mineral soil. This area is used to stop the spread of or extension of fire from one area to another.

Fuel Break. A strategically located block or strip of land on which a cover of dense, heavy, or hazardous vegetation has been removed or modified to create lower fuel volume or reduced combustibility as an aid to fire control.

Habitable Structure. A building that contains one or more dwelling units or that can be occupied for residential use. Buildings occupied for residential use include single family homes, multi-dwelling structures, mobile and manufactured homes, and condominiums. Habitable structures do not include commercial, industrial, or incidental buildings such as detached garages, barns, outdoor sanitation facilities, and sheds.

Hazardous Vegetation. Vegetation that is combustible and endangers the public safety by creating a fire hazard including but not limited to seasonal and recurrent grasses, weeds, stubble, brush, dry leaves, dry needles, dead, dying, or diseased trees, and any other vegetation as determined by the Fire Chief or their designee.

Ladder Fuel. Fuel that provides vertical continuity between surface fuel and canopy fuel strata, increasing the likelihood that fire will carry from surface fuel into the crowns of shrubs and trees.

Modification. Where there are practical difficulties involved in carrying out the provisions of this Ordinance, the Fire Chief or their designee shall have the authority to grant modifications for individual cases, provided that the Fire Chief or designee shall first find that special individual reasons make the strict letter of this Ordinance impractical, the modification is in compliance with the intent and purpose of this Ordinance, and such modification does not lessen health, life, and fire safety requirements. The details of action granting a modification shall be recorded and entered in the files of the District.

Parcel. A portion of land of any size, the area of which is determined by the legal lot record and/or may be identified by an Assessor's Parcel Number.

Person. Includes any agency of the state, a county, city, district or other local public agency, and any individual, firm, association, partnership, business trust, corporation, limited liability company, or company.

Undeveloped Parcel. A portion of land of any size, the area of which is determined by the legal lot record and/or may be identified by an Assessor's Parcel Number, and on which no habitable structure is located.

SECTION 4. FUEL BREAKS TO PROTECT AGAINST UNCONTROLLED WILDFIRE SPREAD

- (a) To reduce the risk of uncontrolled wildfire, Fuel Breaks are required on Undeveloped Parcels and Developed Parcels of ten acres or greater with a density of less than two habitable structures for every ten acres of land.
- (b) For the purpose of this Ordinance, a Fuel Break requires the removal or modification of fuel, maintained on an annual or recurring basis, in a manner that will prevent the transmission of fire. Specifically:
- Grass and weeds cut to less than 3" no later than June 1 of each year.
 - Removal of Hazardous Vegetation in the form of surface fuels.
 - Removal of non-irrigated brush.
 - Trimming of healthy trees to create no less than a 6' vertical clearance between the lower portions of the canopy and the ground or ground fuels.
 - Removal of Ladder Fuels.
 - Removal of dead or dying trees.
 - Removal of non-vegetative Combustible Material. Specifically, rubbish, litter, or material of any kind that is combustible and endangers the public safety as determined by the Fire Chief or their designee.

4.1. Fuel Break Requirements on Developed and Undeveloped Parcels.

- (a) Undeveloped Parcels. A person who owns, leases, or controls one or more undeveloped parcels within the District shall comply with following fuel break standards:
- i. Parcels of One Acre or Less. The entire parcel shall be maintained in accordance with Section 4(b)'s requirements for a Fuel Break.
 - ii. Parcels of at Least One but Less Than Ten Acres. A Fuel Break of 30 feet shall be created and maintained around the entire perimeter of the Parcel.
 - iii. Parcels of Ten Acres or Greater. A Fuel Break of 100 feet shall be maintained around the entire perimeter of the Parcel.
 - iv. Multiple contiguous parcels owned by the same Person may be treated as a single Parcel with the approval of the Chief or their designee if a Fuel Break of 100 feet is provided.

- (b) Developed Parcels. A person who owns, leases, controls one or more developed parcels within the District shall comply with following Fuel Break standards:
- i. Parcels of One Acre or Greater with a Density of Less Than Two Habitable Structures for Every Ten Acres of Land. A Fuel Break of 100 feet shall be provided around the entire perimeter of the Parcel.
- (c) Creation of Fuel Breaks shall not result in the taking of endangered, rare, or threatened plant or animal species, significant erosion, or sedimentation of surface waters. When these or other conditions make it impractical to create and maintain a required Fuel Break, the person who owns, leases, or controls the parcel or parcels may request a Modification of the Fuel Break requirement.

4.2 Penalties

Failure to comply with the Fuel Break requirements of this Ordinance may result in the issuance of an Administrative Citation under Ordinance 21-01 or its successor ordinance, or a declaration by the District Board that the conditions on the property constitute a public nuisance to be abated at the property owner's expense in accordance with Ordinance 20-01 or its successor ordinance.

SECTION 5. SEVERABILITY.

If any section, subsection, paragraph, sentence, or clause of this Ordinance is determined in a final ruling by a court of competent jurisdiction to be invalid or unenforceable, such finding shall not invalidate any remaining portions of the Ordinance. The Board hereby declares that it would have adopted this Ordinance, and each section, subsection, sentence, or clause thereof, irrespective of the fact that any portion of the Ordinance be declared invalid.

SECTION 6. DATE OF EFFECT.

This Ordinance shall become effective on _____, and within fifteen (15) days of passage shall be published once, with the names of the Directors voting for and against, in the Contra Costa Times, a newspaper of general circulation in the District.

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

AYES:

NOES:

ABSENT:

ABSTAIN:

ORDINANCE 22-02

ATTEST:

Michael Donner, 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 V. Holtzman
District Counsel