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LESSONS FROM THE ASHES

THE 1977 TOPANGA FIRE

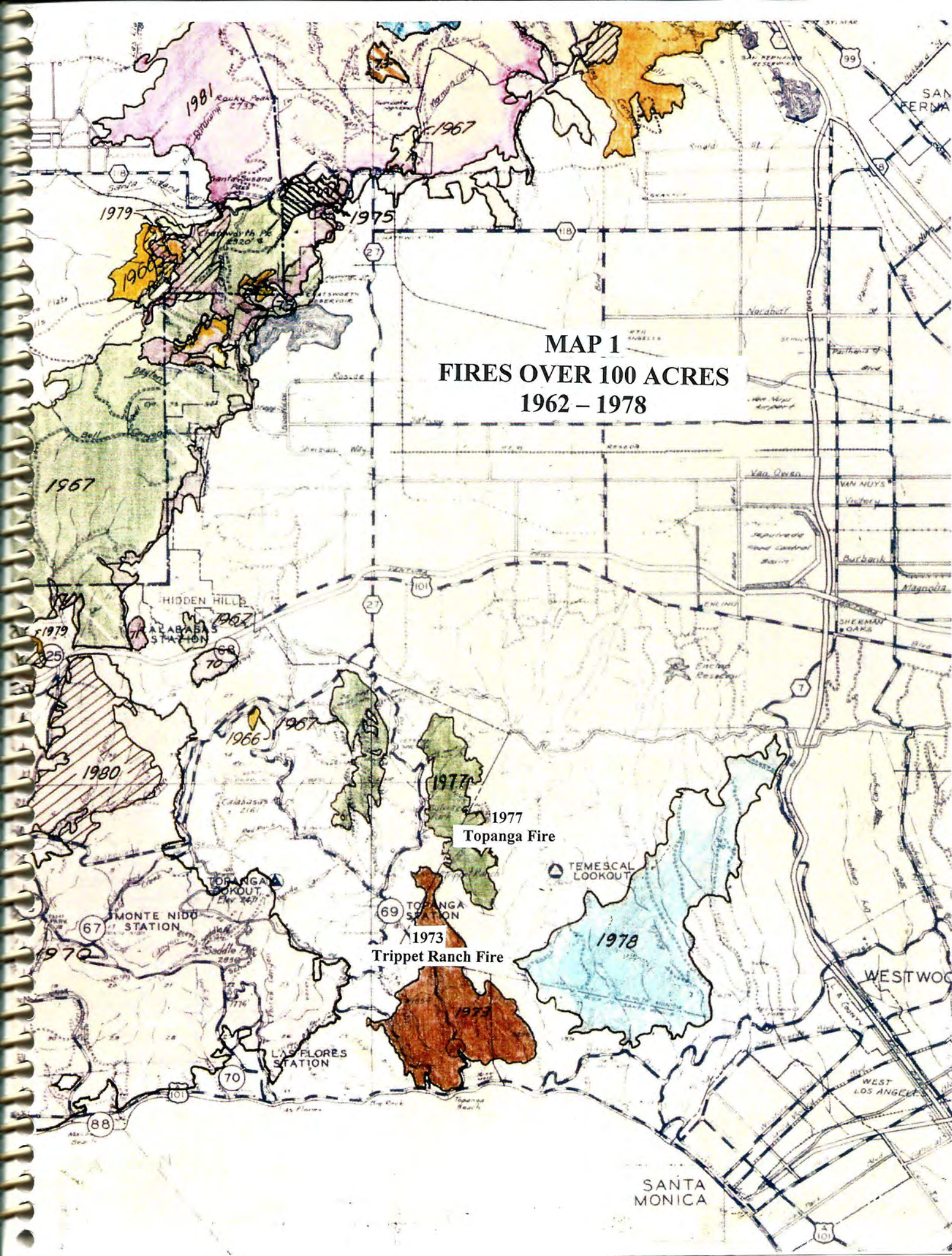
IN TOPANGA, CA

by

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MAP 1
FIRES OVER 100 ACRES
1962 - 1978



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LESSONS FROM THE ASHES – THE 1977 TOPANGA FIRE

I. Preliminary Fire Research

Old newspaper articles of the 1977 Topanga Fire (Map 1) were reviewed and a photo-documented field investigation was conducted to evaluate wildland, landscape and structural fuels in relation to fire behavior and structural losses. Homeowners whose houses were lost and/or their neighbors were interviewed to assess the reasons for the losses, evacuation, fire safe areas, and lessons learned from the fire in rebuilding, removal of hazardous materials from around the house, and re-landscaping.

II. Fire Pattern

About 2:00 p.m. on November 14, 1977 a fire of suspicious origin started at Viewridge Road east of Topanga Canyon Boulevard in Topanga after another fire just to the north earlier in the day had been extinguished within less than two hours. It was warm and clear and the weather was described by the National Weather service as mild Santa Ana conditions. However, in Topanga by about noon, the Santa Ana winds blowing from a northerly direction were erratic but strong, gusting up to 40 mph. The winds took the developing flames and ran with them before the fire start could be contained, scattering firebrands ahead of the fire.

Because of the steep topography, the many small canyons, minor ridges, knolls and the narrow, winding roads dissecting the area, the fire, the local fire winds and fire movement as encountered by beleaguered residents and firefighters seemed erratic and unpredictable. However, the overall direction of the fire was clearly dictated by the strong, gusting northerly winds which pushed the fire south through Topanga in cigar-shaped fashion. Locally, the fire direction was modified by topography and available fuels which, along with the gusting winds, gave it its erratic behavior.

Topanga residents then got a break when the fire changed its direction from a predictable southwesterly fire path (with many homes in this path in Topanga, Big Rock and Las Flores Canyon) into a southeasterly path into the more inaccessible portion of Topanga State Park and towards Palisades Highlands which it reached later in the afternoon. This new path also skirted the 1973 Trippet Ranch burn¹ which had burned from Topanga State Park (Trippet Ranch) to the ocean. Asst. County Fire Chief Polito stated that the fire might have taken the Palisades Highlands area “but the winds shifted dead in some places and [the fire was] backburning from an onshore wind in others.” (Thackrey 1977). Apparently, about the time the fire changed direction, Santa Ana winds abated and the onshore winds brought cool, moist air. This moist air blanketed the fire during the night so that it could be surrounded by firefighters and declared contained the next day. Los Angeles City Fire Chief Gerard, the incident commander for the fire, declared on the morning of November 15 that the fire was still laying down and was very quiet and that the winds hadn’t started blowing and that the likelihood of a flare-up during the day would depend on the wind (News Chronicle 1977).

¹ The October 30, 1973 Trippet Ranch Fire burned 2,770 acres of chaparral in largely inaccessible terrain. It traveled in a southerly direction to Topanga State Beach.

While there was much chaos in Topanga because apparently neither the community nor the public disaster officials were prepared for truly major wildland fire emergencies in such an area as Topanga with limited ingress and egress, only five homes were lost or seriously damaged. A major disaster was avoided because of the generally favorable direction of the fire away from the more populated areas of Topanga and beyond and because the Santa Ana winds were replaced with moist on-shore currents that moved up-canyon from the ocean² by late afternoon to early evening. However, the thick fog that developed during the night along the coast was not welcomed by Los Angeles International Airport which was forced to shut down for 5-1/2 hours before reopening at 7:24 a.m. on November 15 (Jonta & Smart, 1977). The News Chronicle followed up this fire story in their next issue with a headline that stated 'Fog snuffs canyon blaze...' and reported that the Topanga Canyon fire was declared contained at 12:30 p.m. Tuesday, aided by a midday fog from the ocean (News Chronicle 1977).

In addition to ground crew fire fighters, six bulldozers, seven helicopters and two air tankers were utilized to battle the 1,150-acre fire and protect structures.

III. Evaluation of Property Losses

Property # 1 - 1740 N. Artique Road (now 1840 Deerhill Trail): Marshall and Saimi Moss. **1977 Fire Setting**

The home site is situated sidehill on a graded knoll but set back from all slopes by at least thirty feet. However, it was in direct line of the path of the fire sweeping down the canyon from the northeast and then around and uphill over the knoll. The canyon and slopes east of the house from where the fire approached are largely vegetated by Bluegum Eucalyptus trees encroaching within about 100 feet of the house. Within the Moss property a large Coast Live Oak tree and mature Pepper trees were located within 50 feet of the house and shrubs were located along the house and the windows.

