Report of the
Fire-risk Assessment and Mitigation Committee
to the
Board of Directors of the HCCA

December 21, 2021

Introduction

The geographic location of the Hacienda Carmel Community Association ("HCCA"), a California Not-for-Profit Mutual Benefit Corporation chartered under the laws of the State of California, is categorized in the terminology of wildland fire suppression as Wildland-Urban Interface ("WUI"). The roughly 50-acre campus of the HCCA is bordered immediately on the north by the Carmel River, in which the HCCA has established riparian water rights, and nearly immediately on the south by the paved South Bank Trail, a feature of the Big Sur Land Trust. The east and west ends of the campus contain a combination of wooded acreage and open areas. Notwithstanding the facts that (i) in its 60 years of existence the HCCA has never suffered damage from a wildland fire, and (ii) owing to its extensive irrigation of the entire campus that provides a high moisture content for all its vegetation, because it is part of a WUI there nonetheless remains a risk of a wildland fire jumping the berm constructed around the entirety of its buildings and other nearby firebreaks and igniting the vegetation and structures within its campus.

In recent years the national scientific community has conclusively proven the existence of dramatic and world-wide climate change as a consequence of accelerated global warming. One of the effects of climate change in the Western United States, and in California in particular, is the advent of ever larger, more destructive, and more frequent wildland fires, which have just within the past five years burned millions of acres of woodlands and rangelands and thousands of homes, businesses, and other structures in California alone. The Carmel River watershed and its environs have not escaped such wildland fires, as evidenced in recent years by the massive Soberanes Fire to the south, and more recently by the River Fire and Carmel Fire to the east in the upper watershed of the Carmel River valley. Among the direct impacts of these wildland fire events is the HCCA having to face extraordinary increases of property insurance premiums in the last two years, largely due to wildland fire risk. Another

equally sobering impact was witnessing the nearby Del Mesa retirement community to the north of HCCA and Carmel Valley Road, situated in the pine forests of the hillside, suffer a non-renewal of its property insurance coverage altogether in May of 2021.[1]

The confluence of all these related events occurring within a relatively short period of time proved to be the stimulus and catalyst for the HCCA to react accordingly, and not only to develop and undertake a comprehensive plan of self-help to assess and mitigate the risks and dangers of wildland fires, but to perceive the significance of the threat as the military might perceive the enemy in a war-time scenario. In this new perception, addressing the existential threats to the HCCA are twofold: first, the protection and defensive posture against a wildland fire and its destruction and how to best mitigate these threats with thoughtful actions and labor and, second, how best to maintain continued and affordable property and casualty insurance coverage.

Actions Undertaken and Proposed to Date

On July 22, 2021, as part of developing and effecting the comprehensive plan to achieve the dual goals of protecting the HCCA from actual wildland fire damage and maintaining affordable property insurance, the Association's Board of Directors ("Board") enacted a resolution at its regular monthly meeting to create a Fire-risk Assessment and Mitigation Committee ("Committee") in order to pursue these dual objectives. The title of this resolution is "Motion to Effect Hacienda Carmel Fire Hazard Assessment and Mitigation," and its text as it appears in the official Minutes of the July 22 Board meeting, is as follows:

> [M]ove that this Board authorize the Hacienda Carmel General Manager to under-take a thorough assessment of the present risk and hazard of wildfire threatening our Community, with the objective of developing a plan for its mitigation. In particular, such assessment shall include obtaining the services of a fire suppres-sion expert who, after any necessary site surveys of our property, shall provide a written assessment of Hacienda Carmel's risk of catastrophic fire damage which shall include specific recommendations regarding the mitigation, reduction, and/or elimination of all aggregate risks in light of both California statute §4291, and any other applicable laws, ordinances, or regulations pertaining to combustible substances. Together with and as an integral part of this effort, it is further moved to refer the matter to a Special Committee of

five, which will work in coordination with and support of the General Manager, and whose members and Chairperson shall be appointed by the President, to whom the Special Committee shall report at the regular September 2021 meeting of this Board.

Within the space of ten days the Committee members were chosen, Chair of the Committee was appointed, and the Committee's work and deliberations began with a fire-risk related event on August 3, 2021. Beginning on this day and thereafter, the Committee has undertaken, participated in, or proposed the following specific actions.

1) On August 3, 2021 the Board President and General Manager met with Captain Tim Jones of CalFire for an informal survey of HCCA property regarding compliance with the fire-mitigation provisions of PRC §4291. The party walked the perimeter of the property together while Captain Jones and his CalFire associates pointed out areas in need of fire-risk improvement.

2) On September 9, 2021 both the Board President and Chair of the Committee attended a valuable and productive afternoon Zoom seminar hosted by ECHO on HOA fire insurance issues in light of the resultant dramatic increases in property insurance premiums (and policy non-renewals) from the large wildfires that have devastated areas of California, and the American West.

3) On September 16, the Committee met to discuss CalFire's comments and suggestions from its August 3 site survey of HCCA property, the outcome of the September 9 ECHO conference on HOA fire insurance issues, the selection of the fire-risk expert proposed by HCCA's insurance broker HUB, and completion of the specific "recommendations" that had been developed and circulated by and among the Committee members via email that were to be presented for approval by the Board at its next meeting.

