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LATE

March 13, 2017

The Honorable Tom Brower, Chair
Committee on Housing
House of Representatives
State Capitol, Room 315
Honolulu, Hawaii 96813

Dear Chair Brower:

Subject: Senate Bill (SB) 611, Senate Draft (SD) 1 Relating to Fire Sprinklers

I am Manuel P. Neves, Chair of the Hawaii State Fire Council (SFC) and Fire Chief of the Honolulu Fire Department (HFD). The SFC and the HFD strongly oppose SB 611, SD 1, which proposes to permanently prevent the counties in the State of Hawaii (State) from mandating automatic fire sprinklers in new or existing one- and two-family dwellings.

National model building codes and standards provide a development process that offer an international forum for construction professionals to discuss prescriptive code requirements that safeguard public health and safety in all communities. This forum provides an excellent arena to debate proposed code revisions encompassing the use of new materials and building designs. Building codes evolve as lessons are learned from incidents that caused tragic loss of life primarily from fire.

The Hawaii State Building Code Council (SBCC), which is comprised of 11 representatives from the building industry, design professionals, and code officials, is statutorily authorized to review, amend, and adopt the national codes, which are updated and published every three years for the State (Hawaii Revised Statutes 107-21-31). Four representatives from each county's building department must unanimously agree to any national building code requirement or amendment in order to proceed in the State adoption process. The Building Industry Association of Hawaii (BIA) and the General Contractors Association of Hawaii alternate every four years as a voting member of the SBCC. After a thorough and extensive administrative rule

process that includes public and private sector input, each of the seven major building codes are separately enacted into law. Once adopted, each of the State building codes are transmitted to each county where they are further reviewed, amended, and adopted as ordinances. Any State building code requirement may be amended at the county level. This process ensures that codes are adopted in the best interests of the State and counties. To date, there is no mandate to require residential sprinklers at the State or county level.

The first edition of the International Residential Code (IRC) (2000) was the culmination of an effort of representatives from three different regional code organizations and included representatives from the National Association Home Builders (NAHB), the parent organization of the BIA. The IRC has had a residential sprinkler provision for one- and two-family dwellings in every edition since 2009. The current technical committee that reviews proposed revisions to the next edition of the IRC is comprised of five building officials, one architect, one structural engineer, one fire official, and four representatives from the NAHB. The NAHB is the parent organization of the BIA.

The SBCC is currently researching the use of a 5/8" water meter for residential sprinkler systems. This is the standard size meter in each county, except Honolulu, which uses a 3/4" meter. According to the IRC Fire Sprinkler Coalition Fact Sheet, a typical 5/8" meter's operating range is up to 20 gallons per minute (gpm). The lowest flowing residential sprinkler head is 8 gpm and, with the operational requirement for two sprinklers heads, the flow would be 16 gpm and adequately supplied by the 5/8" meter. The sprinkler system supplied with a 5/8" meter would need more sprinkler heads based on the 12' x 12' coverage. A 3/4" meter's operating range is up to 30 gpm. With two sprinklers at 13 gpm and a 16' x 16' spacing, the 3/4" meter would adequately supply the 26 gpm needed. Increased friction loss due to the distance of the piping run or elevation can be overcome by increasing the piping size from the meter into the house. This is an inexpensive way to improve pressure and flow for plumbing, including fire sprinklers without a larger meter. We offer this information, as the impetus for future approvals on the use of the 5/8" meter on the neighbor islands could significantly lower the costs for residential sprinkler installations.

According to the National Fire Protection Association's (NFPA) article entitled "Home Structure Fires," 71% of reported home structure fires and 84% of home fire deaths occurred in one- and two-family homes. The remainder occurred in apartments or other multifamily housing. Working smoke alarm reliability ranges from 50%-78%, depending on the study, and may alert occupants in time for escape, but does not suppress a fire (Fire Sprinkler Initiative's "Myths vs Facts). In an October 2014 report, "The Case for Fire Sprinklers in One- and Two-Family Dwellings," fire sprinklers reduce civilian fire

deaths by 83%, and working smoke alarms decrease the risk of dying in a home by 50%. There is no equivalent alternative as effective in stopping fires as an automatic fire sprinkler system. Although modern homes have building safety provisions that are required by building codes, they are also constructed of light-weight structural components that are susceptible to collapse within a short time from exposure to fire. A report in 2008 by Underwriters Laboratories entitled "Structural Stability of Engineered Lumber in Fire Conditions" studied the building materials used in today's modern homes. Structural components were exposed to the point of collapse where it was demonstrated that unprotected lightweight construction failed in six minutes compared to dimensional cut lumber which failed in approximately 19 minutes. Although gypsum wallboard can extend the time that floor joists will not collapse in a fire, unprotected joists are found under balconies, on the exterior, and in covered recreation or laundry areas below the second floor. Added modern, synthetic furnishings also contribute to rapid fire acceleration and spread that result in reduced escape times for occupants (<http://newscience.ul.com/articles/modern-residential-fires>).

The age of a home is a poor predictor of fire death rates. According to the City and County of Honolulu's Department of Planning and Permitting, there were 144,837 permits issued for one- and two-family dwellings from 1960 to 1979 or 48% of the total from 1940 to 2009. The Honolulu Fire Department saw a total of 806 fires in one- and two-family homes and townhomes from 1940 to 2009. From 1960 to 1979, 404 fires occurred in one- and two-family homes and townhomes or 51%. The greater number of fires in older homes is because there is a greater number of homes built and occupied throughout Honolulu.

There is little to no maintenance for a residential sprinkler system. A separate domestic and sprinkler system is maintained by a visual pressure gauge check and an annual flow test, which can be accomplished by connecting a garden hose and opening a flow valve. There is no requirement for a sprinkler activation alarm or a tie-in to an alarm-monitoring company for a residential system. A combined sprinkler/domestic system will not need a flow test since both systems operate together.

An NFPA study in June 2009 entitled "Comparative Analysis of Housing Cost and Supply Impacts of Sprinkler Ordinances at the Community Level" did not reveal that the enactment of sprinkler ordinances caused any detrimental effects on housing supply and costs. In the late 1980s, residential sprinkler ordinances were enacted in Prince George's and Montgomery Counties. There were no corresponding reductions in the number of single-family homes built in either county relative to their neighboring counties in Maryland and Virginia. The Fire Protection Research Foundation report in

2013 on "Home Fire Sprinkler Cost" found that many cities across the nation had a significant housing growth over the course of the study.

In February 2016, the Department of Hawaiian Home Lands (DHHL) received a cost proposal from a developer for a project to build 20 turnkey single-family homes in a 45-lot subdivision in Waimanalo, Oahu:

Model	Bedrooms	Baths	Stories	Net Living Area	House Price	Sprinkler System Price	Price per s.f.	% Sprinkler Price/House
A	2	1	1	759 s.f.	\$211,039	\$7,741	\$10.20	3.6%
B	2	2	1	952 s.f.	\$251,022	\$9,200	\$9.70	3.6%
C	3	2	2	1,132 s.f.	\$281,385	\$9,639	\$8.50	3.4%
D	4	3	2	1,496 s.f.	\$320,815	\$12,120	\$8.10	3.7%

The sprinkler system cost ranged from approximately \$8-\$10 per square foot and included costs for the design, meter, permit, installation, and profit margin. This revealed a very low percentage compared to the total price of the home. We suggest that the high-cost of housing are related more to supply and demand and the rising prices for land, labor, and building materials.

In February 2017, the SFC received from the DHHL two cost proposals for Kauluokahai, Increment IIB that involved 100 turnkey houses at a development project in Kapolei, Oahu. There is no upgrading for water meters since the City and County of Honolulu provide a ¾" meter that meets the requirements for a residential fire sprinkler system. The final price below includes design, permit, installation, and profit margin. We offer these three proposals as verifiable evidence of a current, accurate cost estimate for a residential sprinkler system for housing projects on Oahu.

Developer 1

Model	Bedrooms	Bathrooms	# of Stories	Net Living Area	House Price	Sprinkler System Price	Price per s.f.	% Sprinkler Price/House
A	2	1	1	780 s.f.	\$239,169	\$12,844	\$16.47	5.4%
B	2	2	1	996 s.f.	\$282,188	\$14,512	\$14.57	5.1%
C	3	2	2	1,238 s.f.	\$319,041	\$15,290	\$12.35	4.8%
D	4	3	2	1,496 s.f.	\$320,815	\$16,568	\$11.07	5.2%
E	5	3	2	1,760 s.f.	\$396,016	\$18,622	\$10.58	4.7%

Developer 2

Model	Bedrooms	Bathrooms	# of Stories	Net Living Area	House Price	Sprinkler System Price	Price per s.f.	% Sprinkler Price/House
A	2	1	1	770 s.f.	\$210,000	\$6,100	\$7.92	2.9%
B	2	2	1	1,008 s.f.	\$247,000	\$6,800	\$6.75	2.8%
C	3	2	1	1,233 s.f.	\$273,000	\$8,700	\$7.06	3.2%
D	4	3	2	1,654 s.f.	\$311,000	\$10,000	\$6.05	3.2%
E	5	3	2	1,707 s.f.	\$323,000	\$10,500	\$6.15	3.3%

Life, safety, property conservation, and environmental protection are priorities for the SFC and the HFD. Allowing the passage of this bill to restrict the installation of an automatic fire sprinkler in new one- and two-family homes increases the risk to the public, property, environment, and fire fighters. This bill prevents the four counties from incorporating safe building codes particular to their counties.

We offer for your committee's consideration an extension to the sunset, not to exceed five years, during which sprinkler systems and materials will result in technological improvements. We also suggest that new residential care homes that house five or less unrelated persons of varying physical and mental capabilities be required to be sprinklered. This business, which is classified as a one- or two-family dwelling, presents a higher fire risk to its occupants. We further recommend a provision that would require contractors to include a residential sprinkler cost estimate for a prospective homeowner in order to provide a real choice to include such a system.

The SFC and the HFD strongly urge your committee to defer the passage of SB 611, SD 1.

Should you have questions, please contact SFC Administrator Socrates Bratakos at 723-7105 or sbratakos@honolulu.gov.

Sincerely,



MANUEL P. NEVES
Chair

MPN/LR:clc

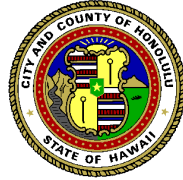
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MANAGING DIRECTOR

GEORGETTE T. DEEMER
DEPUTY MANAGING DIRECTOR



**CITY AND COUNTY OF HONOLULU
BEFORE THE HOUSE COMMITTEE ON HOUSING**

TUESDAY, MARCH 14, 2017; 10:00 AM

**TO: THE HONORABLE TOM BROWER, CHAIR
THE HONORABLE NADINE K. NAKAMURA, VICE CHAIR
AND MEMBERS OF THE COMMITTEE ON HOUSING**

**FROM: ROY K. AMEMIYA, JR., MANAGING DIRECTOR
CITY AND COUNTY OF HONOLULU**

SUBJECT: SUPPORT OF SB611 SD1 RELATING TO FIRE SPRINKLERS

The City and County of Honolulu (City) supports SB611 SD1, which makes permanent Act 83, Session Laws of Hawaii 2012. Act 83 temporarily prohibited the counties from requiring fire sprinklers in specific family dwelling units and agricultural and aquacultural buildings, but allows the counties to require fire sprinklers in new homes that require a variance from access road or firefighting water supply requirements.

