

## **Part 2: Fallen firefighter's friend champions pitched roof alert system**

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-- It has been a long year for Troy Hess as he copes with the death of his friend Matt Burton, who perished while attempting to rescue residents from a burning home.

Hess spends hours tucked away in his backyard shed, a hot, cramped room with a desk, computer, phone and workout set.

In the year since the Contra Costa Fire Protection District captain's death, Hess has campaigned to ensure such an incident never happens again.

When he learned that a roof addition contributed to the July 21, 2007, fire that killed Burton, fire Engineer Scott Desmond, and two residents at 149 Michele Drive in unincorporated San Pablo, he found his mission. "If I hit a stumbling block, I turn around and look at that," Hess said, pointing to a photo of Burton holding his young son with the words, "Never Quit" scrawled across the top in ballpoint pen.

The 6-foot-6, 270-pound Concord man hasn't quit.

"If I don't get what I want, I just go through things," Hess said, with a smile.

Hess has achieved his first goal. As of Jan. 1, when unincorporated Contra Costa homeowners file for permits to add pitched roof additions over their flat roofs, the county building department will alert the fire district. If firefighters respond to a call at that structure, dispatchers will pass along the roofing information. That advanced knowledge can save lives.

When battling a blaze, firefighters need to cut holes in the roof to release heat and combustible gases,

essentially calming the fire.

"When you're in a fire, you know as soon as a hole is cut because you can see things change," Hess said.

Firefighters unaware of the double-roof may not realize that their hole will not release the heat and gases trapped under the original one.

That's when the dangerous flashover can occur, a phenomenon in which superheated material in an enclosed space suddenly erupts in flames. That was what killed Burton.

Firefighters need as much information as possible to prepare firefighting strategies, said Contra Costa Fire Assistant Chief Rich Grace, who led an investigation into the Michele Drive tragedy. "It gives them the understanding of the possible fire dynamics they're facing."

Many of the 1950s-era homes in the Montalvin Manor neighborhood, referred to as Eichler homes, have flat, tar-and-gravel roofs. The ceiling interiors are often highly combustible wood veneer and the tongue-and-groove planking is difficult to penetrate.

Many homeowners have added pitched roofs above the flat ones, instead of tearing out the original. Leaving the flat roof in place is legal and cheaper.

The Michele Drive residents added their pitched roof in 1991, according to the fire district's incident report.

On July 21, 2007, when firefighters arrived at the burning house, it was too dark to see that the structure had two roofs, the investigators wrote.

Burton's last words after he went into the burning home were a radio request for rooftop ventilation, according to the report.

Had Burton known of the double-roof, he might have asked for horizontal ventilation. Horizontal ventilation entails breaking out windows, doors and creating openings along the sides of the house. Although not the preferred method, it's the best alternative for a double-roofed residence, Grace said.

In the end, investigating firefighters determined Burton and Desmond most likely died in a flashover before firefighters had even climbed onto the roof. But once there, they cut through the outer roof only.

"The ventilation crew was unsuccessful in the effort to breach the flat roof," the investigators wrote.

Hess said Burton would not have hesitated going into the burning building, knowing that two residents were most likely inside.

"I know Matt ... he would've gone in to save someone no matter what. He was very, very smart and very brave," Hess said, eyes watering.

The pair met in 1991 when they ran a supply warehouse as reserve firefighters at a Concord station. The friends fought wildland fires together and both became firefighter-paramedics. Hess went on to serve in a neighboring Bay Area fire department, and Burton quickly rose to captain with Contra Costa fire.

Hess, a UC Davis first baseman in the early 1990s, played professional baseball before following his father into a firefighting career. He has entered his share of burning homes. In 2003, he earned his department's top honor for rescuing a mentally challenged man from a fire.

"I just don't want to see anyone get hurt or, God forbid, die," Hess said. "The job is already dangerous. If we can find things along the way to make it easier to survive, I'm all for that."

With the help of Supervisor John Gioia's office, whose district includes Montalvin Manor, the roof alerts began.

"It would be useful to have them expand to other cities," Gioia said. The county building department only works with unincorporated areas, so all Contra Costa cities would have to change their building inspection systems for the fire district to be fully informed.

Hess hopes to expand the program throughout the Bay Area and country, creating a toll-free number for residents to alert fire departments of roof additions or other important characteristics, such as window bars or disabled occupants.

"Unfortunately," Hess said, "it's taken two people dying to draw attention to it."

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Have A Pitched roof addition?

If you have a pitched roof addition over a flat roof, or believe you may have one, you can alert the Contra Costa building department at 925-646-4108 and the Contra Costa Fire Protection District at 510-374-7070.