4) At the September 23, 2021 monthly meeting of the Board, the Committee formally transmitted to the Board its specific Recommendations pertaining to areas of concern for fire-risk within the HCCA campus, and proposed the hiring of a fire-risk expert. The official Minutes of that portion of the Board meeting, on pages 5 and 6, appear below:

"Fire-risk Assessment & Mitigation: Mr. Quinn [Chair] reported that the Committee met on September 16th and submitted a memorandum to the Board as follows: 'This Memorandum transmits to the Board the recommendations below pertaining to areas of concern for fire risk. These were the subject of the Committee's deliberations in its meeting of September 16. We propose these recommendations be considered in any professional fire-risk assessment as potential risks to HCCA property posed by wildland fires. Accordingly, we further propose, subject to the Board's approval, that these recommendations be provided to the fire-suppression expert authorized by the Board's motion approved at the July 22 meeting.

The Committee formulated these recommendations by considering all conditions and features – natural or man-made – that could ignite, enable, or exacerbate the advance of a wildland fire within our community. We believe these are necessary to develop mitigation measures that can protect our property and should be addressed in the fire-suppression expert's final report.'

- Identification of all existing "firebreaks" within HCCA and how to strengthen and improve them (See "General Guidelines for Creating Defensible Space," 2-8-06, §C-1.)
- Removal of vegetation from all PG&E utility poles within HCCA transmitting electricity (See PRC §4292 as standard of distancing for utility poles (10' in all directions from pole)).
- Fireproofing, to the extent possible, all fuel storage tanks within HC (propane, diesel, gas) (See 14 California Code of Regulations, §1299.03(c)(1) "10' clearance to bare soil.")
- Determining if HCCA's groundwater could be utilized to fight wildland fires via wellheads. Regarding chronic drought in California and widespread lack of water to fight fires.
- Locating "tree canopy" fire pathways or bridges both into and within HCCA. (See General Guidelines for Creating Defensible Space," 2-8-06, §C(4b).
- Locating "vertical distancing" risks 1) at ends/overhangs of structures, 2) of all vegetation. (See "General Guidelines for Creating Defensible Space," §C(4a) "vertical clearance.")
- Locating "fuel reduction zones" due to over-planting contrary to best horticultural practices. (See "General Guidelines for Creating Defensible Space," §C(4a) "horizontal distancing," as especially applicable to juniper and other similarly flammable vegetation.)

Mr. Quinn noted those are the seven specific recommendations the Committee is making to the Board of Directors. Should the Board decide to engage a fire-suppression expert, these can be forwarded to that individual to be included in their report. Mr. Sutton reported that work is already being done to clear brush along the outside of the berm. We do have a moratorium on new plantings until a conclusion of fire mitigation. And, we have been in contact with an expert to do a fire-suppression study. Having such a study done, and following any recommendations, should put Hacienda Carmel in the best position when our policy renewal comes up. The quote given by the expert is $15,000 for a comprehensive study. Our insurance broker has offered to cover half of that cost. Mr. Quinn made a motion to approve the fire suppression study for an amount not to exceed $7,500. Mr. Delwiche seconded the motion. The Board held a lengthy discussion on the matter and the motion carried unanimously."

5) On September 28, 2021, following negotiations with HCCA's insurance broker HUB and a Zoom meeting interview with fire-risk consultant Paul Cano, the Board President together with the General Manager and Committee Chair, met in person with Mr. Cano at the offices of HCCA. Mr. Cano's risk assessment plan was discussed in full, including a question-and-answer portion in which all of HCCA's concerns were aired. At that meeting, the Committee's Board-approved recommendations[2] that should be addressed in his final reports were hand-delivered to Mr. Cano, and the meeting was concluded by Mr. Cano being driven around the HCCA campus in a golf cart together with the Board President and Committee Chair. Mr. Cano spent the rest of that day and part of the next conducting his own survey of the property.

6) On October 21, 2021 the HCCA received the first three of Mr. Cano's four Reports based on his survey of HCCA property on 9/28/21 and 9/29/21 to assess wildland fire risks and address mitigation actions and strategies. On October 25, 2021 the HCCA received the fourth and last of Mr. Cano's four Reports. All of these Reports were circulated immediately to the Committee's members, and a meeting was called to evaluate and discuss the Reports and determine the Committee's next steps to fulfilling the directives of the Board's July 22 resolution regarding wildland fire-risk assessment and mitigation.

7) October 28, 2021, the Board held its regular monthly meeting, at which it once again dealt with the work of the Committee. The official Minutes of that portion of the Board meeting, on pages 5 and 6, appear below:

"Fire-risk Assessment & Mitigation: Mr. Quinn [Chair] reported that on "Tuesday, September 28th, HCCA was visited by Paul Cano, fire-risk consultant for HCCA and HUB. In the meeting with Mr. Cano and Art Sutton, Robert Hedberg, and [Bill Quinn], Mr. Cano outlined his plan to survey our property, and he was given a tour of the grounds by all of those in attendance. Later that day, and for part of the following day, Mr. Cano did his own survey, taking photos.