The City supports making the installation of automatic fire sprinklers optional. The City is concerned about the dramatic increase in housing prices, especially for first-time homebuyers and families. Requiring the installation of automatic fire sprinklers in homes and required upgrades to new water meters would add costs to the already high cost of housing in Hawaii.

Thank you for your consideration of this testimony in support of SB611 SD1.

Harry Kim
Mayor



Wil Okabe
Managing Director

Barbara J. Kossow
Deputy Managing Director

County of Hawai'i
Office of the Mayor

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LATE

Dear Chair Brower and members:



Thank you for this opportunity to comment on SB 611 SD1.


As we all know, the cost of housing in Hawaii is already so high that too many of our citizens are priced out of the market. Whether it is a question of creating housing stock for ownership or rental, we need to find ways to make it less expensive to build, rather than more expensive. For that reason, Hawaii County would not consider requiring sprinklers in residential dwellings, or agricultural or aquacultural buildings.

Respectfully submitted,

Wil Okabe
Managing Director
County of Hawaii



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March 14, 2017

The Honorable Tom Brower, Chair

House Committee on Housing
State Capitol, Room 423
Honolulu, Hawaii 96813

RE: S.B. 611, S.D.1, Relating to Fire Sprinklers

HEARING: Tuesday, February 28, 2017, at 10:30 a.m.

Aloha Chair Brower, Vice Chair Nakamura, and Members of the Committee.

I am Myoung Oh, Director of Government Affairs, testifying on behalf of the Hawai'i Association of REALTORS® ("HAR"), the voice of real estate in Hawai'i, and its 9,200 members. HAR **supports** S.B. 611 which repeals the June 30, 2017, expiration date of Act 83, Session Laws of Hawaii 2012, which prohibits counties from requiring installation or retrofitting of automatic fire sprinklers in (1) new or existing detached one- or two-family dwelling units used only for residential purposes; and (2) non-residential agricultural and aquacultural structures located outside an urban area.

Building codes are important, as it has a broad community impact relating to health and safety for Hawaii's residents. When the financial cost of a more stringent building code outweighs the actual safety accomplished, HAR believes that a careful and detailed review be taken on these building code measures. For example, mandatory fire sprinklers, although well-intentioned, increase the baseline construction cost which has trickle down effects to home buyers and renters.

In multi-family dwellings and condominiums, there are usually on-staff professionals who are trained to maintain fire sprinkler systems. However, in a single-family home this is not the case. The average homeowner does not have the skills to be responsible for the ongoing maintenance necessary to keep a fire sprinkler system in operational condition. It would be difficult to create a regulation that increases the base cost of construction and then potentially creating an industry of inspectors/maintenance professionals for maintaining these private sprinkler systems.

In theory, building codes could adversely affect housing production and could increase housing costs through both substantive (technical) and administrative impediments. However, we would defer specific comments to qualified builders, architects and insurance professionals.

Mahalo for the opportunity to testify in support of this measure.





March 14, 2017

House Committee on Housing
Hawaii State Capitol
415 South Beretania Street, Conference Room 423
Honolulu, Hawaii 96813

Chair Brower, Vice-Chair Nakamura, and members of the committee:

Subject: **SB 611 SD1 – Relating to Fire Sprinklers**

My name is Dean Uchida, President Elect of the Building Industry Association of Hawaii (BIA-Hawaii). Chartered in 1955, the Building Industry Association of Hawaii is a professional trade organization affiliated with the National Association of Home Builders, representing the building industry and its associates. BIA-Hawaii takes a leadership role in unifying and promoting the interests of the industry to enhance the quality of life for the people of Hawaii.

BIA-Hawaii is in strong support of S.B. 611 SD1, which repeals the June 30, 2017, expiration date of Act 83, SLH 2012, which prohibits counties from requiring installation or retrofitting of automatic fire sprinklers in (1) new or existing detached one- or two-family dwelling units used only for residential purposes; and (2) non-residential agricultural and aqua-cultural structures located outside an urban area

S.B. 611 SD1, is a bill about housing affordability. As we are all aware of, we are in a “Housing Crisis” in Hawaii. Mandating the installation of automatic fire sprinkler systems in all new one and two family dwellings **WILL NOT** keep new homes affordable for Hawaii’s families. BIA-Hawaii is not against fire sprinklers, just the mandating of them.

BIA-Hawaii is speaking out for the future home buyers in the State, who unfortunately, do not have an organized voice to raise concerns about increases to the price of housing in Hawaii. Any type of mandate to install fire sprinklers will increase the cost of housing in Hawaii.

In 2016, the National Association of Home Builders (NAHB) prepared a state by state analysis of the number of home buyers impacted for every \$1,000 increases in price. In 2016, **548 households** in Hawaii were priced out of the market by a \$1,000 increase in price.

Our concern is that Hawaii needs to “build” its way out of our current housing crisis by increasing the supply of housing at all price points. A healthy housing market allows people to purchase housing at price ranges they can afford and as their income improves, provides them with the opportunity to “move up” the housing ladder.

The Building Industry Association of Hawaii and the Chamber of Commerce of Hawaii convened the first **“Houseless in Honolulu”** in November of 2015 to raise awareness of one of Hawaii’s most pressing issues - home affordability. Then again in November of 2016 we convened our

second event, **“Still Houseless in Honolulu.”** Teachers, doctors, health care professional, and college professors are unable to afford a home in Hawaii. If we are unable to attract and retain the “best and brightest” to educate our youth or take care of our elderly, what does that do for us as a community? The bottom line is we need to build our way out of this crisis by increasing the supply of housing at all price points. With the median home price in the Islands now \$730,000, the repercussions are having a major impact on Honolulu’s economy.

Without a solution to the State’s shortage of residences, the number will soon surpass a million dollars. Every uptick in prices has increasing economic impact. Housing at all price points is desperately needed if we are to maintain the State’s economic equilibrium. If potential employees cannot find affordable homes they will choose not to move to Hawaii and current residents affected by stratospheric home prices will leave. Employers across all spectrum of enterprises are already feeling the pinch. Mid-level employees are especially hard hit. Educators, medical professionals, and small businesses are especially hard hit.

Mandating the installation of fire sprinklers will just add to the cost of housing and make it more unaffordable to Hawaii’s residents.

We understand that others have suggested that technology is advancing so the prohibition on the counties should not be permanent. We firmly believe that a state-wide prohibition is in order to keep housing affordable. The proposed bill does not preclude individual counties from requesting an exemption from the prohibition should other, more cost effective solutions become available in the future.

We strongly support S.B. 611, S.D. 1, to keep residential sprinklers optional. Thank you for the opportunity to express our views on this matter.

Mahalo,



Dean Uchida
Strategic Services Group

Analysis on the Impact of Mandating Automatic Fire Sprinkler Systems in Hawaii

International Residential Code 2012 Mandates the Installation of Automatic Fire Sprinkler in All One and Two Family Dwellings

Building Industry of Association of Hawaii (BIA-Hawaii)
National Association of Home Builders (NAHB)

November 2016



Submitted By

SSFM INTERNATIONAL, INC.

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SSFM
INTERNATIONAL

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Executive Summary (*Repeal of Sunset date in Act 83, 2012 SLH*)

Background:

The National Fire Protection Association (NFPA) has been successful in having the installation of automatic fire sprinkler systems required in all new one and two family dwellings included in the International Residential Code (IRC) for 2012.

In 2012, the Legislature passed Act 83, 2012 SLH that prohibited any County from requiring the installation of automatic fire sprinklers in any new or existing one or two family dwelling.

This prohibition on the mandate expires on June 30, 2017.

BIA Hawaii will be submitting legislation in the 2017 legislative session that will seek to remove the sunset from Act 83, and thus allowing for the prohibition on the mandate to become permanent.

Analysis:

Unprotected lightweight construction failed in 6 minutes when compared to dimensional sawn cut lumber, which failed in approximately 19 minutes. This is a primary reason national model building codes require residential sprinklers in new one- and two-family homes and rated protection of lightweight structural components. It protects, not only the occupants, but fire fighters.

The discussion on lightweight components is typically focused on unfinished basements, because the floor joists may be exposed while the home is occupied. However, homes in Hawaii do not have basements, so the argument about structural components is moot.

Nevertheless, according to UL's 2012 report Analysis of Changing Residential Fire Dynamics and Its Implications on Firefighter Operational Timeframes, research demonstrated that a single layer of 1/2-inch gypsum wall board on the bottom of the unprotected floor assembly adds on average approximately 20 minutes to the time before collapse. This is a standard method of passive fire protection and applies to both legacy and modern construction. According to the UL study, firefighters can still expect close to 30 minutes of structural integrity in newer homes with a wood I joist floor with a layer of gypsum wallboard on the underside of the joists.

Our research shows that mandating the installation of automatic fire sprinklers in one and two family dwellings in Hawaii, will increase the price of a home in Hawaii by roughly \$25,000.00 to \$32,000.00.

The cost to install a new, larger water meter that will be required when an automatic fire sprinkler system is installed will add roughly \$6,500.00 to \$26,500.00 to the overall cost of a new home in Hawaii.

Conclusion:

The difference in cost between a new automatic fire sprinkler system with associated increases in water meter size versus the cost of additional gypsum board to cover any exposed lightweight structural materials in new home construction is several thousand dollars.

We firmly believe that there are other, more cost effective methods that will not only protect fire fighters and homeowners but will not significantly increase the price of a new home in Hawaii.

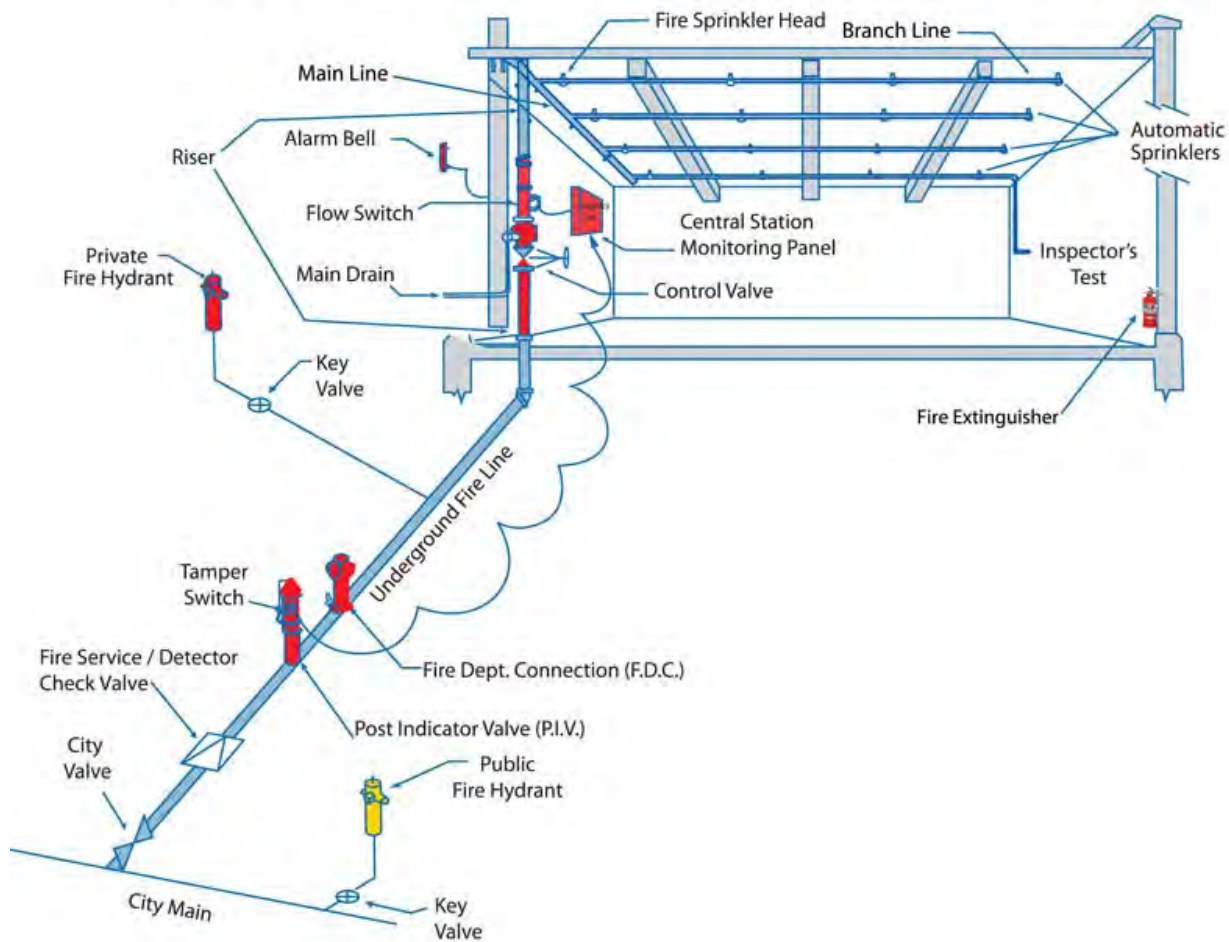
As such, we believe that Section 3 (the Sunset provision) of Act 83, SLH 2012 be deleted or removed. This would prohibit the Counties from requiring the installation or retrofitting of automatic fire sprinklers or an automatic tire sprinkler system in any new construction of one or two family residential dwellings.