The burned house was a single-story stucco house with tile roof and single-pane windows. Marshall and Saimi Moss were at home when the fire started and waited for the Fire Department to arrive.³ However, when nobody came they evacuated with some of their prized possessions to the front lawn of the locked house of a nearby resident. From their vantage point they had a clear view of the western side of the house but not the eastern side and the canyon from which the fire came. They saw the oak and pepper trees igniting on the east side of the house and suddenly, within twenty minutes the house burst into flames (exploded). Mr. Moss (now deceased) believed that the house ignited because the tar under the rock roof caught fire (hot mop and rocks), while Mrs. Moss believes that the shrubs around the house caught on fire and ignited the house. It is likely that the fire entered through a window which blew out as the shrubs in front of the windows burned and the windows were buffeted by the hot winds.

Spring 2000 Setting

² The ocean is approximately 5 miles from the center of Topanga along the Topanga Canyon drainage. The moist ocean air moves uphill within this drainage and under the Santa Ana winds as they weaken and become "winds aloft".

³ Personal interview with Mrs. Saimi Moss at her rebuilt home.

The house has been rebuilt as an earthquake-proof two-story structure with dual pane windows, fire-stopped tile roof, and boxed and stuccoed eaves. Ornamental shrubs generally have not been replanted around the house nor within the yard so that the yard is being maintained as a firebreak. Mrs. Moss is very fire-conscious and keeps her yard very clean but she has no control over the adjacent properties. To the east the wall of Bluegum Eucalyptus trees still exist in the major drainage and they have been supplemented with more plantings after the fire, perhaps with the “dwarf” (but high fuel hazard) varieties purchased from the Topanga Las Virgenes Resource Conservation District. Downhill to the south a sidehill wooden home with wooden decks sits among Monterey Pine trees and California Pepper trees and is a cause of concern for the fire safety of the Moss house.

Mrs. Moss has greatly reduced the fire hazard on her immediate property. She has rebuilt a fire-safe home and has removed and not replanted vegetation immediately around the house. Despite her fixed income Mrs. Moss will further remove two beautiful Monterey Pine trees as recommended by this author during his site visit and cut back the neighbor’s overhanging Pepper trees to her property line. Even with these carefully planned efforts the fire hazard on the Moss property has increased because of greater hazards created on surrounding downhill properties since the 1977 Topanga Fire. For example, potentially highly flammable new fuels during extreme fire weather conditions have been created such as a wooden structure with wooden decks along southerly facing slopes and the planting of highly flammable ornamental vegetation such as Bluegum Eucalyptus, California Pepper, and pine trees.

Strict enforcement by the Los Angeles County Fire Department⁴ of its fire hazard reduction ordinance as it applies to hazardous fuels inclusive of ornamental vegetation on adjacent downhill properties would greatly reduce the fire hazard. The Moss property then could provide a fire-safe retreat and would give the house an excellent chance to survive the next wildland fire, perhaps even if unattended. However, the wooden staircase attached to the north side of the house still provides an Achilles heel if the house is unattended and should be regularly maintained with fire-proof paint.

Property #2 - 20660 Callon Drive (Sheila Morgan)

1977 Fire Setting

The homesite is situated sidehill along a northerly facing slope at the head of a minor drainage.

The house was described in newspaper articles as a “rustic” home.⁵ The home was an older split-level two room “cabin.” It had wood siding, unenclosed wood eaves, an asphalt shingle roof and single pane windows. A neighbor who remembered the original prefire home indicated that the home had a patio with bamboo and palm fronds for shade as well as trellises, and believes that this patio caught on fire first, probably from firebrands, and set the house on fire.⁶

According to newspaper reports (Seiler & Jones, 1977) owner Sheila Morgan chased home from her job at the nearby Topanga Resource Conservation District, hosed down the house, put the dog on the leash and tried to catch the cats. According to Ms. Morgan “...the fire had gone up

⁴ The ordinance requires removal of hazardous materials, inclusive of hazardous native and landscape vegetation for a distance of 200 feet around structures.

⁵ In fire jargon such “rustic” wooden homes are called “fire traps” or “fire catchers”.

⁶ Personal onsite interview with Kenneth Doupner.

[the grassy knoll] around her house and then backtracked down again. It came from all directions and the cats would not come with me [they perished]. I grabbed my dog and ran like hell down the hill [her house was just uphill of 15-foot wide paved Callon Drive and she ran across a small strip of burned area onto and along the street]. I figured if I was going to die I might as well die outside.”

Spring 2000 Setting

Ms. Morgan could not be interviewed as she moved out of the area after she had rebuilt her house and sold it to Kelly & Richard Lee. The house was rebuilt as a double trailer home with garage added. It has boxed eaves, plastic (?) siding and a metal roof. Extensive railroad tie planters with Rosemary landscaping have been added along the small downhill slope along the east side of the house.

The fire hazard to the home has been greatly decreased because of the basically fire-safe home construction and clearance of ground fuels directly around the house, thereby reducing or eliminating these structural and vegetative fuels. However, if unattended, the house still may ignite readily from heat sources created with new structural fuels, namely the railroad tie planters. They present a great fire danger as they can be readily ignited by larger firebrands and are impossible to extinguish (when flames are extinguished with water the railroad ties will constantly re-ignite) unless the flames and ties are smothered with foam.

Additionally the aerial vegetative fuel load downhill within 200 feet of the structure has also increased since the 1977 Fire. Several mature Aleppo Pine trees that grew up since the fire are located along Callon Drive within thirty feet of the house. “Dwarf variety” Bluegum Eucalyptus trees purchased from the Topanga-Las Virgenes Resource Conservation District⁷ after the fire and planted on the adjacent properties across the street are now in excess of thirty feet tall. In the draw below Callon Drive and leading to the house, pre-1977 small Bluegum Eucalyptus trees have matured and also present a hazard.

Again, strict enforcement by the Los Angeles County Fire Department⁸ of its fire hazard reduction ordinance as it applies to hazardous ornamental vegetation on adjacent downhill properties would greatly reduce the fire hazard.

Property #3 - 20669 Callon Drive (Kenneth & Betty Doupner)

1977 Fire Setting

The home site is situated sideslope along a long northerly facing slope with 15-foot wide paved Callon Drive providing access along the uphill side of the house.⁹ The house was a single story

⁷ After the 1977 Topanga Fire the Topanga-Las Virgenes Resource Conservation District provided plants for soil erosion control to local residents grown at the Lancaster facility of the Soil Conservation Service. Such plants included “dwarf variety” Bluegum Eucalyptus trees. These multi-trunked trees, while being wind breaks and providing great privacy, have grown up to fifty feet in height and in excess of thirty feet in width and have created a wall of highly flammable vegetation wherever they were planted. Additionally, the Los Angeles County Fire Department offered pine trees free of charge for soil erosion control. The Tree People also offered pine trees free of charge to residents in the 1977 fire area.

⁸ The ordinance requires removal of hazardous materials, inclusive of hazardous native and landscape vegetation for a distance of 200 feet around structures.

⁹ A home burned in the 1948 fire in the same location. It was surrounded by brush and the patio was enhanced with bamboo and palm fronds. The Doupners bought the rebuilt house in 1952.

(actually two-story on downhill side because of below ground storage room) wood home with unenclosed wood eaves, attached wood deck and partially exposed wood underflooring. An approximately 100-foot-wide firebreak punctuated by a Monterey Pine tree and a clump of bamboo protected the downhill section of the house. A row of Monterey and Aleppo Pine trees were also located sideslope more than thirty feet from the western section of the house.

The fire was pushed by the prevailing Santa Ana winds through the canyon hundreds of feet below the house at the bottom of the long slope but then the house was caught by the erratically moving uphill fire.

Kenneth Doupner,¹⁰ who was at work in El Segundo, believes that the flames were carried onto the wooden steps at the rear of the house when a clump of bamboo that was located within twenty feet along the northeast corner of the house caught fire. The wind was so strong that it layed the tall bamboo down on the ground while it burned and carried the flames, heat and embers even closer to the house. After the wooden steps of the wooden deck ignited, the fire was carried onto the wooden porch and the underflooring of the house, burning the kitchen from below and also damaging the electrical panel.

Mr. Doupner believes that some volunteers (kids in the neighborhood) tried to put out or contain the fire until help arrived. Betty Doupner (now deceased), Clerk for the Resource Conservation District located within the canyon, drove the short distance home. Soon thereafter, their son Darryl Doupner,¹¹ a Los Angeles City fireman on his day off, also arrived to check on his parents' house. He saw the fire move very fast down the canyon, hit the bottom and move up again towards his parents' home. It was moving in a southwesterly direction. Because of the good downhill clearance behind the house the fire traveled (hooked around) to the southwest around the house. As the fire traveled towards Topanga Canyon Blvd. Darryl was concerned about the safety of his own house on the west side of the boulevard. Therefore, he left to check on it but came back when he saw that it was not threatened.