At that meeting, Mr. Cano was given a list of the recommendation approved by the Board in its September 23rd meeting and was asked to address those specific items in his report to us.

On October 21st, HCCA received three of a total of four reports on HCCA fire-risks and mitigation methods, which was immediately sent to all of the members of the Fire-Risk Assessment & Mitigation Committee for their review, with notice that another final report would be forthcoming from Mr. Cano.

On October 25th, HCCA received the last, or fourth, of Mr. Cano's reports, which was again sent around to the members of the Committee for their review. In that transmittal memo, a date was also set for next week in order that the Committee can discuss all these reports in detail, make any necessary recommendations, and thereafter report its finding to the Board at its November 22nd meeting."

8) On November 3, the Committee met and discussed in detail the Reports of Mr. Cano regarding the scope and extent of the HCCA's risks regarding wildland fires, and the mitigation measures suggested in those Reports. At the conclusion of that meeting, the unanimous consensus of its members was that, using all the cumulative data that had so far been gathered by the Committee, the Committee should draft a final Report to the Board regarding its findings, including the assessment and mitigation observations made by Mr. Cano, and further investigate the possibility of the HCCA applying to become a Firewise USA Community.

9) At the November 23, 2021 regular monthly meeting of the Board, the Chair of the Committee provided an update to the work of the Committee and progress on its Report to the Board. In addition, the Board entertained a motion to formally seek certification as a "Firewise USA" community and, if approved, to immediately begin the lengthy application process. The official Minutes of that portion of the Board meeting, on page 4, appear below:

"Fire-risk Assessment & Mitigation: Mr. Quinn [Chair] reported: "Following the receipt of the fire-risk assessment and mitigation reports of the HCCA's consultant, Paul Cano, these reports were immediately circulated to the members of the Committee for their review. Approximately 10-days following receipt of the last of Mr. Cano's reports, a meeting of the Committee was held on November 3rd in which the reviewed reports were discussed in detail by the committee members. After careful deliberation, the Committee reached a consensus that portions of Mr. Cano's report would be useful in support of the committee's own report, the drafting of which the Committee decided to undertake in order to emphasize the HCCA's specific needs. Delivery of the Committee's final Report to the Board on the HCCA's most significant fire risk issues is planned for a date prior to the Board's December 21 regular meeting.

To date, the draft report has been completed and circulated to the Committee members and suggested revisions to the draft report made by the members have been incorporated into a second and nearly final draft of the collaborative report. The report contains precise and specific recommendations for consideration of the Board, which are narrowly tailored to the on-site characteristics of the HCCA's grounds, structures, and labor resources. The Committee proposes that the Report and its recommendations might be a subject of the Board's deliberations and discussion at the December 21, 2021 Board meeting."

10) On December 13, 2021, the draft Report of the Committee to the Board on the HCCA's fire-risk assessment and mitigation was finalized, after careful scrutiny and input by all the Committee members. Copies of this final Report by the Committee were delivered to the General Manager, and to all members of the Committee and the Board of Directors. An agenda item is planned for inclusion for the December 21, 2021 regular monthly meeting of the Board to discuss the conclusions and recommendations of this Report.

Specific Mitigation Measures

Since even before the July 22 Board meeting noted above, individual Board members and other interested residents of HCCA condominiums had been concerned about the threat of wildland fires, and have been researching and collecting information about wildland fire risk assessment and mitigation. Especially since the recent River and Carmel wildfires, such information has been circulating more widely in Monterey County in the form of news media reports and governmental reports and

mailings from the Fire Safe Council for Monterey County, Office of the State Fire Marshall, and Firewise USA, among other sources.

This research was significantly supplemented by receipt of information specific to the HCCA property from both CalFire during their August 3 survey, and in the 35-page (combined) reports from Paul Cano of 2MCFire, Inc., who in September was hired as a fire-risk consultant by the HCCA and its insurance broker HUB to undertake an assessment of HCCA's wildland fire risk and provide suggested mitigation measures. All of this cumulative data has been shared with and collected by the Committee, which has elected to combine and synthesize it into this comprehensive Report to the Board of the HCCA, specifically tailored to the particular circumstances of its campus. The collated conclusions and fire-mitigation recommendations arising from these various sources of data are here divided into two categories, short-term and long-range, based on the differences between both (i) initial costs, and (ii) speed of completion of the task at issue.

• <u>Actions Achievable Short Term</u>

• Revision of HCCA's "Tree Planting" section of its "Tree Policy" among its Approved Policies, to conform to the California statutory and regulatory mandates regarding the distancing of trees, at full maturity, a certain number of feet from structures and other trees, both vertically and horizontally. Currently this policy contains no such fire-safe criteria for the planting of trees, and should be revised to include these statutory and regulatory criteria, as well as recommendations for the species and variety of trees best suited for conditions at Hacienda Carmel. This can be done at virtually no expense, and would take only a matter of days to effect.