I. Scope of Work

BIA Hawaii has contracted with SSFM International, Inc., to prepare a report analyzing the efforts by the National Fire Protection Association (NFPA) and the local Fire Departments to adopt the International Residential Building Code (IRC) provisions that would mandate the installation of an automatic fire sprinkler system in all new one and two family dwellings.

The report will provide research on the rationale for the mandate; impacts to the cost of housing on all counties in Hawaii; and cost effective alternatives to mandating fire sprinklers.

Know Your Fire Sprinkler Systems Components



II. Background

Organizations such as the National Fire Protection Association (NFPA) have been successful in having the installation of automatic fire sprinkler systems required in all new one and two family dwellings included in the International Residential Code (IRC) for 2012 (SEE EXHIBIT "A").

In 2012, the BIA was successful in having legislation passed (SEE EXHIBIT "B"--Act 83, 2012 SLH) that prohibited any County from requiring the installation of automatic fire sprinklers in any new or existing one or two family dwelling. The specific language amended Chapter 46 Hawaii Revised Statutes with the following:

No county shall require the installation or retrofitting of automatic fire sprinklers or a new automatic fire sprinkler system in:

- 1) Any new or existing detached one or two family dwelling unit in a structure used only for residential purposes; and,
- 2) Non-residential agriculture and aquaculture buildings and structures located outside an urban area;

Provided that this section shall not apply to new homes that require a variance from access road or fire-fighting water supply requirements.

This prohibition on the mandate expires on June 30, 2017.

With the prohibition expiring in June of 2017, the Hawaii State Building Code Council is considering adopting the 2012 IRC which would MANDATE the installation of an automatic fire sprinkler system in all new one and two family dwellings. Each County would have the opportunity to adopt the 2012 IRC "as is" similar to the State Building Code Council, or the County could have the mandate removed as a part of its adoption at the county level.

If the residential building code is silent on not requiring the installation of automatic fire sprinklers on new one and two family dwellings, the Fire Department in each county could require fire sprinklers be installed in all new one and two family dwellings as a part of the "Fire Code."

Currently, only Maryland, California, and the District of Columbia have adopted codes that require fire sprinklers on all new one and two family dwellings. None of the other 48 States and/or their respective counties have mandated the installation of automatic fire sprinklers on new one and two family dwellings.

III. Objective

BIA Hawaii will be leading an effort to have legislation introduced that would “Prohibit” any county from mandating the installation of automatic fire sprinkler systems in all one and two family dwellings. By law, we would remove the ability of the State Building Code Council and the individual Counties for adopting the 2012 IRC which would require the mandate. Installation of automatic fire sprinkler systems will remain as an “option” to new home buyers.



IV. Approach

The question before the elected officials is:

Should the State of Hawaii (State Building Code Council and All Counties) adopt a residential construction code that would require automatic fire sprinkler systems be installed in all new one and two family dwellings?

- Yes, because it will save lives and protect property.
 - New building materials (i.e. lightweight structural components) and content—dwelling burn faster, and the overarching goal is to protect not only occupants but fire fighters

- No, because:
 - New home construction will incorporate materials and methods that will increase the performance of new building materials (i.e. lightweight structural components) in a residential structural fire; AND,
 - It will increase the overall price of a new residential dwelling.
 - Cost for a fire sprinkler system on each county
 - Cost for larger water meter (higher pressure)
 - Higher cost for dwellings located in Rural/Urban Fringe areas (lack of water pressure or lack of County System)—Catchment or private system/well

This report will provide the specific position expressed by the National Fire Protection Association (NFPA) and the respective County Fire Departments on the need to “MANDATE” the installation of an automatic fire sprinkler systems in all new one and two family dwellings.

The report will also provide a counter position expressed by the National Association of Home Builders (NAHB) and BIA Hawaii on keeping the installation of an automatic fire sprinkler systems as an “OPTION.”

V. Analysis

Position 1: Automatic Fire Sprinkler Systems must be required on all new one and two family dwellings because new building materials (i.e. lightweight structural components) and content burn faster than traditional sawn cut lumber, and the overarching goal is to protect not only occupants but fire fighters.



STATE FIRE COUNCIL RESPONSE:

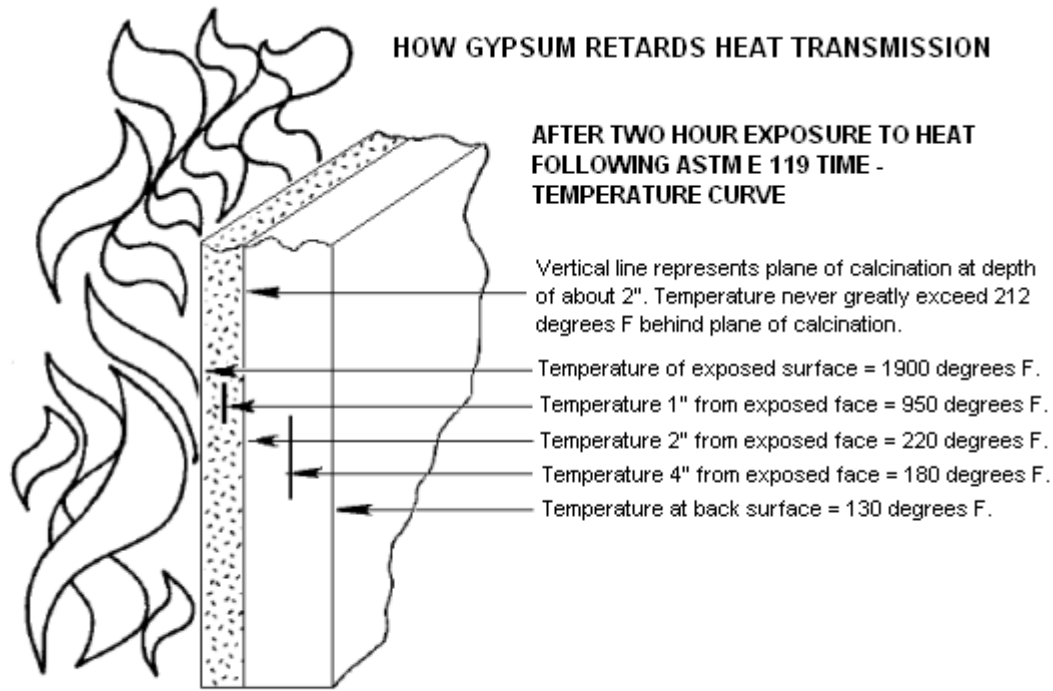
A report in 2008 by Underwriters Laboratories (UL), “Structural Stability of Engineered Lumber in Fire Conditions,” studied the building materials used in today’s modern homes. Structural components were exposed to the point of collapse where it was demonstrated that unprotected lightweight construction failed in 6 minutes when compared to dimensional sawn cut lumber, which failed in approximately 19 minutes. **This is a primary reason national model building codes require residential sprinklers in new one- and two-family homes and rated protection of lightweight structural components. It protects, not only the occupants, but fire fighters.**

A study by UL (<http://newscience.ul.com/articles/modern-residential-fires>) found “the modern home fire is a ‘perfect storm’ of conditions and outcomes: larger homes + open house geometries + increased fuel loads + new construction materials = faster fire propagation, shorter time to flashover, rapid changes in fire dynamics, shorter escape times, and shorter structural collapse times.”

NAHB RESPONSE:

When listing factors that impact residential fires, the UL studies ignored the hundreds of code changes that have improved passive fire resistance, heating and electrical equipment since the 1970s. A better way to determine whether newer homes are safer is by evaluating national fire data in the real world. In states where NAHB has looked at such data and matched it with the age of affected homes, fatalities are heavily concentrated in older homes.

The discussion on lightweight components is typically focused on unfinished basements, because the floor joists may be exposed while the home is occupied. However, homes in Hawaii do not have basements, so the argument about structural components is moot.



(Data from Underwriters Laboratories, Inc.)

According to UL's 2012 report Analysis of Changing Residential Fire Dynamics and Its Implications on Firefighter Operational Timeframes, research demonstrated that a single layer of 1/2-inch gypsum wall board on the bottom of the unprotected floor assembly adds on average approximately 20 minutes to the time before collapse. This is a standard method of passive fire protection and applies to both legacy and modern construction. According to the UL study, firefighters can still expect close to 30 minutes of structural integrity in newer homes with a wood I joist floor with a layer of gypsum wallboard on the underside of the joists.

The UL studies mentioned in the SFC letter either looked at the conditions mentioned individually, or used experimental rooms based on guesses about important differences between older and newer homes. Many of the differences were in room furnishings rather than in construction of the rooms themselves, so the results are not particularly informative about issues of construction.

Position 2: Fires are more likely in older home than in newer homes.

STATE FIRE COUNCIL RESPONSE:

In the NFPA’s “The Case for Fire Sprinklers in One- and Two-Family Dwellings, Revised October 2014,” the age of housing is a poor predictor of fire death rates. When older housing is associated with higher rates, it is because older housing tends to have a disproportionate share of poorer, less educated households. Statistically, the only fire safety issue that is relevant to the age of the home is outdated electrical wiring. Beyond that, the age of the home has little or nothing to do with fire safety.

BIA HAWAII RESPONSE:

The following table was compiled from information provided by the Honolulu Fire Department on residential structure fires from 2009 thru 2015. On Oahu, over the last 6.5 years (2009 thru May 2015) there were a total of 583 residential structural fires. Of the 583 fires, 23% or 136 structures were constructed between 1981 and 2010. 77% or 447 structures were built between 1900 and 1980. The downward trend in residential structural fires on dwellings constructed over the last 30+ years can be attributed to a number of different variables such as: better or improved response time in first responders; improved residential construction codes requiring fire rated materials; increased public awareness on fire prevention.