As he came back up Cheney Drive, a second flare-up had hooked around to the southeast of the house and went through the draw below the Morgan house. The vegetation in the draw had not burned since 1948. Much smoke obscured the area by now. His mother had retreated from her house to a knoll southeast of this draw where L. A. Co. Fire Dept. Engine 42 (pumper with about 450-500 gallons of water) had advanced to. After the fire had consumed most of the brushy fuel in the draw and had died down a little, it was safe to pass over the road (the Bluegum Eucalyptus trees in the draw were still young then and were not taller than the roof of the adjacent single-story home). Engine 42 moved up to the Doupner house and hooked up to the subterranean hydrant (under a metal hatch on the ground) in front of the house marked with a yellow pole. Darryl pulled a 1-1/2" hose line off the engine and doused the flames around the house. However, the flames had broken the windows of the kitchen and had also gone underneath the house. Therefore, Darryl cut an access hole in the kitchen floor to get underneath the house and douse the flame there too. Darryl also remembered that there were many things stacked up directly against or near the house such as old firewood.

¹⁰ Personal on-site communication

¹¹ Telephone communication

Firebrands had caught a 1964 Black Thunderbird and a 1965 Austin Healy Sprite parked in front of the house on fire. They were fully engulfed when Engine 42 arrived with Darryl.

According to Betty Doupner the gusting winds made it appear as if the fire lapped away at the house, then suddenly turned away, and then leaped back again as though the flames would surely engulf it. She also did not know that Sheila Morgan was in her own burning home until she came running from it through the smoke (Seiler & Jones 1977).

Kenneth Doupner stated during the March 2000 interview that during the 1977 Topanga Fire there also was a mature Monterey Pine tree with a tree house about fifty feet downslope of the house within the totally cleared firebreak which extended to 100 feet or more below the house. The tree apparently caught fire from sparks and the heat intensity, and the tree house also burned. The heat generated from the burning tree caught another approximately 20-25-foot-tall Monterey Pine on fire, which was located another fifty feet uphill and about thirty feet west of the house. The lower branches of the tree were burned up to fifteen feet above the ground.

Mr. Doupner stated that Callon Drive is a box canyon and smart City fire fighters with their big rigs would not come up to it but people were defending their homes along Cheney Drive. Trees had also fallen onto Cheney Road, the access road leading from Topanga Canyon Blvd. up to Callon Drive. Finally small pumper trucks with water came up Callon to scout. By the time the big City rigs came in the fire was long gone. These rigs came in just for mop-up.

Spring 2000 Setting

House: The kitchen of the house was rebuilt and the house expanded in its prefire design. The house consists of wood siding, non-enclosed wood eaves, single-pane windows and a newer asphalt shingle roof. Wooden decks were extended as well as the house enclosed up to the row of pine trees along the west.

Fire hazard due to ornamental fuels has also increased. Along their common property line along the east side of the Doupner house Betty Doupner and neighbor Robert Weinberger planted a supposedly "dwarf" variety of Bluegum Eucalyptus purchased from the Topanga-Las Virgenes Resource Conservation District. The four surviving multi-trunked trees have grown to over thirty feet in height and up to thirty feet in diameter and provide a messy, flammable privacy "hedge." Their crowns on occasion overhang the wooden deck along the east side of house. A row of mature Monterey and Aleppo pine trees reaches to the west side of the house with one branch reaching above the roof. Because of the post-fire addition to the house, the higher branches of the Monterey pine tree that was burned in the 1977 Topanga fire is now overhanging the roof of the house. The crown of the tree also extends into another row of mature Aleppo Pines to the west measuring in excess of 100 feet in length. The pine trees have been limbed up to about ten feet in height.

A wide firebreak clearance extends for over 100 feet down the northern slope, and willows and oaks that have grown up within the draw of this wide firebreak are being lollypopped (lower branches removed). Good clearance also exists along the uphill street side because of the road and uphill disked fields. However, some flammable juniper bushes along this side of the house as well as the wooden five-foot-tall street-side fence present added hazards.

Both the Eucalyptus trees and pine trees are regularly maintained but still present added hazards during high-to-extreme fire weather conditions. For example, Mr. Douphner stated that after the recent Santa Ana winds in March of 2000 he raked the newly fallen litter (twigs, branches, bark, leaves) from the base of the Eucalyptus trees and collected six tightly stuffed trash cans full of litter. The three 96-gallon green waste trash cans he and his neighbor share weigh approximately 37.5 lbs. when empty and are certified to hold up to 335 lbs. (such as when filled with soil and small logs). They are being picked up every two weeks, and when fully stuffed with tree litter, can hold 100 lbs. of Eucalyptus litter. So, it takes up to four weeks to dispose of 600 pounds of litter collected from the four "dwarf" Eucalyptus trees after the first spring Santa Ana winds.

Mr. Douphner is retired but in excellent physical health and regularly removes the ground litter and also prunes the Eucalyptus trees and removes the lower branches of his pine trees (lollypops them). Despite his constant efforts to keep the place neat and clean the ornamental trees still present a high hazard during high to extreme fire weather conditions. The house may not survive such a fire unless it is attended.

Property #4 – 20668 Callon Drive (Dick & Judy Hillstead)

1977 Fire Setting

The homesite is located sideslope along a long westerly facing slope leading to Topanga Canyon Blvd. A small tributary drainage to Topanga Canyon originates near the south side of the house and leads along the north side of the Community House property.

Adequate firebreaks in excess of 100 feet extended in all directions around the house. A firebreak had been created sideslope to the south with past removal of chaparral and yearly disking of weeds. A livestock pen to the southeast, a swimming pool to the east, a horse corral and cleared area to the south extended the firebreak in these directions. The road coming up from the southwest helped create a firebreak to the west and partially disked fields spotted with Tree of Heaven trees extended the firebreak to the north.

Dick Hillstead had himself designed and built with the help of friends the modern wooden one-story house which was about two years old house. It had wood siding, a wooden attached downhill deck, non-enclosed wood eaves, and an asphalt shingle roof.

With the help of a friend who remained to protect the house, Dick's wife had evacuated with her small children to a friend's house in Tuna Canyon. Apparently the volunteers protected the house as the fire went through, and stayed until a small pickup pumper arrived with water to check out the house and douse any sparks.

Dick was in his office at the Rand Corporation in Santa Monica when the fire broke out. He was stopped at the Topanga roadblock as the police would not let anyone through and threatened to arrest him. However, given a chance when a car went around him, he gunned his car and went up Topanga Canyon Blvd. He was prevented from coming up Cheney Drive because it was full of Fire Department rigs. Dick then went to the Community House and tried to walk through the burn area (the fire had approached the Community House from the north, burned through the draw north of it including the northern slope behind it and then continued uphill southerly of the Hillstead property). However, his feet got too hot and he backtracked to the Community House. From there he saw that fire crews were protecting his house at this time. Relieved, he drove to

Tuna Canyon to meet his wife and was informed hours later that his house had burned. Apparently the house ignited (or re-ignited) after the crews left. He had an old couch sitting on the deck and thinks that it may have been smoldering or that sparks could have gotten underneath the wooden deck and ignited the house later.

Darryl Doupner stated¹² that as the fire hooked initially around the southwest of the Doupner house a fire engine(s) moved up to the Hillstead house. After Darryl had put out the fire at his parents' home he walked at about dusk to the Hillstead home and saw firemen on the roof as well as in the house. There were no visible flames.

Los Angeles Times staff writer Bob Pool (Pool 1977) told the story of the eventually unattended Hillstead house burning as follows: as the fire burned towards the more inaccessible areas of Topanga State Park the firemen regrouped from Cheney Road back down towards Entrada Drive. Bob was driving up Topanga Canyon Blvd. towards the Top-of-Topanga Summit when he saw the puff of smoke from a hilltop deep inside the darkened, already-burned areas. It looked like a house burning to him but he couldn't be sure. So he turned around and drove two miles back down Topanga Canyon Blvd. until he reached a turnoff with a better vantage point. And from there he could see that it was a house burning and that a helicopter was illuminating it with a searchlight. So he drove up to Cheney Drive past the still smoldering Morgan home and pulled off the pavement at the end of the dead-end road (Cheney Drive).