• Revision of HCCA's "Architectural Rules for Condominium Owners" in order to require installation only of fire-resistant or fire-safe tempered glass, expressly excluding any plastic or combustible materials, for all skylights that are (i) new installations; (ii) necessary replacements of older existing skylights; and (iii) retrofits of older existing skylights hereafter required in Units at the time of their transfers of title. Consideration may also be given to wording in this revision that encourages all Members of the HCCA to voluntarily replace older plastic or combustible skylights to fire-safe tempered glass in order to achieve greater protection for their own Units. This mitigation measure was suggested by Irene Damsky, who stated in her Report that "Consideration should be given to replacing plastic dome skylights with dual-pane glass."[3]

• Identification of all existing "firebreaks" within the HCCA campus, together with an examination of how to strengthen and improve these firebreaks. This effort would include both developed firebreaks such as paved roadways, and more natural firebreaks such as the berm and certain open spaces. Firebreaks are the essence of "defensible" spaces, and need to be cleared to the extent possible of combustible features. In this endeavor, it is critical always to keep in mind that not only flames, but heat alone, can ignite the combustible or flammable materials near it in a wildland fire. This is because according to professional and fire experts who track and study such fires, forest fires burn at 1475° F (at up to 6' above the ground) as high as 2200° F (at over 100' above the ground) and, depending on the variable of fuel moisture, wood ignites, regardless of flame, at between 300°– 580° F (after 2 - 5 minutes exposure, depending on proximity).[4] Thus the development and strengthening of firebreaks need to integrate these data. This task, or action, would require the creation of a good legible map of the HCCA campus with the firebreaks clearly shown, and should be of minimal cost to produce. This task could be done within four to six weeks. In undertaking this task, the "General Guidelines for Creating Defensible Space," 2-8-06, §C-1 should be consulted.

• Development of two vehicular accessible ingress/egress routes, and a site-specific comprehensive evacuation plan in the event of a wildland fire. In one of Mr. Cano's reports he notes the importance of "adequate access and egress to residences for fire suppression vehicles...," and in the following paragraph, that "The fuels situation and poor access in this area pose a risk for both the public trying to escape and the first responders trying to enter the area."[5] To address this risk the HCCA should establish an evacuation plan for its residents and staff, utilizing the presence of existing firebreaks as potential routes, and determine the suitability of its additional vehicular access route, being the unpaved easement road from the east gate of the Hacienda Carmel campus to Rancho San Carlos Road.

• Removal of vegetation touching or closely adjacent to all PG&E utility poles within HCCA transmitting electricity. This action is important, since electric transmission poles that catch fire and burn down often leave live electric wires on rooftops or on the ground, which can either electrocute people and animals, or start more fires by sparking. In addition, where utility poles burn down instead of surviving a fire, the restoration of power to such areas often takes weeks longer because of the labor involved to replace the poles. HCCA employees should not be removing vegetation

where such vegetation is intermingled with the electric wires. However, there is vegetation and overgrowth next to approximately 10 such utility poles, mostly along the berm, that is below and thus not integrated with wires, that the employees can remove. On the few utility poles where such vegetation *is* integrated with live electric wires, then PG&E should be notified and asked to remove it. Clearing such vegetation from these utility poles should take HCCA grounds crew no more than several days once the subject utility poles are identified and shown to them. In undertaking this task, PRC §4292 as standard of distancing for utility poles (10' in all directions from pole) should be consulted.

• Determining if HCCA's groundwater could be utilized to fight wildland fires via wellheads. Owing to chronic drought in California, fire crews across the state have increasingly encountered lack of water to fight fires from the fire-suppression hydrant systems. While the HCCA campus has eight (8) fire hydrants on its property, there are also two groundwater wells that pump irrigation water for the vegetation on the campus, using the HCCA's riparian water rights. The action or task here is to consult a qualified plumber or plumbing company to determine if metal plumbing fixtures can be affixed to each of the two wellheads, to allow firefighters to attach their hoses and by using a value on such fixture draw water from the wells to fight wildfires. These wells are located within feet of the south bank of the Carmel River, and would be exceptionally useful for fighting any wildland fires that approached the HCCA campus by the route of the riparian trees and vegetation. Assuming the availability of such plumbing fixtures, this action should take only a day or two, and the costs would be the labor and purchase of the two fixtures. Mr. Cano's Report notes on page 7 that "There are 8 hydrants located throughout the Community and 2 additional standpipes that are fed by groundwater wells.")[6]

• Fireproofing, to the extent possible, all fuel storage tanks within HCCA campus (diesel, propane and gas) in order to prevent or preclude ignition and/or explosion during a wildfire. Currently, there are three (3) operative fuel tanks located within the campus. Two of them, a gasoline tank and a diesel tank, are located adjacent to Casa Central. While these two fuel tanks are arguably less vulnerable to wildland fires owing to their location in the center of the HCCA campus than the third fuel tank, the diesel tank adjacent to Casa Central is due to be replaced soon, and the Committee's recommendation with regard to that fuel tank is to confer with the tank's vendor to determine if the vendor can offer any fire-protective features upon installation of the new replacement tank at the time of installation. The Committee's recommendation as

to the third fuel tank–which is a 250-gallon propane tank located approximately 10' from the inside edge of the berm and is thus far more vulnerable to wildfires than the other two fuel tanks–is that a small 3-sided block containment wall–approximately 40" high–be constructed around it, and its current wooden cover be replaced with a secure but removable metal cover that would be impervious to ember cast during a wildland fire. Given the location of this fuel tank, which sits directly underneath two large trees in close proximity to an adjacent building of four units, fireproofing this fuel tank in light of the possible catastrophic damage that would occur if it were to ignite and/or explode during a wildfire, would be a high priority.[7] This would be relatively inexpensive if done by the HCCA grounds/maintenance crew. In undertaking this task, 14 California Code of Regulations, §1299.03(c)(1) and its "10' clearance to bare soil" should be consulted.