OAHU RESIDENTIAL FIRES--AGE OF STRUCTURES									
Age of Structure Fires: 2009	Year of Fire							Total By Age	% of Total
	2009	2010	2011	2012	2013	2014	2015		
1900-1950	8	13	13	15	29	15	10	103	18%
1951-1960	15	17	24	22	9	23	11	121	21%
1961-1970	19	19	14	22	25	28	4	131	22%
1971-1980	15	13	17	16	15	9	7	92	16%
1981-1990	7	19	11	4	10	11	2	64	11%
1991-2000	7	5	10	4	10	9	4	49	8%
2001-2010	2	2	4	3	3	7	2	23	4%
Total	73	88	93	86	101	102	40	583	100%

Position 3: According to the National Fire Protection Association (NFPA), the fire survival rate in homes with working smoke detectors is 99.41% and only rises to 99.6% with a sprinkler.

STATE FIRE COUNCIL RESPONSE:

According to Fire Sprinkler Initiative's (FSI), Myths vs Facts, a 100% chance of dying would mean that every fire is fatal or roughly 100 deaths per 100 fires. Fortunately, that is not the case. The chances of surviving a home fire when smoke alarms are present is 99.45% (100 minus .55) vs. 98.87 (100 minus 1.13) in home fires with no working smoke alarms. The first number is barely higher than the second. The above-mentioned statistics are based on "chances of survival," which is not the same as "risk of fire death," based on the total number of fires.

NAHB RESPONSE:

The above argument simply highlights a different view of the issue. It is, in fact, correct to say that the survivability, when a large or small fire occurs is 99.45% with at least one operating smoke alarm. The difference highlighted by the SFC response is that its data is based on the number of reported fires. Furthermore, this data includes fires that occurred in apartment buildings, so that it should not be considered for new, one- and two-family homes.

The effectiveness of smoke alarms cannot be underestimated. According to NFPA, since the time that smoke alarms have been required in dwellings, there has been a significant drop in the number of reported fires, injuries and fatalities in the United States. Since 1980, the number of fires has dropped by 50 percent and fatalities have dropped by about the same margin, all during the same time period where the population increased and where smoke alarms were required in the model codes but sprinklers were not. And smoke alarms continue to become more effective with ongoing technical advances.



Such improvements include the proliferation of 10-year integral batteries, which substantially lengthen the interval between low-battery signals. Batteries in these units also cannot be used in other devices, which eliminates the possibility of the battery being removed to power other

electronic devices. There is also continued research aimed at improving the detection logarithm to greatly reduce false alarms from cooking. All these improvements are still unfolding, and can be expected to further reduce the number of fatalities.

According to NFPA, three out of five home fire deaths resulted from fires in properties without at least one working, battery-operated smoke alarm. Hardwired, interconnected smoke alarms are installed in new homes, which are more likely to operate and alert occupants to a fire. As for the remaining existing homes, ensuring every home in the U.S. had at least one working smoke alarm would save close to 900 lives each year.

Position 4: Mandatory fire sprinklers could add between \$18,000 to over \$23,000 to a new home in Honolulu and even more on the neighbor islands



STATE FIRE COUNCIL RESPONSE:

According to the City and County of Honolulu's (City) Department of Planning and Permitting's permit records from 2010 to 2014, the average home size in Honolulu was 2,785 square feet. The sprinkler installation cost would be \$13,089, based on an average of four contractors' installation cost of \$4.70 per square feet taken from the State Building Code Council's "Investigative Committee's Report on Fire Sprinkler Implementation in New One- and Two-Family Dwellings dated June 25, 2013." As of September 2015, the median home price in Hawaii was approximately \$730,000, amounting to less than 2% of the total home price.

The standard meter for domestic water use for a one- or two-family dwelling in the City is three-quarters of an inch and adequate to supply a residential fire sprinkler system at no additional cost.

There is a higher cost on the neighbor islands, which is primarily due to the need to increase diameter size in the residential water meter from five-eighths to three-quarters of an inch. Kauai, Hawaii, and Maui counties estimate an increase of \$7,000, \$9,000, and \$12,854, respectively, for the larger meter and \$20,089, \$22,089, and \$25,943, respectively, for sprinkler and meter installation costs. This equates to an increase of a 2.8%, 3.0%, and 3.6%, respectively, for the median-priced home. These added costs are relatively small over the duration of a standard 30-year mortgage, compared with the life safety benefit of protecting families from fires in their homes.



The Federal Department of Housing and Urban Development (HUD) published the 2016 HUD Affordable Sales Price Guideline for Honolulu (See Exhibit “C”). It shows the Average Median Income (AMI) and price guideline at different interest rates. Currently, a family of four (4) would have to have an income at the 140% of the Average Median Income (AMI) and obtain a 30 year fixed mortgage at 3.5% or less in order to afford the median price Single Family home on Oahu (\$747,500.00). When the additional cost of the automatic sprinkler system is included, interest rates at that upper end of the income (i.e. 140%) would have to be at 3.0% in order for a family of four (4) to afford to purchase the house with the added cost of the fire sprinkler system.

BIA HAWAII RESPONSE:

The following are actual construction cost for the installation of an automatic fire sprinkler system on Oahu, Maui and Hawaii. No data has been obtain for Kauai.

Cost Breakdown	Oahu	Maui	Hawaii
Cost Analysis Fire Sprinkler Install	Two Story Home (Flag Lot) (Homeworks)	Cost Per Units--3 Plex, 2 Story (Stanford Carr)	Two Story Home
Size of Unit (SQFT)	3,794.00	1,905.00	2,000.00
DESCRIPTION			
Plans and Install of System	\$16,750.00	\$26,388.33	\$15,000.00
Site Work (Trenching for new water line)			
Added Permit cost	\$68.94	\$263.88	\$135.00
Fire Chief review(?) 10% of permit fee	\$539.00	\$290.27	\$1,500.00
Plumber additional cost to upgrade to 1" line	\$1,400.00		\$2,745.00
Plumber additional cost Regulator/backflow misc.	\$650.00		\$1,275.00
Painter -additional masking L&M	\$425.00	250	\$588.00
Drywall-additional cost of install	\$400.00		\$588.00
Electrician (wiring of bell/monitor stations)	\$300.00	1250	\$588.00
<i>Sum of hard costs</i>	<i>\$20,532.94</i>	<i>\$28,442.49</i>	<i>\$22,419.00</i>
G.C Overhead 15%	\$ 3,079.94	\$ 1,422.12	\$ 3,362.85
G.C.Profit 5%	\$1,180.64	\$1,422.12	\$1,120.95
GET	\$ 1,033.15	\$ 1,473.61	
Final Cost/Unit	\$25,826.67	\$32,760.34	\$26,902.80
Cost per sq.ft.	\$ 6.81	\$ 17.20	\$ 13.45

Our research shows that mandating the installation of automatic fire sprinklers in one and two family dwellings in Hawaii, will increase the price of a home in Hawaii by roughly \$25,000.00 to \$32,000.00.

The costs are only of the installation of an automatic fire sprinkler system and do not include the additional cost to install a new larger meter (see below).

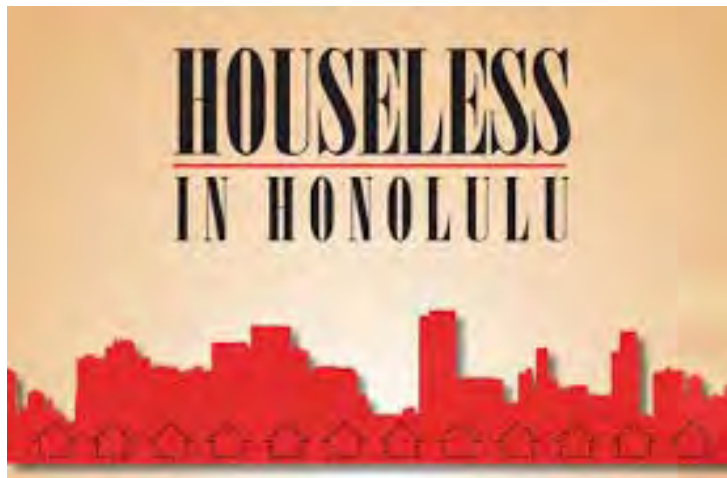
Position 5: Fire Sprinklers: Impacting the Supply of New Housing and Making Homes Less Affordable for Everyone

STATE FIRE COUNCIL RESPONSE:

An NFPA study in June 2009, “Comparative Analysis of Housing Cost and Supply Impacts of Sprinkler Ordinances at the Community Level,” did not reveal the enactment of sprinkler ordinances caused any detrimental effects on housing supply and costs. In the late 1980s, residential sprinkler ordinances were enacted in Prince George’s and Montgomery Counties. After each update of these municipalities’ sprinkler rules, there were no corresponding reductions in the number of single-family homes built in either county relative to their neighboring counties in Maryland and Virginia. In each instance, these municipalities actually realized a relatively larger increase in construction in the year after regulations became effective compared to the adjacent counties without sprinkler ordinances.

NAHB RESPONSE:

This isn’t particularly relevant or conclusive. The results are for two atypical counties in the Washington, D.C. metropolitan area where impacts of sprinklers were being obscured by many other things happening in the state of Maryland at about the same time: implementation of inclusionary zoning, seven-figure increments in impact fees, substantial new farmland protection legislation, the governor taking actions to stall large developments in the state, etc. With so many things in flux, it’s not surprising that a study would find it difficult to tease out a significant impact of any one factor in the area.



STATE FIRE COUNCIL RESPONSE:

The Fire Protection Research Foundation report in 2013 on “Home Fire Sprinkler Cost” found that many cities across the nation had a significant housing growth over the course of the study.

The Insurance Services Office, Inc. (ISO) is the leading supplier of underwriting information, advisory loss costs, supplementary rating information, and standardized policy language to insurers in all 50 states and the District of Columbia. The ISO offers between an 8% and 13% premium credit for a residential fire sprinkler system. Individual insurer programs may provide different credits. This could provide a substantial savings over the course of the 30-year mortgage. The ISO's standard homeowner policy forms provide coverage for accidental discharge or overflow of water from a fire sprinkler system at no extra charge.

The ISO Building Code Effectiveness Grading Schedule (BCEGS) is used to review public building code enforcement agencies and develop a classification that is provided as advisory information to insurers who may use it for insurance underwriting and rating. If the requirement of the International Residential Code for automatic fire sprinkler protection of residential dwellings is removed by legislation or local ordinance, BCEGS would not provide full recognition for adoption of the code.

NAHB RESPONSE:

“That many cities across the nation had a significant housing growth over the course of the study” is neither an accurate nor particularly relevant quote from the 2013 Fire Protection Research Foundation report.

The previous, 2008 Fire Protection Research Foundation Home Fire Sprinkler Cost Assessment report investigated insurance savings. It found that discount percentages ranged from 0 to 10% among all companies and agencies surveyed, with an average saving of \$22 off the annual premium. This is small relative to the up-front cost of a sprinkler system.

BIA HAWAII RESPONSE:

The cost of an automatic fire sprinkler system is comprised for the following two (2) basic components:

1. Cost to design and install the fire sprinkler system in the new dwelling from an existing water meter;
2. Cost of a new water meter depending on the flow requirements.

