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**GCA of Hawaii**

GENERAL CONTRACTORS ASSOCIATION OF HAWAII

Quality People. Quality Projects.

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March 14, 2012

**TO:** HONORABLE REPRESENTATIVES RIDA CABANILLA, CHAIR, KEN ITO,  
VICE CHAIR AND MEMBERS OF THE HOUSE COMMITTEE ON  
HOUSING

**SUBJECT: SUPPORT OF S.B. 2397, SD1, RELATING TO FIRE SPRINKLERS.**  
Prohibits counties from requiring installation or retrofitting of automatic fire  
sprinklers in new or existing one- or two-family dwelling units used only for  
residential purposes. Effective 1/1/2025. (SD1)

HEARING

**DATE:** Wednesday, March 14, 2012  
**TIME:** 10:00 a.m.  
**PLACE:** Conference Room 325

**LATE TESTIMONY**

Dear Chair Cabanilla, Vice Chair Ito and Members of the Committee:

The General Contractors Association (GCA) is an organization comprised of over six hundred (600) general contractors, subcontractors, and construction related firms. The GCA was established in 1932 and is celebrating its 80<sup>th</sup> anniversary this year; GCA remains the largest construction association in the State of Hawaii whose mission is to represent its members in all matters related to the construction industry, while improving the quality of construction and protecting the public interest. **GCA supports S.B. 2397, SD1, Relating to Fire Sprinklers.**

S.B. 2397, SD1 amends Chapter 46 of the Hawaii Revised Statutes by adding a new section that would prohibit any county from mandating the installation or retrofit of automatic fire sprinklers or such a system in any new or existing detached one-or two-family residential dwelling unit.

GCA understands the necessity of protection and safety in homes. However, GCA is opposed to mandates that would present a significant cost burden to homebuilders and homeowners alike. Instead, GCA encourages incentives that would encourage homebuilders and homeowners to install fire safety measures that would reduce the likelihood of fire hazards. This bill addresses such mandates being considered in building codes.

GCA is opposed to the mandated installation of automatic sprinklers in residential homes for the following reasons: (1) cost burden to homeowners is significant; (2) new homes are built safer; (3) newer technologies to address fire hazards may be available in near future, negating installation of fire sprinklers; and (4) incentives are encouraged, rather than mandates. Further, no data exists that suggests that the installation or retrofitting of automatic sprinklers will significantly improve the fire safety of homes.

GCA is in support of S.B. 2397, SD1 and would respectfully request that this Committee pass this measure.

Thank you for the opportunity to testify.

# UNIVERSAL CONSTRUCTION, INC.

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March 13, 2012

Representative Cabanilla, Chair  
House Committee on Housing  
State Capitol, Room 325  
Honolulu, Hawaii 96813

## LATE TESTIMONY

**Re: SB 2397 SD1, "Relating to Fire Sprinklers"**

Chair Cabanilla, Vice Chair Ito and Members of the Committee:

We are Dean Asahina, President and Gene Asahina, Secretary/Treasurer of Universal Construction, Inc. I, Dean Asahina, am also the current President of the Building Industry Association of Hawaii. We are members of both BIA-Hawaii and the General Contractors Association of Hawaii.

We are **strongly support** SB 2397, SD1, "Relating to Fire Sprinklers" which as written, prohibits counties from requiring installation or retrofitting of automatic fire sprinklers in new or existing one- or two- family dwelling units used only for residential purposes.

We also support a BIA proposed amendment to SB 2397, SD1 that will read: "No code adopted by a county may include a requirement that fire sprinklers be installed in a new single family dwelling or a residential building that contains no more than two dwelling units, except for new homes that require a variance from access road or fire fighting water supply requirements." This language will not prevent the Fire Departments from requiring fire sprinklers in new homes that do not meet access road or fire fighting water supply requirements (hydrants)

The home building industry is committed to the safety of the communities in which they build, but BIA Hawaii opposes mandating fire sprinklers in new one- and two-family homes because: 1) new homes are built with better fire safety measures and all fire safety measures that are required are proven to save lives; 2) fire sprinklers are not cost-effective; 3) targeted fire safety education programs work; 4) fire sprinklers have not been proven to enhance the safety of occupants; and 5) if a homeowner wants to install a fire sprinkler, that option should be theirs.