• Addressing and fortifying the two most critical-risk areas for wildfire intrusion into the campus of the HCCA–the northwest and southwest corners. Simply by virtue of consulting aerial photographs of the HCCA campus, and through distilling several related conclusions extracted from Mr. Cano's reports, it appears that the two most critical points in the campus that might become portals into the larger community for wildland fires outside it are in both its northwest and southwest corners.

Southwest Corner: Mr. Cano notes in his reports that "An ignition southwest of property within the Quail Meadows area, during a westerly wind pattern, could create direct fire and/or spotting toward the south side of the Community. Based on vegetation models and fire severity mapping this area could produce direct fire impingement and spotting and embers directly at the Hacienda [Carmel] community."[8] The southwest corner of the HCCA campus sits at the base of a northern downslope in the Santa Lucia mountain range, home to the Ventana Wilderness Area, which is a huge and largely undeveloped National Forest. It has seen multiple wildland fires in past years, though none so far has reached a dangerous proximity to the HCCA campus. Fortunately, there exists an easily developable firebreak right where a wildland fire spreading northward and downslope from these mountains toward the campus would cross the property line. It is a largely open area whose grasses are mower-cut, but there are several trees and large limbs of trees that are arguably links in the chain of arboreal canopy that could ignite and thereby import the wildfire into the HCCA campus by jumping the berm. At that precise location, there are trees just inside the berm forming part of this arboreal canopy whose branches overhang a building with four units, which would be in direct jeopardy if such an event were to occur. It would be a relatively quick and inexpensive action to remove the dangerous

vegetation and so enlarge and fortify this firebreak, thereby greatly mitigating this critical wildfire threat to the HCCA.

Northwest Corner: Mr. Cano also specifically identified the "NW corner" of the HCCA campus as one needing focused cutting and thinning of vegetation.[9] The northwest corner is unique regarding the overall wildland fire threat to the HCCA campus for several reasons: first is the size of the trees in that location. Even though this location has already been substantially trimmed, it remains to be seen whether that effort would be sufficient owing to the stand of mature and very large cottonwood trees growing just outside the berm being within probable heat-ignition proximity at canopy level to the two mature and large trees growing just inside the berm. At one point, prior to recent trimming, the branches of these trees formed a canopy *arch* or fire bridge over the berm due to their branches being intermingled directly above the berm. Even though this arch was removed, the size alone of these trees on both sides of the berm makes this location a quasi-critical if not wholly critical point in defending the HCCA campus, especially when combined with another reason. That other reason is described above in the section pertaining to fireproofing fuel tanks and is, to repeat, the existence of an unprotected propane fuel tank directly below the two trees located adjacent to and just inside the berm. Thus, the critical and frightening scenario at this location is that if a wildland fire ignited the riparian vegetation along the Carmel River at this location, and due to the size of the trees, the height of the flames, and the corresponding intensity of the heat, the wildfire jumped the berm by igniting the two large trees just inside the berm, and those burning trees in turn ignited the fuel tank directly below them, in such a sequence of events it would be virtually inevitable that the adjacent building would itself ignite and burn from either, or both, its close proximity to the burning tree limbs, or a fuel tank explosion. This threat also could be remedied relatively quickly and inexpensively by fireproofing the propane fuel tank there and by removing or further limbing the tree directly adjacent to the building.

- Actions Achievable Long Range

The long-range nature of the following actions is largely, though not exclusively, because these actions are always on-going. Vegetation constantly grows, and thus is constantly in need of trimming or replacement. In this fire-risk context, the trimming or removal needed is not for aesthetic reasons, but for prevention of and/or survival from devastating wildland fires that use vegetation as the primary source of fuel. And where this vegetation is within five feet or so of residential buildings, and would thus serve as the main conduit for wildland fires to ignite buildings, those

buildings then become the secondary source of fuel for the wildfires. Over the last 60 years, the HCCA campus has been subject to a panoply of varying horticultural regimes undertaken by multiple HCCA grounds and garden Committees, all of which cumulatively has left the campus overgrown and with a hodgepodge of plant species both exotic and native. There has never been any unitary long-term or overarching theme for landscaping adopted by the HCCA, but rather it has been determined by the varying and changing preferences of numerous different Committees at different times over this 60-year period. One of the by-products or consequences of this history is increased fire-risk within the HCCA campus, owing both to the chronic overgrowth and especially to the proximity of flammable vegetation to the buildings within the campus. This is all correctable, but not correctable overnight. To aid in this long term work it would be most helpful for the HCCA to have a comprehensive landscape plan, including a planting policy, based on best horticultural practices and principles of Firewise landscaping for this area. It will take a consensus of the HCCA members, and an application of collective will, to set about the mitigation of these risks, which are now outlined below.