A summary of the overall cost of an automatic fire sprinkler system on a new home on Oahu are discussed in Section VIII of this report.

Position 6: Existing Water Service Meters Need to Be Upgraded to Accommodate Demand Created by a New Automatic Fire Sprinklers System.

STATE FIRE COUNCIL RESPONSE:

Honolulu presently requires ¾” water meters in residential homes that allow approximately 30 gallons per minute of water to enter the home. This is more than adequate by NFPA 13D standards to sufficiently provide water in the event two sprinkler heads are activated during a fire. Please note, neighbor islands would also require a ¾” water meter upgrade for residential sprinkler installations.

The city of Scottsdale found “2 or less sprinkler heads controlled more than 92 percent of the fires” that occurred in properties protected with fire sprinklers. The U.S. Fire Administration’s Residential Fire Sprinkler Activation Report from 2003 to 2007 also found that more than 76% of residential fires were controlled with two or fewer sprinkler heads.



BIA HAWAII RESPONSE:

BIA Hawaii hired R.M. Towill Corporation, a local Engineering Company, to research and analyze the water meter requirements for each County in Hawaii. Based on their analysis, the found that in order to satisfy the potential building code requirement for a residential automatic fire sprinkler system, the flow demand for a single family dwelling increases by 31 gallons per minute (GPM) and for a duplex (2 family dwelling) it increases by 36 GPM. (See Exhibit D).

Based on consultation with the water supply agency in each county, this increase in flow necessitates either a larger water meter to be installed or, depending on the total flow (domestic plus fire flow) and the applicable county, a separate meter may be required. A backflow preventer must also be installed to protect the public water system. Additional installation costs associated with the larger meter will be incurred for items such as larger water laterals, water valves and higher facilities charges.

For Oahu the meter size is based on the higher water demand (fire flow or domestic). If the total domestic or fire flow is over 50 GPM, the Board of Water Supply (BWS) may require a second meter for the fire sprinklers. Water meter installation costs include the Water System Facilities (WSFC), which is based on fixture units (FU), and may also include a one-time fire charge.

County of Kauai, Department of Water (DOW), County of Maui, Department of Water Supply (DWS), and County of Hawaii, Department of Water Supply (Hawaii DWS) allow a larger water meter to be used to handle both the domestic and fire flow. The Facilities Reserve Charges (WFC) are based on the meter size and vary by County. If the optional second meter or detector check is used, a completely separate water line with a backflow preventer will be required. (See Exhibit E).

As an example, a 3 bedroom, 2 bath single family dwelling will use a 5/8" meter (3/4" for Oahu) without fire protection and will increase to a 1" meter with fire protection. For a 5 bedroom, 4-1/2 bath dwelling or a duplex will increase to a 1-1/2" meter. The following table summarizes these charges for BWS, DOW, DWS and Hawaii DWS (See Exhibit F for water meter flow capacities):

Water System Facilities/Facilities Reserve Charges				
3 bedroom, 2 bath single family dwelling (19.4 FU = 15 GPM)				
	No Fire Sprinklers	With Fire Sprinklers	Difference	% Increase
County	5/8" Meter (3/4" meter for Oahu)	1" meter		
Oahu	\$3,595.40*	\$10,007.82**	\$6,412	178.4%
Maui	\$12,060	\$33,356	\$21,296	176.6%
Kauai	\$14,155	\$35,290	\$21,135	149.3%
Hawaii Island	\$1,190	\$13,750	\$12,560	1,055%

*Based on 19.4 FU (See Exhibit F for breakdown)

**Based on 54 FU (converted from 31 GPM for fire flow)

Water System Facilities/Facilities Reserve Charges				
5 bedroom, 4-1/2 bath single family dwelling (31.5 FU = 20 GPM)				
	No Fire Sprinklers	With Fire Sprinklers	Difference	% Increase
County	5/8" meter (3/4" meter for Oahu)	1-1/2" meter (3/4" & 1" meter for Oahu)		
Oahu	\$5,837.90*	\$16,031.05**	\$10,193	174.6%
Maui	\$12,060	\$71,948	\$59,888	496.6%
Kauai	\$14,155	\$70,580	\$56,425	398.6%
Hawaii Island	\$1,190	\$27,500	\$26,310	2,211%

*Based on 31.5 FU (See Exhibit F for breakdown)

**Based on 31.5 FU for 3/4" meter & 55 FU for 1" meter

Water System Facilities/Facilities Reserve Charges				
Duplex (2 family dwelling with 3 bedroom, 2 bath each) (38.8 FU = 30 GPM)				
	No Fire Sprinklers	With Fire Sprinklers	Difference	% Increase
County	3/4" meter (1" meter for Hawaii Island)	1-1/2" meter (3/4" & 1" meter for Oahu)		
Oahu	\$7,190.80*	\$20,163.90**	\$12,973	180.4%
Maui	\$18,884	\$71,948	\$53,064	281%
Kauai	\$21,170	\$70,580	\$49,410	233%
Hawaii Island	\$13,750	\$27,500	\$13,750	100%

*Based on 38.8 FU (assumed doubled single family dwelling fixture units)

**Based on 38.8 FU for 3/4" meter & 70 FU for 1" meter

To further explain, for a typical 3 bedroom, 2 bath single family dwelling on Maui, the water meter would be sized for approximately 15 GPM, which equates to 19.4 FU (see Exhibit F). Adding 31 GPM for the fire sprinkler system increases the flow to 46 GPM and requires the water meter for a single family dwelling to increase two sizes larger from a 5/8" meter to a 1" meter (See Exhibit F for the breakdown of fixtures used for the 3 bedroom, 2 bath and 5 bedroom, 4-1/2 bath dwellings and for the capacity of each meter size).

The increase in WSFC/FRC for a typical 3 bedroom, 2 bath single family dwelling is lowest for Oahu because 5/8" meters are not allowed. A 5 bedroom, 4-1/2 bath dwelling is represented in the chart above because this type of dwelling will trigger an increased meter size to 1-1/2".

DOW allows a detector check to be used as an alternative to the second meter with a separate fire line. There is no FRC for a separate detector check but may have a one-time installation fee.

Monthly fees for fire service may be assessed and will vary by County and the size of the water line.

All counties require a backflow preventer to be installed between the water meter and the fire sprinkler system. The size and cost of the backflow preventer varies depending on the size of the water lateral. (See Exhibit G).

Pressure requirements may also increase with the addition of a fire sprinkler system. The associated costs to meet the higher pressure requirements will vary depending on the size and location of the dwelling. The impact from this would have to be determined on a case by case basis.

Based on communication with BWS, DOW, DWS and Hawaii DWS, since there is no current requirement for fire sprinklers on single family homes, their policies and requirements are not finalized and are subject to revisions if the policy changes.

VI. Additional Cost Estimates for New Home on Oahu, Maui or Hawaii

The following table provides a breakdown of how much more will be added to the cost of a house on Oahu, Maui or Hawaii if fire sprinklers are required in all new one and two family dwellings.

Cost Breakdown	Oahu	Maui	Hawaii
Cost Analysis Fire Sprinkler Install	Two Story Home (Flag Lot) (Homeworks)	Cost Per Units--3 Plex, 2 Story (Stanford Carr)	Two Story Home
Size of Unit (SQFT)	3,794.00	1,905.00	2,000.00
DESCRIPTION			
Plans and Install of System	\$16,750.00	\$26,388.33	\$15,000.00
Site Work (Trenching for new water line)			
Added Permit cost	\$68.94	\$263.88	\$135.00
Fire Chief review(?) 10% of permit fee	\$539.00	\$290.27	\$1,500.00
Plumber additional cost to upgrade to 1" line	\$1,400.00		\$2,745.00
Plumber additional cost Regulator/backflow misc.	\$650.00		\$1,275.00
Painter -additional masking L&M	\$425.00	250	\$588.00
Drywall-additional cost of install	\$400.00		\$588.00
Electrician (wiring of bell/monitor stations)	\$300.00	1250	\$588.00
<i>Sum of hard costs</i>	<i>\$20,532.94</i>	<i>\$28,442.49</i>	<i>\$22,419.00</i>
G.C Overhead 15%	\$3,079.94	\$1,422.12	\$3,362.85
G.C.Profit 5%	\$1,180.64	\$1,422.12	\$1,120.95
GET	\$1,033.15	\$1,473.61	
Final Cost/Unit	\$25,826.67	\$32,760.34	\$26,902.80
Cost per sq.ft.	\$ 6.81	\$ 17.20	\$13.45
Water Meter Costs			
2 Bath SFD (15 GPM to 31 GPM)	\$ 6,412.00		\$12,560.00
4 1/2 Bath SFD (20 GPM to 51 GPM)	\$10,193.00		\$26,310.00
2 Bath Duplex (Per Unit)		\$26,532.00	
Low Range	\$ 32,238.67	\$ 59,292.34	\$39,462.80
High Range	\$ 36,019.67		\$ 53,212.80

With Hawaii having one of the highest housing prices in the nation, any increase in home prices here will make it more difficult for local families to afford a new home.

VII. Conclusions and Recommendations

Our study recognizes the points raised by the fire protection organizations, regarding the concerns to protect fire fights from new lightweight construction materials that have a faster burn rate than cut timber. This is one of the reasons for mandating the installation of automatic fire sprinkler systems in all new one and two family dwellings.

Our study also found that the Underwriter's Laboratory (2012) Report found that ". . . research demonstrated that a single layer of 1/2-inch gypsum wall board on the bottom of the unprotected floor assembly adds on average approximately 20 minutes to the time before collapse. This is a standard method of passive fire protection and applies to both legacy and modern construction. According to the UL study, firefighters can still expect close to 30 minutes of structural integrity in newer homes with a wood I joist floor with a layer of gypsum wallboard on the underside of the joists."

The difference in cost between a new automatic fire sprinkler system with associated increases in water meter size versus the cost of additional gypsum board to cover any exposed lightweight structural materials in new home construction is several thousand dollars.

We firmly believe that there are other, more cost effective methods that will not only protect fire fighters and homeowners but will not significantly increase the price of a new home in Hawaii.

As such, we believe that Section 3 (the Sunset provision) of Act 83, SLH 2012 be deleted or removed. This would prohibit the Counties from requiring the installation or retrofitting of automatic fire sprinklers or an automatic tire sprinkler system in any new construction of one or two family residential dwellings.

EXHIBIT "A"
EXCERPTS FROM 2012 IRC REGARDING FIRE SPRINKLERS

Section R313 of the 2012 International Residential Code (IRC) contains the following language:

SECTION R313 AUTOMATIC FIRE SPRINKLER SYSTEMS

R313.1 Townhouse automatic fire sprinkler systems.

An automatic residential fire sprinkler system shall be installed in townhouses.

Exception: An automatic residential fire sprinkler system shall not be required when additions or alterations are made to existing townhouses that do not have an automatic residential fire sprinkler system installed.

R313.1.1 Design and installation.

Automatic residential fire sprinkler systems for townhouses shall be designed and installed in accordance with Section P2904.

R313.2 One- and two-family dwellings automatic fire systems.

An automatic residential fire sprinkler system shall be installed in one- and two-family dwellings.

Exception: An automatic residential fire sprinkler system shall not be required for additions or alterations to existing buildings that are not already provided with an automatic residential sprinkler system.

R313.2.1 Design and installation.

Automatic residential fire sprinkler systems shall be designed and installed in accordance with Section P2904 or NFPA 13D.