"The name on the mailbox said Hillstead. The modern wooden house was ablaze at its far side. There were pops and cracks as the heat exploded the huge glass windows in the family room area in the rear and shot a jet of fire into a play yard, igniting a wooden fence next to the patio deck.... There were plastic trashcans along the side of the house, next to a long garden area carefully laid out. The towels and water in the garbage containers had been used to beat out embers during the height of the fire, three hours earlier.... I picked up the garden hose to try to slow the fire until the firemen (I was sure they were coming) could get there. But the water didn't come--the faucet was next to a blazing wall and I couldn't reach it. And the firemen did not come.

The fire was spreading now, burning against a stiff breeze on the hilltop, eating its way towards the front of the house... I jumped back in my own car and raced down the bumpy driveway, skidding to a stop further down Callon Drive, where a fire pickup truck had stopped and was preparing to dispense coffee and fruit juice to some ground crewmen working down the hill.

The fireman drove back up the hill and radioed for help when he caught a glimpse of the home, now nearly fully engulfed. A blast of fire shot suddenly through the garage door and ignited the plastic bicycle seat. The plastic garbage cans melted, spilling their steaming contents onto the ground.

About ten minutes later, a fire engine came but it ran out of water shortly after firemen hooked up their first hose. A second pumper came a little later but the walls were falling in by then. Firefighters moved the car (left by the Hillsteads) back to keep it from igniting and exploding; the fiberglass trim along the front of the vehicle had melted into blobs, we discovered as we checked the car...."

¹² Telephone Interview of April 4, 2000.

The upsetting thing to Dick Hillstead was that he could have walked up Cheney Drive and protected his house after the Fire Dept. crew left. He had a swimming pool and plenty of water.

Dick came back to his property at about midnight and his goats and geese were huddled at the uphill corner of a wooden pen under a wooden livestock shelter that did not burn, located about fifty feet from the house. The livestock pen was surrounded by a new wooden fence that had not burned except for the area where it had been attached to the burning house. The goats and geese did not run away.

The wildfire that burned around the Hillstead house was a light intensity fire. The wooden house could have been readily saved if it had been attended while the fire was burning.

Spring 2000 Setting

The house has been rebuilt as a single-story home in the same configuration as the prefire home. Fire-safe design construction is highlighted by stuccoed siding, boxed and stuccoed overhangs, dual pane windows and a fire-stopped tile roof.

A non-attached carport has also been fire-safe designed and built in similar fashion as the main house.

The disked firebreak to the south and to the east has been enlarged and two new two-story homes featuring the same fire-safe building materials have been added to the north more than 200 feet from the Hillstead house. The setting provides a fire-safe area during wildfires; however the house may not survive if unattended because of its Achilles heel--a wooden porch attached to it and a wooden, adjacent downhill deck to the west.

Property #5 - 20767 Hillside Drive (Warren & Mary Chase)

Warren and Mary Chase had been building their home over the last 2-1/2 years prior to the fire and had been living nearby in a trailer. They had envisioned a fireproof home with stucco siding and a metal roof (Stein 1977).

On the day of the fire the house was only a framed, open wood structure without any windows and doors. According to Warren Chase the house had a large clearing around it and lots of green. "Maybe if firemen would have left me a hose it would have helped, too. My garden hose was just a line of ash. But they didn't come up the dirt road to help me. I had two friends to help, but when the firestorm came we had to run for cover. The house went up like kindling. I could only watch."

IV. Summary Evaluation of Homes Losses

An evaluation of the five homes totally or partially destroyed in the fire indicated that one home was a fire-safe designed and built home and the remaining four homes were wooden homes that presented a hazard because of their construction materials.

All homes were attended at some phases of the fire. Unfortunately the 'fire-safe' home, despite its slope setback of more than thirty feet from a canyon, a small draw and the slopes from where the fire came from, was located in a high risk location and apparently ignited by direct flame

impingement on the ornamental vegetation adjacent to the house and the house itself during the burnout period of the woody vegetation. The vegetation that carried the fire through the draw, across a paved road and across the slope setback in this direction consisted largely of tall Bluegum Eucalyptus trees not on the owners' property and not under their control. Fire modeling such as was done by this author in cooperation with Dr. Ron Wakimoto, Associate Professor of Forestry at U.C. Berkeley, of native and ornamental vegetation as early as the late 1970's and published a few years later indicated that flame length from these burning trees may have been in excess of 150 feet under the fire weather conditions in the early afternoon of November 14, 1977 (Radtke, 1982, 1983).

The remaining four homes were wooden homes that were at high risk because of exposure to direct flame impingement or firebrands. One of these homes was saved even though it was partially engulfed in flames because fire department personnel teamed up with the son of the owners, an off-duty fireman himself, in saving the home. One home in an area of light fire intensity was lost unattended hours after the fire front had passed the area even though it was attended for a while by firemen soon after the fire front had passed. It was probably ignited (re-ignited) by burning embers.

Two of the homes were rebuilt with fire-safe designs and fire-safe building materials exceeding applicable building standards. The fire-safe area or firebreak around these homes was also greatly extended within their property boundaries. However, often not enough attention is paid to the 'setback zone' (called Zone A by the County of Los Angeles Fire Department in determining fuel hazard reduction requirements) which extends for about twenty feet around a house. Wooden decks or attached wooden staircases attached to otherwise fire-safe built homes provide points of fire entry if the homes are unattended. One small house was rebuilt with moderate fire safety as reflected in dual house trailer construction but is still very vulnerable if unattended because railroad ties are used for landscape retaining walls and planters adjacent to the house. The partially destroyed but saved home was rebuilt to its pre-fire wooden exterior with open eaves. Wooden decks and pine trees that have increased in stature have increased the fire risk. One home under construction was apparently not rebuilt.

If unattended, all homes could burn during a future wildland fire sweeping through the area during moderate to extreme fire weather conditions. If brush clearance ordinances are equally enforced for reduction/removal of flammable landscape material within two hundred feet of structures, the three homes most at risk would have a much greater probability of surviving a wildfire even when unattended. Fire evacuation would then also not be necessary for the able-bodied persons who desire to stay.

V. Findings and Recommendations

1. Evacuation, Ingress, Egress

At the start of the fire an evacuation center was set up at the Malibu Civic Center, next to the Malibu Sheriff's station, but a few hours later it was moved to Palisades High School at 15777 Bowdoin Street in Pacific Palisades because of the larger facilities there (Fetherling, Dale et al). Children from Topanga Elementary School were taken by bus to Palisades High School, with some parents frantically looking for them (Topanga Messenger 1977; Penno 1977).

Many residents refused to evacuate in order to protect their own homes, adjacent residences, or to assist firefighters with site orientation and protection of structures (Stein 1977).

Roadblocks set up by the Sheriff Department prevented residents from returning into the canyon. However, as the extreme fire danger subsided, residents were allowed to go into the canyon on foot but could not drive in. Residents who were already in the canyon within the roadblock area were allowed to shuttle people back and forth from the mouth of the canyon.

During the December 4, 1977 Topanga Town Council meeting that evaluated and addressed the November 14 Topanga Fire, Fire and Sheriff Departments officials responded to strong criticism about road closures. They pointed out that the roads were limited to emergency vehicles and that traffic jams created by frantic residents denied access to the area prevented some emergency vehicles from getting into the canyon. Sheriff Department officials pointed out that they were concerned with evacuating those that were already there and not letting more people in. Letting residents into the canyon, as well as horse trailers for livestock evacuation, is not feasible during fire emergencies where public health and safety are priorities. Various Topanga Township Council Committee members felt strongly that residents should not be blockaded out of the canyon because they know the roads best and could work with public officials. They also expressed the opinion that there should be designated open areas (such as for evacuation of horses) and that designated access roads besides the main road, Topanga Canyon Blvd., be made available. It was also pointed out that "officials will forget any plans we've made within three years, or whenever the next disaster comes, unless they are constantly reminded." One resident was quoted as stating that he found trucks (carrying bulldozers) that were lost and that he directed them (Topanga Messenger 1977).

The Evening Outlook reported that a fear that the November 14 Topanga brush fire would rage into densely populated areas of the community was cited as the reason fire officials ordered roads into the canyon blocked to all but authorized vehicles (Roberts 1977).

In attempting to clarify evacuation and road closures and the laws governing it to affected homeowners and in an attempt to put a human face on the situation Radtke (1983), Radtke 1995 (revision by Los Angeles County Fire Dept. of 1982 publication) stated the following:

"Fire protection agencies are responsible for determining when the need for evacuation exists, and the jurisdictional law enforcement agency is (agencies are) responsible for carrying out an ordered evacuation. The purpose of evacuation is to protect people from life-threatening situations. Section 409.5 of the California Penal Code provides the legal authority for law enforcement officers to close and restrict access to disaster areas. The news media is legally exempt from this provision.