• Locating and mitigating all "continuous tree canopy" wildfire pathways or bridges both into and within the HCCA campus. Mr. Cano noted that the HCCA "Property has several low hanging trees that should be limbed, and canopy raised."[10] There are multiple large trees and different tree species planted within the HCCA campus, *i.e.*, inside the berm, and over the years many of these trees have been planted too close to one another, and too close to buildings as well. Where these trees are planted too close to one another, their intermingled branches create high unified or "continuous" canopies. While it is true that these canopies create shade, and beauty, they simultaneously create a substantial risk for the rapid spread of wildfires that can lead to devastating consequences for adjacent buildings and the residents' homes in them. These trees need both initial and long-term treatments to comply with prevailing legal requirements pertaining to continuous tree canopy reduction under the fire-suppression guidelines of "Reduced Fuel Zones." While it may be optimal to undertake a full-scale and immediate initial treatment or action within the space of a few weeks to mitigate any continuous tree canopy issues, this may prove to be prohibitively expensive and a burden to either the HCCA's operating or reserve budgets. On the other hand, once completed, this initial treatment can be maintained at minimal expense by the HCCA grounds crew. Accordingly, this has been placed under the actions achievable long-range rubric, in which the Committee recommends that such work begin as soon as possible, but on a sequenced or graduated scale with the goal of achieving completion

over the term of months, instead of weeks, thereby spreading the costs commensurably. In undertaking this task, the General Guidelines for Creating Defensible Space," 2-8-06, §C(4b) should be consulted.

• Locating and mitigating all "vertical distancing" risks, of which there are two distinct types within the HCCA campus. The first type pertains to the vegetation-to-structure relationship in which vegetation planted in the "ember resistant zone" identified in PRC §4291, which is within 5' from structures' exterior walls, often grows vertically to the point of touching the undersides of overhanging eves of the structures, and in doing so has as often grown against the exterior walls, as well, pressing against both the eves and walls. In addressing this issue, Mr. Cano noted that "Ornamental landscaping often results in large amounts of shrubby vegetation being planted near structures," and recommended that the HCCA "Community is encouraged to make liberal use of hardscaping within 5 feet of structures and is discouraged from installing shrubs within 5 feet of structures."[11] In most of the residential buildings on the HCCA campus, the fronts have 5' concrete walkways running the length of the building, and the backs have large patios that extend in excess of 15' from the rear exterior walls of the building, so that the fronts and backs of the buildings are mostly in compliance with the ember resistant zone requirements. However, many of the ends of these buildings are not because they contain small trees and large shrubs whose vertical–and horizontal–proximity to combustible elements of the building pose a foreseeable risk to the buildings in the event of a wildland fire. The second type of vertical distancing risk pertains to the *vegetation-to-vegetation* relationship in which taller bushes and shrubs planted directly underneath trees substantially add to the risk of the lower vegetation (bushes and shrubs) igniting the higher vegetation (trees) during a wildland fire event. There is a wide variety of tall shrubs and bushes within the HCCA campus, some of which grow in excess of 10' high and whose upper branches are often directly underneath trees–and buildings also–and are often equal in height to the lower canopies of the trees. The remedy for this vertical-distancing problem is obvious, but labor intensive: trim down or remove the lower vegetation, and/or raise the canopies of the higher vegetation, or trees, by limbing the lower tree branches or removal. Accordingly, this also has been placed under the actions achievable long-range rubric, in which the Committee recommends that such work begin as soon as possible, but on a sequenced or graduated scale with the goal of achieving completion over the term of months, instead of weeks, thereby spreading the costs commensurably. In undertaking this task, the "General Guidelines for Creating Defensible Space" under §C(4a) or "vertical clearance" should be consulted, whose

standard for this vertical distancing action between lower and upper is “4 feet to 40 feet, depending on slope and vegetation size/type.”

• Locating and mitigating all “horizontal distancing” risks pursuant to the legal mandates of creating “fuel reduction zones” due to over-planting. First, it should be noted that such over-planting, whose consequence here is vegetative over-crowding or congestion, is contrary to best horticultural practices. Second, it is a virtual certainty that this has occurred because, to repeat, there has never been any unitary long-term or overarching theme for landscaping endorsed by the HCCA, but rather it has been determined by the varying and changing preferences of numerous different Committees at different times over six decades. And like the problem of vertical distancing above, the remedy for this horizontal-distancing problem is obvious, and also labor intensive: removal of vegetation that crowds adjacent vegetation, and cessation of over-planting practices in the future. In the choice of which vegetation to remove to achieve the horizontal distancing fuel reduction aims of California law, the Committee recommends that particular attention be paid to removing juniper and other similar highly flammable plants, which would cause unnecessary and excessive conflagration during a wildland fire event. Again, this last of the long-range actions has been placed under the achievable long-range rubric, in which the Committee recommends that such work begin as soon as possible, but on a sequenced or graduated scale with the goal of achieving completion over the term of months, instead of weeks, thereby spreading the costs commensurably. In undertaking this task, the “General Guidelines for Creating Defensible Space” §C(4a) especially applicable to over-planted and over-crowded vegetation, should be consulted.