A BILL FOR AN ACT

RELATING TO FIRE SPRINKLERS.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF HAWAII:

1 SECTION 1. Chapter 46, Hawaii Revised Statutes, is amended
2 by adding a new section to be appropriately designated and to
3 read as follows:

4 "§46- Fire sprinklers; residences. No county shall
5 require the installation or retrofitting of automatic fire
6 sprinklers or an automatic fire sprinkler system in:

7 (1) Any new or existing detached one- or two-family
8 dwelling unit in a structure used only for residential
9 purposes; and

10 (2) Non-residential agricultural and aquacultural
11 buildings and structures located outside an urban
12 area;

13 provided that this section shall not apply to new homes that
14 require a variance from access road or fire fighting water
15 supply requirements."

16 SECTION 2. New statutory material is underscored.

17 SECTION 3. This Act shall take effect on July 1, 2012;
18 provided that on June 30, 2017, this Act shall be repealed.



Report Title:

Counties; Automatic Fire Sprinklers; Residences

Description:

Prohibits counties from requiring installation or retrofitting of automatic fire sprinklers in (1) new or existing one- or two-family dwelling units used only for residential purposes; and (2) non-residential agricultural and aquacultural buildings and structures located outside the urban area; provided that this does not apply to new homes that require a variance from access road or fire fighting water supply requirements. Effective July 1, 2012. (SB2397 HD3)

The summary description of legislation appearing on this page is for informational purposes only and is not legislation or evidence of legislative intent.





HONOLULU COUNTY AFFORDABLE SALES PRICE GUIDELINES*

2016

COUNTY: **HONOLULU** FAMILY SIZE: **4 PERSON**

	50%	60%	70%	80%	90%	100%	110%	120%	130%	140%
% of Median:	\$50,250	\$60,300	\$70,350	\$80,400	\$90,450	\$100,500	\$110,550	\$120,600	\$130,650	\$140,700
\$ Income:	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
0.00%	\$292,000	\$350,400	\$408,800	\$467,200	\$525,600	\$584,000	\$642,400	\$700,800	\$759,200	\$817,600
3.00%	\$271,500	\$325,800	\$380,000	\$434,300	\$488,600	\$542,900	\$597,200	\$651,500	\$705,800	\$760,100
3.50%	\$274,200	\$329,000	\$383,800	\$438,700	\$493,500	\$548,300	\$603,200	\$658,000	\$712,800	\$767,700
3.75%	\$265,800	\$319,000	\$372,200	\$425,300	\$478,500	\$531,700	\$584,800	\$638,000	\$691,200	\$744,300
4.00%	\$257,900	\$309,400	\$361,000	\$412,600	\$464,200	\$515,700	\$567,300	\$618,900	\$670,500	\$722,000
4.25%	\$250,300	\$300,300	\$350,400	\$400,400	\$450,500	\$500,500	\$550,600	\$600,600	\$650,700	\$700,700
4.50%	\$243,000	\$291,600	\$340,200	\$388,800	\$437,400	\$486,000	\$534,500	\$583,100	\$631,700	\$680,300
4.75%	\$236,000	\$283,200	\$330,400	\$377,600	\$424,800	\$472,000	\$519,200	\$566,400	\$613,600	\$660,800
5.00%	\$229,300	\$275,200	\$321,100	\$366,900	\$412,800	\$458,700	\$504,500	\$550,400	\$596,300	\$642,100
5.25%	\$222,900	\$267,500	\$312,100	\$356,700	\$401,300	\$445,900	\$490,500	\$535,100	\$579,700	\$624,300
5.50%	\$216,800	\$260,200	\$303,600	\$346,900	\$390,300	\$433,700	\$477,000	\$520,400	\$563,800	\$607,100
5.75%	\$211,000	\$253,200	\$295,300	\$337,500	\$379,700	\$421,900	\$464,100	\$506,300	\$548,500	\$590,700
6.00%	\$205,300	\$246,400	\$287,500	\$328,500	\$369,600	\$410,700	\$451,800	\$492,800	\$533,900	\$575,000
6.25%	\$199,900	\$239,900	\$279,900	\$319,900	\$359,900	\$399,900	\$439,900	\$479,900	\$519,900	\$559,900
6.50%	\$194,800	\$233,700	\$272,700	\$311,600	\$350,600	\$389,600	\$428,500	\$467,500	\$506,400	\$545,400

*Please note that market sales prices may be lower than these sales price guidelines.

1. Based on **2016** Very low income levels established by HUD for various family sizes. See the "Income Schedule by Family Size" table for a more detailed explanation.
2. Mortgage term: **30 years** 360
3. Housing Expense of: **28.00%**
4. Down Payment of: **5.00%**



Randolph H. Murayama & Associates
Consulting Engineers— Mechanical
1267 Young Street
Honolulu, Hawaii 96814
Phone: (808) 593-9360 Fax: (808) 591-9362

R. M. Towill Corporation
2024 N. King St., Suite 200
Honolulu, Hawaii 96819

October 25, 2016

REFERENCE: BIA Fire Flow Study
ATTENTION: Stacy Armstrong

Dear Ms. Armstrong:

We have concluded our evaluation of the fire flow requirements associated with the potential adoption by the local Authorities having Jurisdiction (AHJ) requiring automatic fire sprinkler systems for new construction residential properties. The evaluation was limited to single and two family dwellings as determined by NFPA 13D, 2010.

The International Residential Code (IRC 2006) as adopted by the State of Hawaii, Appendix P, does not require automatic fire sprinkler unless specifically adopted as part of the local ordinances. Should this be adopted, it requires the automatic fire sprinkler system to be installed in accordance with Section 903.3.1 of the International Building Code (IBC 2006). The IBC 2006 requires that the installation of the automatic fire sprinkler system be installed per the currently adopted National Fire Protection Association (NFPA 13D, 2010).

NFPA 13D, 2010, requires that flow requirements for residential properties of single and two family dwellings be sized for a maximum of a single head providing 18 gpm and a second head 13 gpm to the greatest hydraulic demand. Should the two family dwelling be served from a common water supply, NFPA 13D (2010) requires an additional 5 gpm added to the sprinkler demand, making the maximum requirement 36 gpm water flow. Pressure required would depend on the size of the dwelling since the requirement is for the greatest hydraulic demand. We expect the pressure requirements to be in the range of 40 psi to 60 psi depending on the size of the dwelling.

The requirement to have an automatic fire sprinkler system lies in the individual Counties (City and County of Honolulu, Maui County, Kauai County and Hawaii County) adopting Appendix P of the IRC 2006. Any county doing so, will need to generally follow the listed trail of Codes as we have outlined.

Attached are documentation from IRC 2006 – Appendix P, IBC 2006-Chapter 903.3.1, and NFPA 2010 – 8.1 Design Criteria.

If you have any questions, please call me at 593-9360, ext. 109.

Sincerely,

Eric S. Nakagawa, P.E., CxA

Appendix P: Fire Sprinkler System

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

AP101 Fire sprinklers. An approved automatic fire sprinkler system shall be installed in new one- and two-family dwellings and townhouses in accordance with Section 903.3.1 of the *International Building Code*.

linear feet (15 240 mm), or fraction thereof, of exterior wall in the story on at least one side.

2. Openings entirely above the adjoining ground level totaling at least 20 square feet (1.86 m²) in each 50 linear feet (15 240 mm), or fraction thereof, of exterior wall in the story on at least one side.

[F] 903.2.10.1.1 Opening dimensions and access. Openings shall have a minimum dimension of not less than 30 inches (762 mm). Such openings shall be accessible to the fire department from the exterior and shall not be obstructed in a manner that fire fighting or rescue cannot be accomplished from the exterior.

[F] 903.2.10.1.2 Openings on one side only. Where openings in a story are provided on only one side and the opposite wall of such story is more than 75 feet (22 860 mm) from such openings, the story shall be equipped throughout with an approved automatic sprinkler system, or openings as specified above shall be provided on at least two sides of the story.

[F] 903.2.10.1.3 Basements. Where any portion of a basement is located more than 75 feet (22 860 mm) from openings required by Section 903.2.10.1, the basement shall be equipped throughout with an approved automatic sprinkler system.

[F] 903.2.10.2 Rubbish and linen chutes. An automatic sprinkler system shall be installed at the top of rubbish and linen chutes and in their terminal rooms. Chutes extending through three or more floors shall have additional sprinkler heads installed within such chutes at alternate floors. Chute sprinklers shall be accessible for servicing.

[F] 903.2.10.3 Buildings 55 feet or more in height. An automatic sprinkler system shall be installed throughout buildings with a floor level having an occupant load of 30 or more that is located 55 feet (16 764 mm) or more above the lowest level of fire department vehicle access.

Exceptions:

1. Airport control towers.
2. Open parking structures.
3. Occupancies in Group F-2.

[F] 903.2.11 During construction. Automatic sprinkler systems required during construction, alteration and demolition operations shall be provided in accordance with the *International Fire Code*.

[F] 903.2.12 Other hazards. Automatic sprinkler protection shall be provided for the hazards indicated in Sections 903.2.12.1 and 903.2.12.2.

[F] 903.2.12.1 Ducts conveying hazardous exhausts. Where required by the *International Mechanical Code*, automatic sprinklers shall be provided in ducts conveying hazardous exhaust, or flammable or combustible materials.

Exception: Ducts in which the largest cross-sectional diameter of the duct is less than 10 inches (254 mm).

[F] 903.2.12.2 Commercial cooking operations. An automatic sprinkler system shall be installed in commercial kitchen exhaust hood and duct system where an automatic sprinkler system is used to comply with Section 904.

[F] 903.2.13 Other required suppression systems. In addition to the requirements of Section 903.2, the provisions indicated in Table 903.2.13 also require the installation of a suppression system for certain buildings and areas.

**[F] TABLE 903.2.13
ADDITIONAL REQUIRED SUPPRESSION SYSTEMS**

SECTION	SUBJECT
402.8	Covered malls
403.2, 403.3	High-rise buildings
404.3	Atriums
405.3	Underground structures
407.5	Group I-2
410.6	Stages
411.4	Special amusement buildings
412.2.5, 412.2.6	Aircraft hangars
415.6.2.4	Group H-2
416.4	Flammable finishes
417.4	Drying rooms
507	Unlimited area buildings
508.2	Incidental use areas
1025.6.2.3	Smoke-protected assembly seating
IFC	Sprinkler system requirements as set forth in Section 903.2.13 of the <i>International Fire Code</i>

[F] 903.3 Installation requirements. Automatic sprinkler systems shall be designed and installed in accordance with Sections 903.3.1 through 903.3.7.

[F] 903.3.1 Standards. Sprinkler systems shall be designed and installed in accordance with Section 903.3.1.1, 903.3.1.2 or 903.3.1.3.

[F] 903.3.1.1 NFPA 13 sprinkler systems. Where the provisions of this code require that a building or portion thereof be equipped throughout with an automatic sprinkler system in accordance with this section, sprinklers shall be installed throughout in accordance with NFPA 13 except as provided in Section 903.3.1.1.1.

[F] 903.3.1.1.1 Exempt locations. Automatic sprinklers shall not be required in the following rooms or areas where such rooms or areas are protected with an approved automatic fire detection system, in accordance with Section 907.2, that will respond to visible or invisible particles of combustion. Sprinklers shall not be omitted from any room merely because it is

damp, of fire-resistance-rated construction or contains electrical equipment.