### **New Homes are Built Better and Safer:**

There have been significant improvements to the fire safety of homes over the past few decades leading to a dramatic and continued decrease in fire incidents, injury, death, and property loss. There is no data to suggest that sprinklers will significantly improve this decline.

Continued.

Several examples of fire safety improvements in residential construction that have led to these reductions in fire incident, injury and death include:

- Interconnected, hardwired smoke alarm systems.
- Carbon monoxide detectors.
- Improved electrical systems.
- Improved framing and fire blocking techniques, and
- Improved fire ratings on interior furnishings and building materials.

Furthermore, the majority of residential fires that occur today are in older homes that generally do not have many of the improved fire safety features required in today's construction. Based on BIA Hawaii research, residential fires on Oahu since 2005, all involved older homes. Most were built prior to 1970, and as far back as 1912. Sprinkler proponents argue that, "new homes become old". However, that argument lacks substance because it does not acknowledge that the fire safety features required in today's construction are permanent, as is the protection they provide.

**Fire sprinklers are not cost-effective.**

Costs for residential fire sprinklers can vary, but proponents have only presented cost estimates based on mainland and the County of Maui figures, about \$7,000 to \$9,000. As we have seen recently in Kailua, homeowners were quoted upwards of \$16,000 for a sprinkler system, and it was unclear whether that cost included connecting the system to the City's water source and/or a separate meter would be required. Depending on where the new home will be built, issues such as adequacy of water pressure, whether trenching is necessary, etc. all add to the cost of the system. Proponents will argue that improved technology will lower the cost of sprinklers. However, it is still a significant expense, especially since the total cost of the system is unclear and does not include maintenance costs.

**Fire education programs work.**

BIA-Hawaii supports fire safety education programs for consumers as one of the most effective and reasonable means to preventing residential fires and reducing death, injury, and property loss, as well as cost-effective residential fire protection technologies that are required by current codes. Education is key in deterring human behavior that may start residential fires, such as leaving a stove unattended or smoking in bed.

Other fire prevention efforts, such as targeted fire safety/prevention education programs, have been successful. Programs of this nature should be considered first, since they will ultimately prevent more fires and property loss and, more importantly, injury and death. For example, South Carolina successfully implemented a fire safety program entitled "Get Alarmed South Carolina". As a result, their fire death rate dropped 41% from 1996 to 1998. The program included a smoke alarm distribution component. Fire prevention education programs work, especially for those homes and home environments at greatest risk.

Continued.

**Fire sprinklers have not been proven to enhance the safety of occupants:**

Sprinkler mandates apply only to those homes at least risk. Furthermore, based on National Fire Protection Data, the risk of death in a home with sprinklers is still close to 30%, property loss is still substantial and would still be far less overall than the overall cost of sprinklers under mandatory requirements.

**Homeowners should decide.**

Fire sprinkler proponents say that if a developer were building new homes with sprinklers, the costs would be less since it would be spread out to more people. However, it is the homeowner who will bear the cost and not the government, who is responsible for the public's health and safety. Homeowners would be able to decide whether a sprinkler system is what they want. Proponents also discuss a possible tax credit as an incentive to install fire sprinklers. However, if sprinklers are mandated, tax credits as incentives don't work.

**Additional important information.**

I-Codes: Residential fire sprinklers will be required in the 2009 International Building Code (IBC) and International Residential Code (IRC), which the SBCC will discuss this year. However, these I-Codes are only model codes and not the minimum standard requirements. It becomes the minimum standard when the State adopts their code. Fire sprinklers goes far beyond the minimum requirement for public health and safety, particularly since fire safety measures are already required in the codes. These existing and new fire safety requirements cost far less than fire sprinklers and are proven to save more lives.