Firewise USA

In his fire-risk assessment and mitigation reports for the HCCA, Mr. Cano states that “The most fire-resistant homes would be those characterized by Fire Wise construction and landscaping intermixed with open defensible space and available water for suppression activities.” He adds later in the same report that “The Community of Hacienda Carmel is fortunate to have many open spaces and Fire Wise homes scattered throughout the [surrounding] community.”[12]

While much of the foregoing Report has been focused on the specific mitigation measures to protect the buildings and indeed the entirety of the HCCA campus, which measures have their own direct impacts on overall risks studied by casualty insurers, Firewise USA certification is perhaps the gold standard of fire safety to which such

insurers look when assessing the risks of individual homes and communities such as the HCCA for determining premiums–or nonrenewal of policies. Given the esteem in which Firewise USA is held not only by Mr. Cano, but the entire firefighting community at large together with the insurance industry, it seems obvious that rather than the HCCA relying on the proximity of nearby Firewise USA buildings and communities to add some imperceptible degree of fire protection to its own situation, the HCCA should itself endeavor to become certified under the Firewise USA program and thus directly reap the benefits of that certification in dealing with casualty insurers.

Though Firewise USA certification is not an expensive process to complete, neither is it rote or *pro forma* in the sense that an applicant fills out a form, pays a fee, and receives the certification. Applicants are required to prove that they have fulfilled the required criteria for certification, a step-by-step process that usually varies in time by the size of the entity seeking certification. The fire-safe criteria have much to do with construction and maintenance of buildings, and fire-defensive spacing of vegetation–horizontal and vertical–and availability of firefighting resources, *etc*. Should the HCCA seek this certification as an official Firewise USA site, it would mean conforming HCCA's fire-risk mitigation measures to the Firewise USA standards. The standards, and the application process, are set forth in the website Firewise.org, which provides as follows:

"How to become a Firewise USA® site

How does the Firewise USA® program work?

Organize it

Form a board/committee that's comprised of residents and other applicable wildfire stakeholders. Consider inviting the local fire department, state forestry agency, elected officials, emergency manager, and if applicable the property management company to participate. This group will collaborate on identifying the site's boundary and size. Firewise sites need to have a minimum of 8 individual single family dwelling units and are limited to a maximum of 2,500. Multiple sites can be located within a single large master-planned community/HOA.

Plan it

Obtain a written wildfire risk assessment from your state forestry agency or fire department. The assessment should be a community-wide view that identifies areas of successful wildfire risk reduction and areas where improvements could be made. Emphasis should be on the general conditions of homes and related home ignition zones. The assessment is a living document and needs to be updated at a minimum of every 5 years.

Contact your state liaison to learn more about the requirements and how to get started

Some states use the Firewise USA template.
Online training - Community Wildfire Risk Assessment Tutorial

Your board/committee will develop an action plan – a prioritized list of risk reduction projects/investments for the participating site, along with suggested homeowner actions and education activities that participants will strive to complete annually, or over a period of multiple years. Action plans should be updated at a minimum of at least every three years.

Do it

Host an outreach event and work with neighbors on addressing items in the action plan. These efforts will go towards your site's annual wildfire risk reduction investment.

Find examples (PDF) of activities that count towards your investment.
Use our volunteer hourly worksheet (PDF) to collect information from residents in your community

At a minimum, each site is required to annually invest the equivalent of one volunteer hour per dwelling unit in wildfire risk reduction actions. If your site has identified 100 homes within its boundary, then 100 hours of work or the monetary equivalent, based on the independent sector value of volunteer time, need to be completed for that year.

Tell us about it

New applications can be completed online at portal.firewise.org. Tell us about the actions and efforts in your community to engage residents and complete mitigation work at the home level. Once all the criteria have been completed, the electronic application can be submitted.

Please note: Individual states can request additional application requirements."

In light of the substantial benefit a Firewise USA certification would have for the HCCA, pertaining to both a reduction in risk from an actual wildland fire *and* more favorable results in its property insurance options, the Committee recommends that the Board consider approving the application process for such certification.

Conclusion

Based on the foregoing, the Committee respectfully invites the Board to consider the implementation of the following specific Recommendations. Three of these Recommendations were discussed in detail in this Report. Two additional Recommendations are also being made by the Committee that are not discussed in the Report, but are related to its subject and ought to be considered. These two additional Recommendations are presented first, as numbers (1) and (2).

(1) The Committee recommends that the Board acknowledge and commend David Mora and his grounds crew for their assiduous and important work of clearing and trimming much of the vegetative overgrowth–for both horizontal and vertical distancing compliance–even since the beginning of 2021 and throughout this year, and before this Committee was officially formed. Since that time, this crew has cleared hundreds of feet of underbrush and tree limbs along the berm alone. Together with the General Manager, this team has had the interests of the HCCA at heart in laboring at this difficult task. Further, the Board may wish to show its appreciation for this devotion by means of a tangible acknowledgment for the HCCA employees who are members of the grounds crew that did this work.