1. Any room where the application of water, or flame and water, constitutes a serious life or fire hazard.
2. Any room or space where sprinklers are considered undesirable because of the nature of the contents, when approved by the fire code official.
3. Generator and transformer rooms separated from the remainder of the building by walls and floor/ceiling or roof/ceiling assemblies having a fire-resistance rating of not less than 2 hours.
4. In rooms or areas that are of noncombustible construction with wholly noncombustible contents.

[F] 903.3.1.2 NFPA 13R sprinkler systems. Where allowed in buildings of Group R, up to and including four stories in height, automatic sprinkler systems shall be installed throughout in accordance with NFPA 13R.

[F] 903.3.1.2.1 Balconies and decks. Sprinkler protection shall be provided for exterior balconies, decks and ground floor patios of dwelling units where the building is of Type V construction. Sidewall sprinklers that are used to protect such areas shall be permitted to be located such that their deflectors are within 1 inch (25 mm) to 6 inches (152 mm) below the structural members and a maximum distance of 14 inches (356 mm) below the deck of the exterior balconies and decks that are constructed of open wood joist construction.

[F] 903.3.1.3 NFPA 13D sprinkler systems. Where allowed, automatic sprinkler systems in one- and two-family dwellings shall be installed throughout in accordance with NFPA 13D.

[F] 903.3.2 Quick-response and residential sprinklers. Where automatic sprinkler systems are required by this code, quick-response or residential automatic sprinklers shall be installed in the following areas in accordance with Section 903.3.1 and their listings:

1. Throughout all spaces within a smoke compartment containing patient sleeping units in Group I-2 in accordance with this code.
2. Dwelling units, and sleeping units in Group R and I-1 occupancies.
3. Light-hazard occupancies as defined in NFPA 13.

[F] 903.3.3 Obstructed locations. Automatic sprinklers shall be installed with due regard to obstructions that will delay activation or obstruct the water distribution pattern. Automatic sprinklers shall be installed in or under covered kiosks, displays, booths, concession stands, or equipment that exceeds 4 feet (1219 mm) in width. Not less than a 3-foot

(914 mm) clearance shall be maintained between automatic sprinklers and the top of piles of combustible fibers.

Exception: Kitchen equipment under exhaust hoods protected with a fire-extinguishing system in accordance with Section 904.

[F] 903.3.4 Actuation. Automatic sprinkler systems shall be automatically actuated unless specifically provided for in this code.

[F] 903.3.5 Water supplies. Water supplies for automatic sprinkler systems shall comply with this section and the standards referenced in Section 903.3.1. The potable water supply shall be protected against backflow in accordance with the requirements of this section and the *International Plumbing Code*.

[F] 903.3.5.1 Domestic services. Where the domestic service provides the water supply for the automatic sprinkler system, the supply shall be in accordance with this section.

[F] 903.3.5.1.1 Limited area sprinkler systems. Limited area sprinkler systems serving fewer than 20 sprinklers on any single connection are permitted to be connected to the domestic service where a wet automatic standpipe is not available. Limited area sprinkler systems connected to domestic water supplies shall comply with each of the following requirements:

1. Valves shall not be installed between the domestic water riser control valve and the sprinklers.

Exception: An approved indicating control valve supervised in the open position in accordance with Section 903.4.

2. The domestic service shall be capable of supplying the simultaneous domestic demand and the sprinkler demand required to be hydraulically calculated by NFPA 13, NFPA 13R or NFPA 13D.

[F] 903.3.5.1.2 Residential combination services. A single combination water supply shall be allowed provided that the domestic demand is added to the sprinkler demand as required by NFPA 13R.

[F] 903.3.5.2 Secondary water supply. A secondary on-site water supply equal to the hydraulically calculated sprinkler demand, including the hose stream requirement, shall be provided for high-rise buildings in Seismic Design Category C, D, E or F as determined by this code. The secondary water supply shall have a duration of not less than 30 minutes as determined by the occupancy hazard classification in accordance with NFPA 13.

Exception: Existing buildings.

5.2.10 Other joining methods investigated for suitability in automatic sprinkler installations and listed for this service shall be permitted.

5.3* Underground Pipe. Any type of pipe or tube acceptable under the applicable plumbing code for underground supply pipe shall be acceptable as underground supply for fire sprinkler system when installed between the point of connection and the system riser.

5.4 Pre-engineered Systems. Where listed pre-engineered systems are installed, they shall be installed within the limitations that have been established by the testing laboratories.

Chapter 6 Water Supply

6.1 General Provisions.

6.1.1 Every automatic sprinkler system shall have at least one automatic water supply.

6.1.2 Where stored water is used as the sole source of supply, the minimum quantity shall equal the water demand rate times 10 minutes unless permitted otherwise by 6.1.3.

6.1.3 Where stored water is used as the sole source of supply, the minimum quantity shall be permitted to equal the two sprinkler water demand rate times 7 minutes where dwelling units meet the following criteria:

- (1) One story in height
- (2) Less than 2000 ft³ (186 m³) in area

6.1.4 The stored water requirement of 6.1.2 or 6.1.3 shall be permitted to be a combination of the water in the well (including the refill rate) plus the water in the holding tank if such tank can supply the sprinkler system.

6.2* Water Supply Sources. The following water supply sources shall be considered to be acceptable by this standard:

- (1) A connection to a reliable waterworks system with or without an automatically operated pump
- (2) An elevated tank
- (3) A pressure tank designed to American Society of Mechanical Engineers (ASME) standards for a pressure vessel with a reliable pressure source
- (4) A stored water source with an automatically operated pump
- (5) A well with a pump of sufficient capacity and pressure to meet the sprinkler system demand

6.2.1* Prior to system acceptance, a system utilizing a pump shall be tested by opening the drain/test connection.

6.2.1.1 The pump shall sense the flow, turn on, and flow water for the required duration of 6.1.2 or 6.1.3 without interruption.

6.2.2 Where a pump and tank is the source of supply for a fire sprinkler system but is not a portion of the domestic water system, the following shall be met:

- (1) A test connection shall be provided downstream of the pump that creates a flow of water equal to the smallest sprinkler on the system. The connection shall return water to the tank.
- (2) Pump motors using ac power shall be connected to a 240 V normal circuit.
- (3) Any disconnecting means for the pump shall be approved.
- (4) A method for refilling the tank shall be piped to the tank.
- (5) A method of seeing the water level in the tank shall be provided without having to open the tank.
- (6) The pump shall not be permitted to sit directly on the floor.

6.2.3* Where more than one dwelling unit is served by the same water supply pipe, each dwelling unit shall have an individual control valve that serves the fire sprinkler system in that dwelling unit and the owner shall have access to the valve that controls the sprinkler system in their unit.

6.2.3.1 The control valve shall be permitted to serve the domestic water supply.

6.2.3.2 In the situation addressed by 6.2.3, no valve controlling the sprinkler system in a unit shall be located in another unit.

6.3* Multipurpose Piping System.

6.3.1 A multipurpose piping system shall be installed in accordance with 6.3.2 through 6.5.4.

6.3.2 Multipurpose piping systems shall be approved by the local plumbing or health authority.

6.3.3 All piping in the system supplying sprinklers shall be listed and conform to the piping specifications of this standard.

6.3.3.1 Piping connected to the system that supplies only plumbing fixtures shall comply with local plumbing and health authority requirements but is not required to be listed.

6.4 Manufactured Home Water Supply. For sprinklered buildings manufactured off-site, the minimum pressure needed to satisfy the system design criteria on the system side of the meter shall be specified on a data plate by the manufacturer.

6.5 Common Supply Pipes.

6.5.1 Where common supply pipes serve both fire sprinkler and domestic use, they shall comply with 6.5.2 through 6.5.4.

6.5.2 In common water supply connections serving more than one dwelling unit, 5 gpm (19 L/min) shall be added to the sprinkler system demand to determine the size of common piping and the size of the total water supply requirements where no provision is made to prevent flow into the domestic water system upon operation of a sprinkler.

6.5.3 A warning sign, with minimum ¼ in. letters, shall be affixed adjacent to the main shutoff valve and shall state the following:

WARNING: The water system for this home supplies fire sprinklers that require certain flows and pressures to fight a fire. Devices that restrict the flow or decrease the pressure or automatically shut off the water to the fire sprinkler system, such as water softeners, filtration systems, and automatic shutoff valves, shall not be added to this system without a review of the fire sprinkler system by a fire protection specialist. Do not remove this sign.

6.5.4 Where water treatment and filtration are installed, one of the following conditions shall be met:

- (1) The flow restriction and pressure loss through the water treatment equipment shall be taken into account in the hydraulic calculations.
- (2) An automatic bypass shall be installed around the water treatment equipment that directs all water directly to the system.

Chapter 7 Installation

7.1 Valves.

7.1.1 A single control valve arranged to shut off both the domestic system and the sprinkler system shall be installed unless a separate shutoff valve for the sprinkler system is installed in accordance with 7.1.2.

7.5.6* Painting and Ornamental Finishes. Sprinklers shall not be painted or enameled unless applied by the manufacturer and the sprinkler has been listed with such finishes.

7.5.7 Escutcheon Plates. Where nonmetallic sprinkler ceiling plates (escutcheons) or recessed escutcheons (metallic or nonmetallic) are used, they shall be listed based on testing of the assembly as a residential sprinkler.

7.5.8 Solvent Cement. Where solvent cement is used as the pipe and fittings bonding agent, sprinklers shall not be installed in the fittings prior to the fittings being cemented in place.

7.6* Alarms. Local waterflow alarms shall be provided on all sprinkler systems in homes not equipped with smoke alarms or smoke detectors in accordance with *NFPA 72, National Fire Alarm and Signaling Code*.

7.7 Attics. When nonmetallic piping is installed in attics, adequate insulation shall be provided on the attic side of the piping to avoid exposure of the piping to temperatures in excess of the pipe's rated temperature.

Chapter 8 System Design

8.1 Design Criteria.

8.1.1 Design Discharge.

8.1.1.1 Sprinklers That Are Not Listed with Specific Discharge Criteria.

8.1.1.1.1 The system shall provide a discharge of not less than 13 gpm (49 L/min) per sprinkler simultaneously to all of the design sprinklers.

8.1.1.1.2 The system shall provide a discharge of not less than 18 gpm (68 L/min) to any sprinkler in the system.

8.1.1.2* Sprinklers That Are Listed with Specific Discharge Criteria.

8.1.1.2.1 The system shall provide at least the flow required for the multiple and single sprinkler operating criteria specified by the sprinkler listing.

8.1.1.2.2* The system shall provide at least the flow required to produce a minimum discharge density of 0.05 gpm/ft² (2.04 mm/min) to the design sprinklers.

8.1.2* Number of Design Sprinklers. The number of design sprinklers under flat, smooth, horizontal ceilings shall include all sprinklers within a compartment, up to a maximum of two sprinklers, that require the greatest hydraulic demand.

8.1.3 Sprinkler Coverage.

8.1.3.1 Residential Sprinklers.

8.1.3.1.1 Sprinklers shall be installed in accordance with their listing where the type of ceiling configuration is referenced in the listing.

8.1.3.1.2* Where construction features or other special conditions exist that are outside the scope of sprinkler listings, listed sprinklers shall be permitted to be installed beyond their listing limitations.