Legislation: Hawaii would not be the first state to do what SB 2397 SD1 proposes to do. To date, at least 35 states across the nation have either amended the mandate out at the state level, or have passed legislation requiring that no model code be adopted by a municipality mandating residential sprinklers.

Decreased fire deaths: According to the Centers for Disease Control and prevention (CDC), there were 377,000 home fires in the United States in 2009, which killed 2,565 people and injured another 13,050, not including firefighters. In 2009 there were 305,000,000 people living in the United States. The CDC goes on to say that the number of fatalities and injuries caused by residential fires has declined gradually over the past several decades and many residential fire-related deaths remain preventable through education.

Fire Sprinkler Investigative Committee: Finally, Fire sprinkler proponents argue that this requirement is not yet required in any code, so this bill is premature. However, the State Building Code Council (SBCC) has formed an investigative committee that is preparing a report pursuant to H.R. 47 HD1 (2011), which requested that the SBCC adopt the requirement that automatic fire sprinklers be installed in new one- and two-family residences. That report is due to the Legislature in 2015, but it will be biased in favor of residential fire sprinklers because that is what the committee is tasked to do.

Continued.

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SB 2397 SD1 is required because discussions at the SBCC on the upcoming 2009 IRC, which includes the sprinkler requirement, will likely begin in mid-2012 and the requirement can be adopted before the committee report is due. If it is adopted, then State DHHL housing projects, the Administration's plan for affordable housing and Hawaii's economic recovery will be negatively impacted.

We, therefore **strongly support** SB 2397 SD1, with the BIA proposed amendment.

Thank you for the opportunity to testify on this matter.

Very truly yours,

**UNIVERSAL CONSTRUCTION, INC.**



Dean I. Asahina  
President



Gene T. Asahina, AIA  
Secretary/Treasurer

DA/gta

# FPE Corner

Samuel S. Dannaway, PE,  
President, S.S. Dannaway Associates, Inc., Honolulu

## LATE TESTIMONY



### A difficult decision

In a previous article it was noted that starting with the 2009 International Residential Code (IRC) all residential occupancies, including one- and two-family dwellings, must be provided with sprinkler protection. The adoption of a sprinkler requirement by the 2009 IRC and the apparent confirmation of that requirement in the 2012 edition sealed the deal. Now all U.S. model building codes, including NFPA 5000, Building Construction and Safety Code and NFPA 101, The Life Safety Code, are consistent in their requirement for complete sprinkler protection for all new residential occupancies. (NFPA 101 does have provisions that do not require sprinkler protection for certain existing residential occupancies.)

Now many jurisdictions across the country considering updating their building codes are faced with a very tough decision: Do they adopt the code with the requirements for sprinkler systems for one- and two-family homes or do they amend the building code to eliminate the requirement for sprinklers for these occupancies? Either choice has significant ramifications.

Imagine a city building official trying to make this decision in the midst of the current state of the U.S. housing market. Many would agree that adding a requirement for sprinklers is an additional burden that the private sector simply should not be subjected to at this time. This city official can expect a heavy lobbying effort, with opponents to the requirement providing all the reasons why sprinklers should not be required. The proponents, usually led by the fire chief, will be in there battling also.

The increased cost and the impact on a struggling housing industry are obvious arguments put forth against a home sprinkler mandate. However, there is a potential legal minefield for government entities to consider.

The problem for the building official is that he or she will be responsible for this decision, even if it is made with the help of a committee and even if approved by the mayor and city council. For most jurisdictions, it will be the first time they will be confronted with this type of decision. Until recently, the model codes did not uniformly require providing home sprinklers. This gave the building official some cover. Under previous codes in Honolulu, for example, builders were allowed the choice of complying with the 2003 IBC or the 2003 IRC. By choosing the IRC one could avoid the sprinkler requirement altogether.

I understand that many jurisdictions have code amendments that allow conditions that are less restrictive than the model code. The big difference is that these less restrictive provisions have the advantage of legacy. As time-tested amendments, there is less concern about allowing a lower level of safety. The residential sprinkler requirement, however, is a significant new and stricter public safety requirement. Also, in my opinion, by nature

of being codified in all the model codes, sprinkler protection for one- and two-family homes represents the current Standard of Care for the industry.