Owners have (a person has) the right to stay on their (his) property if they (he) so desire, if in doing so that they are not hindering the efforts of fire personnel or contributing to the danger of the disaster situation. In fires or floods, able-bodied persons who wish to remain may be able to aid fire personnel in saving their property, and those who are desirous of remaining may be permitted to do so.

In a fire or flood, there will be several different phases of road closure within the disaster area: (a) in an area that foreseeably could be involved in the disaster, but presently is not, people without purpose will be restricted from entry to reduce traffic problems or the potential for looting; (b) in an area of imminent danger with limited access or egress, people would be discouraged from entry, though they live in the area, and those who are adamant after being informed of the danger, would be permitted entry; (c) in an area presently involved in the emergency where extreme danger to life

exists and where traffic must be restricted due to movement of emergency vehicles, people, including residents, will be refused entry.

Road closures around emergency incidents are essential to the expeditious movement of persons leaving the area and mobility of emergency equipment. In major incidents, closures become immediately essential to permit accessibility of fire fighting forces, orderly evacuation, and exclusion of unauthorized persons.

In summary, here is what you should do:

- * Notify the local fire protection agency.
- * Stay calm - you are in control of the situation if you do so.
- * If you decide to stay with your home during a wildfire, evacuate all family members who are not essential to protecting the home.
- * Dress properly to shield yourself from the heat and flames.
- * Take steps to prepare your home from the approaching fire.
- * If caught in the open, seek shelter where fuel is sparse.

Remember, wildfire is erratic, unpredictable, and usually underestimated. Life safety is always the most important consideration.

However, Radtke, as the author of these publications, is concerned about the statistics he has documented pertaining to increasing fire losses of unattended homes during, and especially after, a firefront has passed the area. The many reasons for these losses include road closure; lack of knowledge by out-of town fire personnel about local conditions including roads, fuels, structures, availability of water sources inclusive of swimming pools, etc.; lack of consistent education by fire agencies of residents on how to protect their homes in preparation of a wildland fire; exhaustion of firemen (and resting and sleeping during the night while homeowners, if allowed into the fire area after the fire front has passed could be on watch); and inaction by fire personnel if a water source is not readily available or has been temporarily exhausted, etc.

Research conducted by this author since 1982 has indicated that many homes survive the passing of the firefront but ignite even hours later because they are unattended by either fire personnel or the homeowner/resident. On the other hand, many homes survived the fire after the fire front has passed because residents stayed with their homes and protected them or re-entered the fire area, largely illegally.^{13 14 15} Resident firemen who happen to live in a fire area, and do not have to respond to headquarters for fire assignments, are also an invaluable source in protecting and saving unattended homes in a wildland fire and rallying residents and firefighters on the scene for mutual protection of the area under knowledgeable leadership.¹⁶

¹³ Case #1 – 1993 Old Topanga Fire: homeowner saves four homes after firefighters evacuate area with him and he re-enters fire area alone at night from evacuation center within fire area.

¹⁴ Case #2 – 1993 Old Topanga Fire: homeowner and friend with fire experience enter fire area at night to save homes. Fire fighters patrol area along roads only but do not continue to carry out fire suppression efforts into the night, apparently because of lack of water, exhaustion. Water available from hydrants at PCH.

¹⁵ Case #3 – 1993 Old Topanga Fire: homeowner and brother save seven homes after evacuating and re-entering closed area from evacuation zone within fire area. They estimate that at least 16-18 of the homes out of approximately 48 homes that burned within close proximity to Pacific Coast Highway did not burn until hours after the fire front had passed. There was good water pressure available in the hydrants along the streets of the burned homes within one hour after the fire front had passed, so these houses could have been saved.

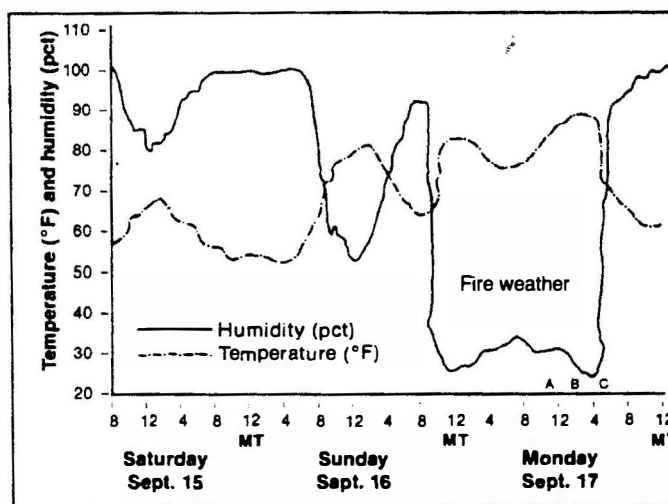
¹⁶ Case #4 – 1993 Old Topanga Fire: Off-duty firefighter/homeowner with help of colleagues saves 4 – 5 homes.

Training residents to be proactive in creating not only a defensible space situation around their homes but also safeguarding their homes as much as feasible so that they could withstand a wildfire if unattended is still the most important consideration in reducing home losses (Peninsula News 1984, Malibu Surfside News 1993). Permitting able-bodied and trained residents to stay with their homes if proper preparations have been made and allowing able-bodied and certified homeowner/residents to enter a fire area (or be shuttled in) as auxiliary firefighters familiar with the area is still a major key in reducing wildland fire losses. Mutual aid (firefighters responding from out of town and from other areas of the state and nation largely after the fire front has passed and houses have either burned down or are fully engulfed) can not substitute for knowledge and experience of local conditions by local residents. Firefighters must also acknowledge the fatigue factor, especially if responding from another fire such as happened during the 1993 Old Topanga fire, and the fact that fatigued firemen will then need to bed down at night even though surrounding homes are unattended and may ignite.

2. The Effect of Fire Weather

Only a few homes were destroyed during the 1977 Topanga Fire because most homes were attended, the fire area was only lightly populated, and the fire started in the afternoon in mid-November with only about three hours of daylight remaining before the fire weather was broken. Cooler late afternoon temperatures coupled with rapidly increasing humidity brought by the onshore afternoon winds apparently put a damper on the fire, forcing the Santa Ana Winds aloft as soon as they weakened. Fog then actually blanketed the coastal areas during the night and put the fire out.

Figure 1—The 1923 Berkeley Fire—considered the most devastating in California's history—broke out in Wildcat Ridge (A), reaching the city (B) before finally coming under control (C). Wind velocity on September 17 was 40 mph (64.4 kph). (Source: Emanuel Fritz, University of California, Berkeley).



The Berkeley Fire of September 16, 1923 in which 624 homes were lost best illustrates the effects of fire winds on local climate (Radtke 1983). As seen in Figure 1, within one hour of the onset of the Santa Ana winds at 8:30 p.m., humidity had dropped from 92 to 25 percent with temperatures increasing from 63 degrees F to 82 degrees F by midnight. This is the typical fire weather condition. When the Santa Ana winds died down about 4:30 p.m. the next afternoon,

the humidity increased within less than 30 minutes from about 20% to over 90% (onshore ocean breeze) and temperatures quickly dropped from about 90 degrees F to less than 75 degrees F. The short, approximately fire hour wildfire was over (except for the burning homes), saving the rest of the City of Berkeley.

Most major fires in the Santa Monica Mountains occur during extreme fire weather conditions as described for the 1923 Berkeley Fire, with humidity even dropping below 10%.