(2) The Committee recommends that the Board consider consulting with an experienced grant writer for the purpose of obtaining fire-mitigation grants in light of the newly enacted and signed $1.2 trillion Infrastructure Bill that appears to offer some extraordinary opportunities for grant funding for wildland fire risk mitigation. On the White House website, in a post about this new bill, it states that $47 billion will be earmarked and provided for the objective of promoting "climate resilience," a term in the Bill meaning preparation for and protection from the ravages of all types of climate change consequences. Expanding on this fact, the *New York Times* ran an article on November 6, 2021, stating there that "The measure [$1.2 trillion Infrastructure Bill] includes $47 billion to help communities prepare for the new age of extreme fires, floods, storms and droughts that scientists say are worsened by human-caused climate change." While the climate change catastrophes mentioned pertain to all types of such events, one scientific website did focus narrowly on the problem of extreme and catastrophic wildland fires, and offered this: "The Department of Agriculture [which houses the U.S. Forest Service] will receive $500 million for what it calls 'wildfire defense grants to at-risk communities'—money that could help people implement changes to their homes or landscape, for example, to make them less vulnerable to fires." Moreover, another larger approximately $1.75 trillion Bill ("Build Back Better") *may* become law in several month's time. That Bill, which has now passed the House, has an entire and much larger section devoted to environment and climate change with a current appropriation of $555 billion, and if enacted by the Senate will likely have a comparable amount of grant money available, which means the HCCA's chances for grant funding would thereby arguably increase, diminishing the need of the HCCA to reach into its reserve or operating budgets to effect these Recommendations. Receipt of any such grants would also improve the HCCA's chances at qualifying for a Firewise USA certificate.

(3) The Committee recommends that the Board approve undertaking the specific "Actions Achievable Short Term" by first evaluating the actual costs of the Recommendations in materials and labor, and making a determination that these costs can be covered by either the HCCA's current operating or reserve budgets. A concurrent evaluation of the grounds staff's availability to undertake these projects within the context of their existing work schedules also needs to be undertaken at the same time. These Recommendations were categorized as those that can be undertaken and completed relatively quickly, at a minimal or currently manageable cost.

(4) The Committee recommends that planning be undertaking to begin work on the "Actions Achievable Long Range," which are generally more labor intensive than the Short Term actions and will require sustained management and investment. Unlike most of the Short Term actions which are one-time efforts, the Long Range actions are on-going, and will need to be integrated into the grounds staff's regular work schedules. Moreover, the Long Range actions to some extent bear more similarity to the actions required by the Firewise USA certification process as that relates to continued hardscaping, vertical and horizontal vegetation spacing and distancing, and elimination of continuous tree canopies, which circumstances should be included in the Board's planning as recommended.

(5) Finally, the Committee emphasizes here its Recommendation to the Board that application should be made to have the HCCA achieve the status of a certified Firewise USA site. With the diligent effort and resolute will of the members of the HCCA Board, Committee, and residents to effect these specific Recommendations, together with success in achieving the goal of a Firewise USA certification, it is a certainty that our risk from wildland fire damage will be greatly diminished, and our risk of unaffordable (if not cancelled) property insurance will almost as certainly be diminished, as well.

Endnotes

1. Rogers, Mary. "Insurance Denial for California HOAs." *ECHO Insight*, November 2021, pp.1 - 2. On-line publication of Educational Community for HOA Homeowners.

2. Those recommendations by the Board are those that appear on page 4 above, and expressly directed Mr. Cano that they "should be addressed" directly in his report.

3. Damsky, Irene. Vice President - Risk Services Manager, HUB International Ltd. "Hacienda Carmel Community Association Brush & Wildfire Management Planning Recommended Next Steps," prepared for the HCCA in November 2021, p. 15.

4. "Wildfires: Interesting Fact and F.A.Q." Publication of the Natural History Museum University of Utah, p. 2 under heading "At what temperatures do forest fires burn?" n.d. See, https://nhmu.utah.edu/sites/default/files/attachments/Wildfire%20FAQs.pdf

5. Cano, Paul. "An Analysis of the Wildfire Risk Associated with the Community of Hacienda Carmel," prepared for the HCCA in October 2021, p. 10.

6. Cano, Paul. "Wildfire Hazard Assessment Checklist," prepared for the HCCA in October 2021, p. 7.

7. "Propane Tank Hazards," National Wildfire Coordinating Group, discussing the issue of "BLEVE" or "Boiling Liquid Expanding Vapor Explosions" due to extreme heat intensity of wildland fires. See, https://www.nwcg.gov/committee/6mfs/propane-tank-hazards

8. Cano, "An Analysis of the Wildfire Risk Associated with the Community of Hacienda Carmel,", p. 4.

9. Cano, Paul. "Hazard Assessment Report," prepared for the HCCA in October 2021, p. 7.

10. Cano, "Wildfire Hazard Assessment Checklist," p. 4. See also, p. 7 of this report, where he states that "The highest risk to [HCCA] property from a wildfire is from vegetation and low hanging tree canopy from open areas outside the property."

11. Cano, Paul. "Fuel Management Standards," prepared for the HCCA in October 2021, p. 4.

12. Cano, "An Analysis of the Wildfire Risk Associated with the Community of Hacienda Carmel," pp. 3 and 10.