The building official should consider the following hypothetical:

The building department opts to amend the 2009 I-codes to eliminate the requirement for sprinklers in one- and two-family homes. A few years later there is a fire fatality in an unsprinklered home constructed in accordance with the building code.

What are the chances that with the help of an akamai (that's smart in the local Hawaii vernacular) attorney a

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The increased cost and the impact on a struggling housing industry are obvious arguments put forth against a home sprinkler mandate. However, there is a potential legal minefield for government entities to consider.

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family brings a lawsuit both against the jurisdiction and personally against the building official? One hopes, for the building official's sake, that the political climate is one where the mayor does not leave him holding the bag.

Fact or fiction? I believe that time will make this hypothetical fiction a fact. Does the building official want to be the first one forced to go to court to defend the code when the fire was in an unsprinklered home constructed subject to an amended 2009 IRC/IBC?

It is important that those promoting the implementation of the code requirement to sprinkler homes be aware of the impact that such a measure can cause and begin to look at addressing those concerns proactively.

First and most obvious is the impact of the additional cost of providing sprinkler protection. One way to address this issue is to provide tradeoffs in building and zoning codes that will help to offset the cost. For large subdivisions involving many dwelling units, substantial tradeoffs could be implemented to help balance the cost impact. Typical examples from the Home Fire Sprinkler Coalition website, [www.homefiresprinkler.org/index.html](http://www.homefiresprinkler.org/index.html), are described as follows:

- Increased distances for fire department turnarounds;
- Decreased property line and lot line set backs;
- Increased fire hydrant spacing;
- Reduced fire flow requirements;
- Minimum street width reductions;
- Longer dead-ends;
- Narrower traffic lanes (substantially reducing the amount of pavement);
- Tee-type turnarounds are permitted, rather than large

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# FPE Corner

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cul-de-sac turnarounds;

- Increased street grades;
- Increased densities; and
- Longer fire department response times (fewer fire stations).

As noted in previous articles, the sprinkler installation standard that applies to residential sprinklers for one- and two-family dwellings is NFPA 13D, Standard for Installation of Sprinklers in One and Two-Family Dwellings and Manufactured Housing. NFPA 13D systems that use the municipal water system for their supply typically share a connection to the municipal system with the domestic water service. In many cases, the standard size water meter provided will have to increase to ¾- or 1-inch in order to accommodate the flows required for the sprinklers. It would be beneficial if sprinkler protected homes did not have to pay an additional premium for the increased water meter size to the Board of Water Supply or Water Department. In Honolulu, for example, it cost me almost \$2,000 to upgrade the size of my meter.

The authorities responsible also would be wise to take steps to ensure that contractors installing 13D sprinkler systems are properly licensed and qualified to do so. Requirements pertaining to licensing of contractors performing this work must be in place to address this situation. The demand for 13D contractors that the requirement


will generate will likely create a lack of qualified contractors and the problems resulting from unqualified installations. Without proper regulation, we can expect solar water heater contractors to offer sprinkler system installs with their package (OK as long as they are qualified).

Additionally, homeowners will need to be educated on the care and maintenance of their sprinkler systems. No longer will Johnny and Suzy be allowed to play football in the house.

Regardless of the choice, all involved parties need to approach the decision with eyes completely open. Eventually, the opposition to sprinklers will fade and sprinklered homes will become commonplace. Until then, the building official has a tough decision.


*Samuel S. Dannaway, PE, is a registered fire protection engineer and mechanical engineer with bachelor's and master's degrees from the University of Maryland Department of Fire Protection Engineering. He is past president and a Fellow of the Society of Fire Protection Engineers. He is president of S. S. Dannaway Associates, Inc., a 15-person fire protection engineering firm with offices in Honolulu and Guam. He can be reached via email at [SDannaway@ssdafire.com](mailto:SDannaway@ssdafire.com).*


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## Product tester #473

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