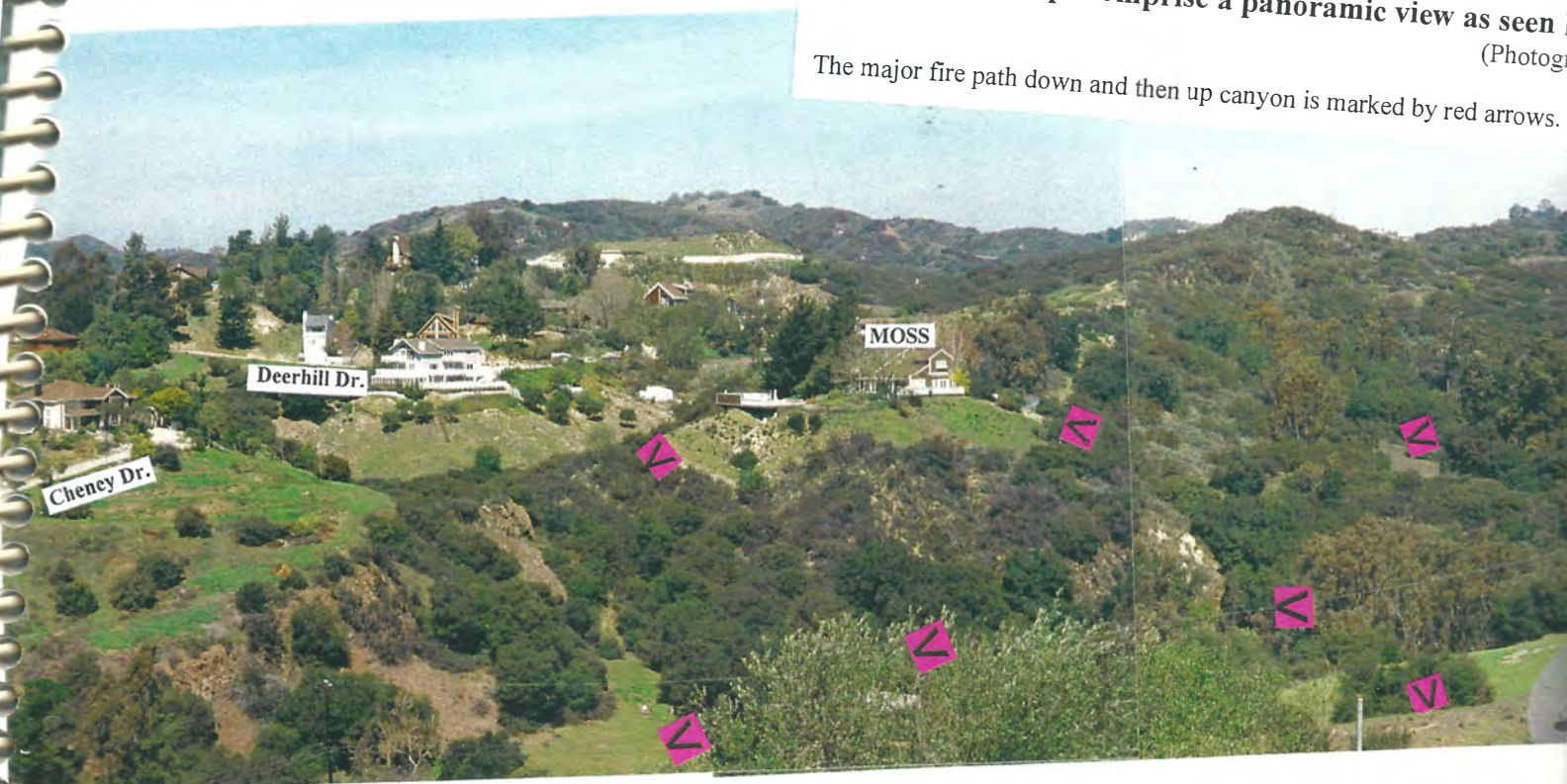
If the Santa Ana winds had not diminished and finally died but had rather changed direction towards the southwest and kept blowing during the night, containment of the western flank of the fire within the vicinity of Topanga Canyon Boulevard would not have been possible. As documented in studies of the fire history and fire patterns for the Santa Monica Mountains (Radtke, Arndt, & Wakimoto 1981, Radtke 1985), the fire instead would have jumped Topanga Canyon Boulevard and would have moved across the most populated areas of Topanga towards Topanga Beach, Tuna Canyon and Big Rock. Disastrous losses of homes could have exceeded the fire losses of the 1943 Woodland Hills Fire and could have mirrored the losses of the 1970 Wright Fire, the 1978 Kanan-Dume Fire and especially the disastrous 1993 Topanga Fire which caught public agencies, fire services, as well as the Las Flores and Big Rock communities, unprepared.

Many more homes, some of them built fire-safe with tile, cement shingle or metal roofs and one hour-fire-resistive materials such as stucco siding, have been built in the area since the 1977 Topanga Fire. Other homes continued to be built with wooden exteriors and exposed wooden decks. Some of the older wooden "rustic homes" also still exist. Ornamental vegetation such as pines that provide shade and privacy but turn highly flammable and explosive during extreme fire weather conditions supplement the flammable structural fuels within close proximity to homes. The combination of highly flammable landscape and structural fuels compacted in areas at extreme risk to wildland fires is a spiraling design for disaster.

VI. Photo Section

Photo Series 1: The Neighborhood

Both photo strips comprise a panoramic view as seen from the top of the hill. (Photographs taken from the top of the hill looking down the canyon.)



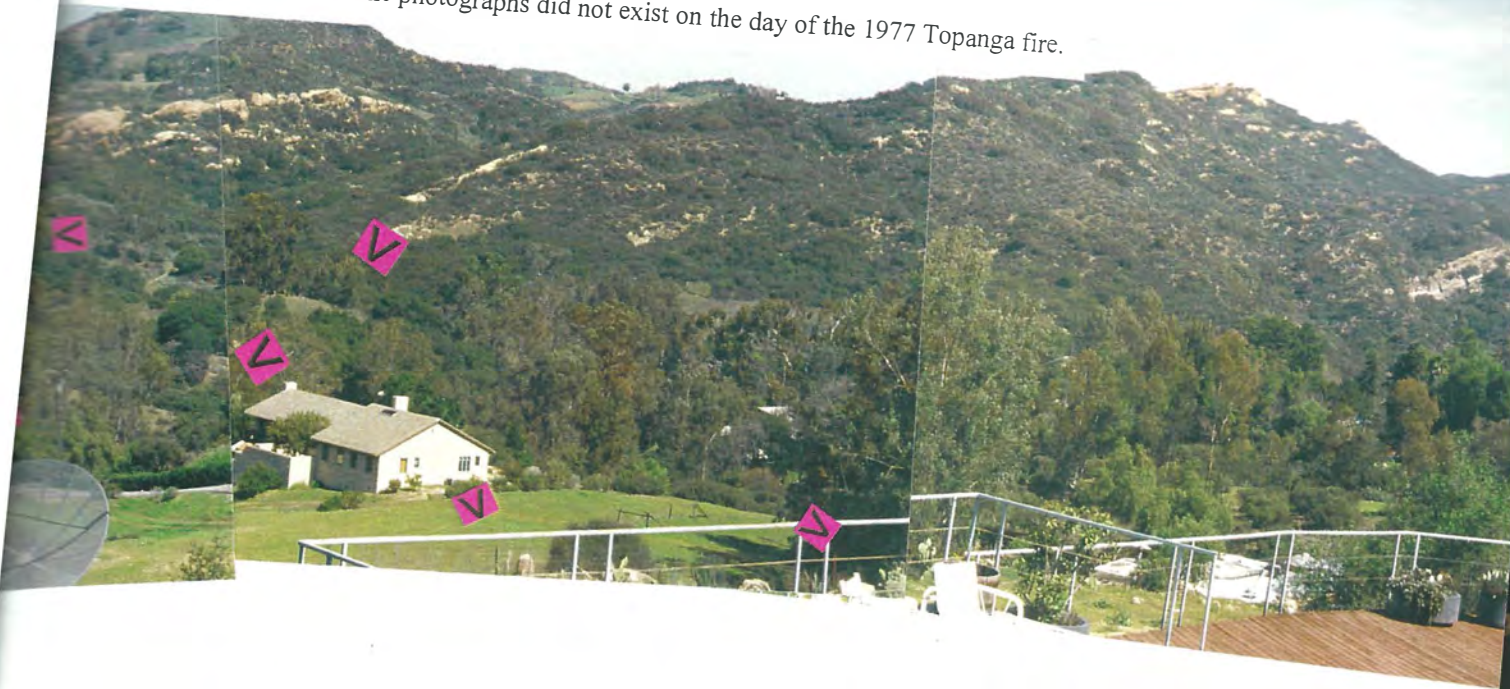
SW



Part of the 1977 Topanga Fire Area

NE to SW from the backyard of 20669 Callon Dr., Topanga.
by K. R. in March 2000)

of the houses as shown on the photographs did not exist on the day of the 1977 Topanga fire.



**To Protect A Basically Fire-Safe Designed Home in An Area Where It Can be Defended
From Fire Requires That it be Attended Until The Fire Is Out!**



Photo 2 – The Hillstead home, a wooden house on Callon Drive, ignited (or re-ignited) hours after the fire had passed. As shown here in the 1977 photo from the photo album of Dick Hillstead, a relatively light intensity fire burned around the house and did not even catch the wooden fence of the livestock pen nor the wooden goat ‘house’ on fire. The goats and geese, huddled in the back of the pen, also escaped unharmed as the home burned down.



Photo 3 – The Hillsteads rebuilt their carport as probably the most fire-safe carport in Topanga! It has a fire-stopped red tile roof, with stucco siding, an adequate firebreak, and no attached wooden structures (Roll #34-3 3-25-2000).



Photo 4 – The Mosses also rebuilt their home as a basically fire-safe designed structure with a tile roof, stucco siding and dual-glazed windows, with flammable fuels, inclusive of landscape fuels, removed from the windows and also largely from around the house (Roll #365-10 3-31-2000).



Photo 5 – The former Morgan home on Callon Drive was rebuilt as a double trailer with attached garage and generally adequate clearance. However, it still sits at the top of a minor draw (separated by Callon Drive) vegetated largely with Bluegum Eucalyptus trees. The railroad tie planter boxes are also extremely difficult to extinguish once ignited and have the habit of re-igniting (just like some trick birthday candles) after they have apparently been extinguished. Pine trees along Callon Drive have also increased in size since the 1977 Fire (Roll #34-23/24; 3-25-2000).



Photo 6 – Providing adequate clearance and thinning of native vegetation as indicated here is an important step in safeguarding a house in the event of a wildland fire. However, wooden accessory structures are nevertheless vulnerable and largely indefensible from a wildland fire (Roll #34-18, 3-25, 2000).



Photo 7 – Wooden fences or wooden decks attached to an otherwise fire-safe home may turn out to be the Achilles heel in a wildland fire, especially if the house is unattended (Roll #43-15, 3-25-2000).



Photo 8 – Wooden homes are extremely vulnerable in a wildland fire no matter how much water is available. Once ignited, they burn rapidly, with the heat generated during their burnout period often closing off nearby roads and igniting nearby homes. Additionally, burning homes will shower the neighborhood with flying embers long after the fire front has passed (Roll #37-18, 3-25-2000).



Photo 9 – Wooden fences are also a fire fuse and transmit not only the heat but the flames of the fire directly onto the home and unprotected windows (Roll #43-22, 3-25-2000).



Photo 10 – Diligent year-round removal and disposal of fine dead fuels such as shown is the first step in creating a fire-safe environment around a home (Roll #33-17; 3-25-2000)...



Photo 11 - ...but is no substitute for the removal of highly flammable landscape vegetation such as shown here that persists around homes throughout the Topanga area (Roll #34-25; 3-25-2000).



Photo 12 – An additional concern are the narrow, winding roads with inadequate clearance. Such roads are not safe to pass during the burnout period of the surrounding flammable vegetation despite the presence of an occasional fire hydrant that may give a sense of false security (4-5-2000)



Photo 13 – Th old Topanga Community House, while basically fire-safe built, should also not be left unattended during a wildfire as surrounding structural storage fuels and the woody vegetation largely on its downhill northern slope could generate enough heat or firebrands that could break a window. The Community House can serve as an emergency fire-safe refuge shielding people trapped in the general area from the heat of the passing fire but can not serve as either a command post or evacuation center because of its size, its location in the midst of a fire area with only one access road and an exposed parking lot (not shown in this photo) (4-5-2000).

Appendix

Case #1 – 1993 Old Topanga Fire: homeowner saves four homes after firefighters evacuate area with him and he re-enters fire area alone at night from evacuation center within fire area.

Mother watered down the walls of the house, filled trash cans with water and both trimmed the trees around the house as fast as they could (another fire was burning in Ventura County during Santa Ana weather conditions the previous day and both were aware of the extreme fire danger even before the Old Topanga Fire started). Mother evacuated about one hour before the fire hit.

Son also evacuated in his truck along with the remaining strike team as “two fire tornadoes” came down the canyon. He went to a nearby temporary evacuation zone where he watched three houses catch on fire just above Pacific Coast Highway. It was becoming dark and the night was illuminated by burning homes. The son then decided to save his home. He drove very slowly to the middle of the street as if to ask the Sheriff a question, then hit the gas pedal, driving up canyon. The Sheriff could not draw his gun but gave him the fist.

As he drove past the pumphouse that supplied water from PCH, water was shooting up about 20 feet in the air because the pumphouse had burned. As the son pulled into his driveway Las Flores Canyon bridge was fully engulfed and two large explosions from the nearby Cal Trans equipment yard rocketed the area followed by a fireball. The wooden deck attached to the rear of the house and extending to the edge of the slope had caught on fire. The son kicked a trash can full of water over on the burning deck and doused the flames. He fell through the burned hole of the deck, hurting himself, and then told himself to calm down. He then hooked up the garden hose to the back of the house and doused the deck and hot spots. By 7:30 – 8:00 p.m. (19:30 – 20:00) the house was saved. He grabbed two fire extinguishers and ran to the house below him adjacent to the road. A bush adjacent to the rear window (window on the uphill side) was fully engulfed in flames and was igniting an adjacent pine tree. He extinguished this fire and then patrolled this as well as the two adjacent homes, extinguishing all burning vegetation and other hot spots between the houses and on the uphill back slopes. He was concerned that if any of these houses would catch on fire, they could then ignite a neighboring house and of course his own uphill located house. Other burning houses along the street provided him with some light as he put out the fire around neighboring homes. To him the noise was the most scary part of the fire storm.

Case #2 – 1993 Old Topanga Fire: after fire equipment had pulled out of the Big Rock area, homeowner & friend with fire experience enter fire area at night to check on rental home, saving adjacent wood shingle home and preventing fire from burning homes from spreading onto unburned homes. Initially, some fire fighters patrolled along roads but did not continue to carry out fire suppression efforts into the night, apparently because of lack of water, exhaustion. Water was available from hydrants at PCH. Area was evacuated by fire personnel except for an occasional fire truck. Hillside re-ignite into the daylight morning hours without Fire Department personnel knocking down flames to prevent their spread onto unburned homes and friend chased these flare-up into the late morning hours.

Owner and friend came to the corner of Big Rock and PCH at approximately 2130 hours. Flames were still burning on both sides of the road and smoke was so thick that it was difficult to avoid boulders in the road released by the burning chaparral. In central Big Rock on the mesa a fire truck was dousing the fire on the hillside above a house with water from its tank. Upon arrival both were threatened by the fire captain with arrest by the Sheriff if they would not leave immediately. Homeowner identified himself as retired member of the fire department and was tolerated. Three nearby homes were on fire and when told by the just arriving homeowner that the plastic enclosure in the front yard of one slowly burning home enclosed an indoor swimming pool, a fireman lamented that they could have saved at least this home but were not aware of the readily accessible indoor swimming pool until the plastic cover had partially melted.

All homeowners and tenants in the generally fire-safe neighborhood had evacuated with windows left open by tenants of the homeowner's rental house. Homeowner closed windows and checked the neighborhood immediately to make sure that windows and doors of neighboring houses were closed. Both men remembered that the immediate uphill neighbor had a wood single home. The house was unlocked and had been evacuated with a County of Los Angeles Fire Captain leaving his business card with a note that the house was “secure” (had been saved). No trash cans nor containers in the house were filled with water but a trickle of water was available from the sink faucet which was used to soak cloth both men tied over their faces. A burning house above on Big Rock Drive was sending

flying embers towards the wood shingle roof house whose wood pile within about twenty feet of the wooden garage was also on fire and was throwing a lot of heat onto the exposed side of the garage. Additionally, a wooden bridge to the southeast of the house, connecting to an adjacent house across a draw was roaring in flames. Luckily the winds had died down.

It became apparent to the homeowner that the firefighters had given up on the house since apparently no firefighters were leaving the road and their apparatus at night to walk into backyards for patrolling and extinguishing hot spots, the homeowner asked the fire captain before he left with his engine if he would help save the wood shingle house, and if not, what the homeowner could do. He was advised to scatter the wood pile to reduce the heat intensity while knocking down the sparks so they would not catch the roof on fire. The fire truck left soon thereafter and the homeowner scattered the wood pile with a shovel while his friend patrolled on top of the wooden roof with another shovel, beating out the sparks as they landed from all directions. Knocking down the sparks on the wooden roof was continued throughout the night (despite thick smoke occasionally blanketing the roof because the uphill burning home, whenever the wind kicked up or a section of the house collapsed, would send a shower of firebrands onto the wood shingle roof (the owner of the wood shingle roof later got a new free roof replacement from his Fair plan Insurance Co. because 'fire fighters had damaged the roof in order to save the house'). Besides beating out the flying embers landing on the roof and scattering the burning wood pile, the fire that erupted on several occasions during the night on the slope below the house (fueled by firebrands generated by the burning bridge) had also to be beaten back with shovels. No drop of water was available. At least another home along Big rock south of the bridge caught fire later at night, perhaps being ignited from flying embers from the burning wooden bridge. Later in the night the wind shifted in the opposite direction and started blowing sparks from the now fully engulfed house onto the wooden roof. Explosions from within the house could be heard as containers of paints, chemicals, etc. ignited. Without water to douse the roof, the wood shingle house could not be left unattended. If ignited and burning, it could have caught other surrounding houses on fire. If this house would not have had a wood shingle roof, a burning bridge and a burning wood pile, both men could have left it unprotected and extended their patrol and protection to homes that ignited into the night, many hours after the firefront had passed.

The homeowner left the area early in the morning with a small cat that was found wandering around (it was later returned to its owners). His friend remained behind because vegetation was still smoldering here and there. Later in the morning a hillside between a nearby burned house and an unburned house burst into flames which the friend fought with a shovel until a fire truck came by.

Case #3 – 1993 Old Topanga Fire: homeowner and brother save seven homes after evacuating and re-entering closed area from evacuation zone within fire area. They estimate that at least 16-18 of the homes out of approximately 48 that burned within close proximity to Pacific Coast Highway and the water main did not burn until hours after the fire front had passed. There was good water pressure available in the hydrants along the streets of the burned homes within one hour after the fire front had passed, so these houses could have been saved.

Owner is in construction industry and uses fire hoses for clean-up work. When moving into the Malibu neighborhood the owner bought 400 feet of 1-1/2" fire hose to protect his cul-de-sac neighborhood. He had a fire hydrant in front of his house. He was on his way to a meeting in downtown Los Angeles when he was paged by his wife that a fire was in progress. However, the Sheriff had set up roadblocks and forced everyone off the freeway at 4th Street. Having a four-door red pickup, he was finally able to get behind a caravan of fire trucks going north on PCH. However, at the Charthouse near Topanga Canyon Blvd. every lane was closed and the Sheriff, under tight control, would only let fire trucks pass by. When the Sheriff's attention was diverted, he followed the fire trucks and got to his house about one hour before the fire front hit. His brother, who had gotten in from Point Dume an hour earlier, had hooked up the fire hose and was flooding surrounding houses and landscaping while drinking beer to quell his thirst. The wife, children and cat had evacuated earlier. Initially the owner decided to also evacuate but calmed down and decided to stay and save his house. He closed all windows, especially louvre windows (nevertheless the wind forced flying embers through which burned holes in the couch adjacent to the louvres). He also closed the blinds for protection in case wind blasts would break a window. A 2-1/2" 100' firehose was hooked up to the hydrant in front of the house. It then was reduced to 1-1/2" for another 250 feet for a total length of 350'. Both brothers dragged the hose back and forth, putting water onto the surrounding houses and vegetation as far as they could reach.

As the fire approached (it was only a short distance to Pacific Coast Highway) the brothers backed up the truck to the end of the cul-de-sac, left it running and turned the lights on. It was very dark because of the thick smoke but the

headlights gave them some light. Suddenly the fire seemed to be on top of them and all the trees seemed to ignite at once. They sought refuge between the trucks and shot a wall of water from their fire hose. The fire was leapfrogging and winds picked up at the beach. Suddenly at the height of the fire the water pressure from the fire hoses went down but the garden hoses still had pressure. With not enough water to protect them, both brothers made a run in separate cars through flames of fire to Pacific Coast Highway. A broken gas line was shooting flames across a street. One of the brothers found temporary refuge with a fire truck that was trying to save a home.

There were fire trucks lined up wall to wall on Pacific Coast Highway. Some were hosing down the houses along PCH. As he watched from his vantage point at La Costa Beach Club, houses were catching on fire with the wooden houses going first. Stucco houses seemed to ignite somewhat later. At the height of the firestorm the winds were so strong that the wooden tables at the beach club were bombarded with firebrands and started to burn. He took a garden hose and hosed the tables down. He was sure that his house had burned. Then the fire winds had gone through and instead of laying horizontal the flames were now standing straight up. Fire trucks coming down from his area refused to take him up because the firemen said that the houses were too far gone. The brothers nevertheless went back up about 30 minutes after the firestorm had passed and found that the houses in their cul-de-sac were still standing. They used the wet rags in the trash cans to put out spot fires. They then discovered that the garden hoses still had some pressure, and saved several cars. Then they discovered that the fire hose again had pressure and used it to knock down many of the spot fires. After the brothers were sure that the spot fires that had initially threatened to ignite the neighborhood were temporarily knocked down, they chased back to PCH and begged fire personnel on fire trucks to come and help them. Initially they refused, saying it was too dangerous. At about 7:30 – 8:00 p.m. (1930-2000) fire chiefs in suburban trucks drove around checking the situation and damage. They still could have saved homes. At about 8:30 – 9:00 p.m. (2030 – 2100) when the worst of the fire was over, the brothers finally convinced the firemen and one fire truck came up and the firemen helped the brothers knock down spot fires.

Firemen watched (patrolled) for about an hour (an easy job compared to what the brothers had gone through). Then their firetruck was called away. Suddenly they came back, pulled out the cots and went to sleep about 10:00 to 10:30 p.m. (2200 – 2230). When the brothers told sleeping firemen that some houses were burning while others were not burning yet, the firemen told them that they could not do anything more, that they had been up for 24 to 36 hours and were tired.

It was the brothers' impression that the firemen had very poor communication and were ill prepared to fight this kind of fire. Out-of-town firemen had no maps and did not know the area. The big (City/structural) fire trucks were ill equipped for the area and it seemed to be like a big McFire (McDonald like) Department, everything the same and not geared to local needs of fire fighting in hillside terrain.

Case #4 – 1993 Old Topanga Fire: Off-duty firefighter/homeowner with help of colleagues saves 4 – 5 homes.

The off-duty firefighter does not believe that his stucco house with a Class A asphalt shingle roof could have been saved if unattended, despite the empty lot to the west, because of the many large conifer trees to the east.

At about 11:30 a.m. he drove up to Loma Metisse at Saddle Peak and saw the fire cresting the hill. He went back home, told his wife to gather things and get ready to evacuate. He attached a single 1-1/2" line with 250' of hose to the District 29 hydrant (which soon ran out of water) and a gated Y and two 1-1/2" hose lines to the Las Virgenes hydrant (which had water throughout the fire). His wife left about 1:00 p.m. At about 1:30 p.m. a strike team (5 engines from CDF (California Department of Forestry & Fire) started tying into houses in the area. The fire crested the mountain and spotted into the canyon below. A nearby wooden home near the bottom of the hill with little brush clearance and a wooden deck overlooking steep slopes ignited quickly. The CDF strike team pulled out. Soon thereafter firebrands ignited the hill across from his house as the wind was now coming uphill out of the canyon. He grabbed one of the fire hoses and aimed a fog stream of rain over his house for 3 – 5 minutes because he had good pressure estimated at 70-80 pounds. After about five minutes the house across the street ignited and he then aimed a 'water curtain' along the eaves of his house. Then he saw smoke coming from the pine trees at the back of his house. Fortunately firebrands must have burned a hole into the fire hose laying there because the leak in the hose aimed a good spray of water on the back of the house. At about that time 2:30 – 3:00 p.m. (1430 – 1500) a Captain and two firefighters came and offered their help.

At about this time also, four off-duty fire fighters from his own Fire Department arrived (he had called them up about 12:30 p.m. for help). They came in their suburban and followed behind a strike team that happened to drive

by and thus came past all the road blocks). They came through Las Flores canyon about 2:15 to 2:30 pm. (1415 – 1430) about the time the fire went across Hume Road.

One neighbor's house could not be saved anymore because the wood balcony had taken off (ignited in flames) and became quickly fully engulfed. Rather than wasting any water on this house they saved the adjacent house which was located only about 15 feet away from the burning structure. Fortunately there was a concrete wall between both houses and the men crouched with the fire hose behind the wall and put a stream of water on the exposed house for about 20 minutes. The adjacent house with the wooden balcony burned down quickly, apparently because it was full of hazardous materials such as paint thinner, motor oil, acetylene tanks. They also saved other nearby houses.

After midnight the fire fighter drove to Fire Camp 8 on top of Rambla Pacifico to get help. He woke up the camp supervisor (the crews were asleep) and asked for help, telling him that he saved four homes in the neighborhood. He further told him that there was no water, no manpower and houses were still burning. The strike team leader then sent one engine down which stood there for fifteen minutes and then the firemen said they were out of water. No night patrol to save homes was done in the area. The off-duty firefighter stated that he never allowed himself or his men the luxury of going to sleep on a wildland fire at night if houses were endangered.

Homeowners have stated in many interviews that during the 1993 Old Topanga Fire police helicopters flew ahead of the fire warning people to evacuate or be arrested. This may be one of the reasons why so many of the areas were deserted by homeowners and why so many homes were unattended and destroyed.

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