8.1.3.1.3 Sloped Ceilings.

8.1.3.1.3.1 Where the ceiling is sloped, the maximum *S* dimension shall be measured along the slope of the ceiling to the next sprinkler, as shown in Figure 8.1.3.1.3.1.

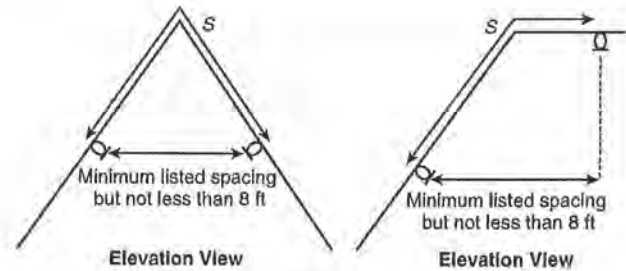


FIGURE 8.1.3.1.3.1 Measuring *S* Dimension.

8.1.3.1.3.2 The sprinklers shall maintain the minimum listed spacing, but no less than 8 ft (2.44 m), measured in the plan view from one sprinkler to another, as shown in Figure 8.1.3.1.3.1.

8.1.3.2 Nonresidential Sprinklers. Sprinklers other than residential sprinklers shall be installed in accordance with the coverage criteria specified by NFPA 13, *Standard for the Installation of Sprinkler Systems*.

8.1.4 Operating Pressure. The minimum operating pressure of any sprinkler shall be the higher of the minimum operating pressure specified by the listing or 7 psi (0.5 bar).

8.2 Position of Sprinklers.

8.2.1 Residential Pendent and Upright Sprinklers.

8.2.1.1 Pendent and upright sprinklers that have not been listed with specific positioning criteria shall be positioned so that the deflectors are within 1 in. to 4 in. (25.4 mm to 102 mm) from the ceiling unless otherwise permitted by 8.2.1.3.

8.2.1.2 Pendent and upright sprinklers that have been listed with specific positioning criteria shall be positioned in accordance with their listing unless permitted otherwise by 8.2.1.3.

8.2.1.3 Pendent and upright sprinklers in closets shall be permitted to be installed within 12 in. (305 mm) of the ceiling in order to avoid obstructions near the ceiling.

8.2.2 Residential Sidewall Sprinklers.

8.2.2.1 Sidewall sprinklers that have not been listed with specific positioning criteria shall be positioned so that the deflectors are within 4 in. to 6 in. (102 mm to 152 mm) from the ceiling.

8.2.2.2 Sidewall sprinklers that have been listed with specific positioning criteria shall be installed in accordance with their listing.

8.2.3 Nonresidential Sprinklers. Sprinklers other than residential sprinklers shall be positioned in accordance with the positioning criteria specified by NFPA 13, *Standard for the Installation of Sprinkler Systems*.

8.2.4 In basements where ceilings are not required for the protection of piping or where metallic pipe is installed, residential sprinklers shall be permitted to be positioned in a manner that anticipates future installation of a finished ceiling.

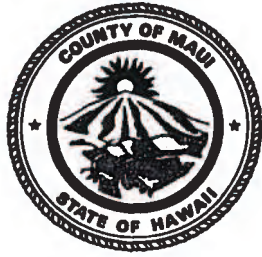
8.2.5* Obstructions to Residential Sprinklers.

8.2.5.1 Closets. In all closets, including those closets housing mechanical equipment, that are not larger than 400 ft³ (11.3 m³) in size, a single sprinkler at the highest ceiling space in the closet shall be sufficient without regard to obstructions.

CITY AND COUNTY OF HONOLULU
REVISION TO THE SCHEDULE OF RATES AND CHARGES
FOR THE FURNISHING OF WATER AND WATER SERVICE
 Amended by Resolution No. 780, 2007, effective July 1, 2007

Printed: 5/1/2013

<u>WATER SYSTEM FACILITIES CHARGES</u>		
Per Fixture Unit (F.U.)		
	July 1, 2014	July 1, 2015
<u>RESIDENTIAL - (Minimum 20 F.U.)</u>		
Single Family Residential		
Resource Development	\$80.04	\$80.04
Transmission	37.87	37.87
Daily Storage	67.42	67.42
Total	\$185.33	\$185.33
MultiFamily - Low-Rise		
Resource Development	\$117.14	\$117.14
Transmission	55.46	55.46
Daily Storage	98.67	98.67
Total	\$271.27	\$271.27
MultiFamily - High-Rise		
Resource Development	\$88.14	\$88.14
Transmission	41.73	41.73
Daily Storage	74.25	74.25
Total	\$204.12	\$204.12
<u>NON-RESIDENTIAL - (Commercial, Industrial, Hotel, Parks & Schools)</u>		
<50 F.U. (Minimum 20 F.U.)		
Resource Development	\$257.74	\$257.74
Transmission	130.65	130.65
Daily Storage	232.46	232.46
Total	\$620.85	\$620.85
>50 F.U.		
Resource Development	\$95.15	\$95.15
Transmission	45.04	45.04
Daily Storage	80.10	80.10
Total	\$220.29	\$220.29
<u>AGRICULTURE - (By Meter Size)</u>		
5/8" Meter		
Resource Development	\$2,081.08	\$2,081.08
Transmission	984.64	984.64
Daily Storage	1,752.86	1,752.86
Total	\$4,818.58	\$4,818.58
3/4" Meter		
Resource Development	\$2,881.05	\$2,881.05
Transmission	1,363.35	1,363.35
Daily Storage	2,427.04	2,427.04
Total	\$6,671.44	\$6,671.44
1" Meter		
Resource Development	\$4,721.68	\$4,721.68
Transmission	2,234.38	2,234.38
Daily Storage	3,977.65	3,977.65
Total	\$10,933.71	\$10,933.71
1-1/2" Meter		
Resource Development	\$12,804.55	\$12,804.55
Transmission	6,059.34	6,059.34
Daily Storage	10,786.86	10,786.86
Total	\$29,650.75	\$29,650.75
2" Meter		
Resource Development	\$28,014.53	\$28,014.53
Transmission	13,254.81	13,254.81
Daily Storage	23,596.26	23,596.26
Total	\$64,865.60	\$64,865.60



COUNTY OF MAUI

REVENUES - FEES, RATES, ASSESSMENTS AND TAXES

APPENDIX B

FISCAL YEAR JULY 1, 2016 TO JUNE 30, 2017

DEPARTMENT OF WATER SUPPLY
WATER FUND

3475	Water Service Rates General Water Consumers	Water service charges to Single-family dwellings, single-family and accessory dwellings with 5/8" meters (Monthly)	Charter 8- 11.4(2)
		Per 1,000 Gallons	
		0 - 5,000 gallons\$2.00	
		5,001-15,000 gallons\$3.80	
		15,001-35,000 gallons\$5.70	
		≥35,001 gallons\$6.35	

COUNTY OF MAUI
REVENUES - FEES, RATES, ASSESSMENTS AND TAXES

ACCOUNT	REVENUE SOURCE	FEE, RATE, ASSESSMENT OR TAX	HRS	COUNTY CODE	ORDINANCE
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**DEPARTMENT OF WATER SUPPLY
WATER FUND (Cont.)**

Water Shortage Rates			
	Stage 1	Stage 2	Stage 3
	Per 1,000 Gallons		
0 - 5,000 gallons.....	\$2.00	2.00	2.00
5,001-15,000 gallons.....	3.80	3.80	3.80
15,001-35,000 gallons.....	5.70	7.10	8.50
≥35,001 gallons.....	6.35	9.50	11.10

Water service charges to All Other General Water Consumers (Monthly):

	Per 1,000 Gallons
0 - 5,000 gallons.....	\$2.00
5,001-15,000 gallons.....	\$3.80
≥ 15,001 gallons.....	\$5.70

Water Shortage Rates			
	Stage 1	Stage 2	Stage 3
	Per 1,000 Gallons		
0 - 5,000 gallons.....	\$2.00	2.00	2.00
5,001-15,000 gallons.....	3.80	3.80	3.80
≥ 15,001 gallons.....	5.70	7.10	8.50

In addition to the above water service charges, there is a monthly service charge by meter size

Size of Meter	Per Meter/Month
5/8 inch (02).....	\$19.25
3/4 inch (03).....	\$31.00
1 inch (04).....	\$46.00
1-1/2 inch (06).....	\$88.00
2 inch (07).....	\$137.00
3 inch (09).....	\$242.00
4 inch (12).....	\$420.00
6 inch (15).....	\$770.00
8 inch (18).....	\$1,215.00

3475 Temporary Meter Charges

The meter service charge for all temporary meters shall be equal to the charge for 3-inch meter. In addition, there shall be an installation and conservation meter charge. The installation charge shall be based on the cost of installation and will be determined case by case. The conservation charge shall be 1.5 times the "general" water service rate.

Charter 8-11.4(2)

3477 Water Service Rates - Agricultural Consumers

Agriculture and non-potable water service charges (Monthly):

Charter 8-11.4(2)

Agricultural Rates

	Per 1,000 Gallons
0 - 5,000 gallons.....	\$2.00
5,001-15,000 gallons.....	\$3.80
≥ 15,001 gallons.....	\$1.10

Water Shortage Rates			
	Stage 1	Stage 2	Stage 3
	Per 1,000 Gallons		
0 - 5,000 gallons.....	\$2.00	2.00	2.00
5,001-15,000 gallons.....	3.80	3.80	3.80
≥ 15,001 gallons.....	1.10	1.20	1.30

Non-Potable Rates

All usage.....	\$1.00
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COUNTY OF MAUI
REVENUES - FEES, RATES, ASSESSMENTS AND TAXES

ACCOUNT	REVENUE SOURCE	FEE, RATE, ASSESSMENT OR TAX	HRS	COUNTY CODE	ORDINANCE
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**DEPARTMENT OF WATER SUPPLY
WATER FUND (Cont.)**

In addition to the above water service charges, there is a monthly service charge by meter size:

Size of Meter	Per Meter/Month
5/8 inch (02)	\$19.25
3/4 inch (03)	\$31.00
1 inch (04)	\$46.00
1-1/2 inch (06)	\$88.00
2 inch (07)	\$137.00
3 inch (09)	\$242.00
4 inch (12)	\$420.00
6 inch (15)	\$770.00
8 inch (18)	\$1,215.00

3480 Fire Water Service Rates

	Per Month
Hydrants (per hydrant)	\$3.50
Standpipes (per standpipe)	\$2.00
Private fire systems (per inch diameter of feeder main)	\$2.75

Water service usage as measured by detector check meters in private fire systems shall be billed at 35 times the meter reading.

Water service usage as measured by fire meters reading the full flow shall be billed at 1.5 times the total reading. If water usage can be shown to result from a fire, there shall be no charge other than the private fire system charge.

3481 Restoration Charge

Restoration of Water Service for locked meter\$100

54-33

Department of
Water Supply
Rules and
Regulations
3-11

Installation Charges

New Installation of 5/8" meter:
Existing cast iron meter box and fittings\$160

54-33

14,04,040(B)

New installation of 3/4" and 1" meters:
Existing cast iron meter box and fittings\$230

Flat charge applies only on installations requested by consumers at locations with existing service lateral

Temporary construction meter installations are subject to the "Applications and Agreement of Terms & Conditions for a Permit to use a Fire Hydrant or Standpipe for a Temporary Meter"\$485

Replacing damaged or missing transponder\$160

Replacing damaged or missing meter, cost of meter, plus 20% plus cost of materials..... By Size

Replacement of Ball Valves\$260

All jobs will require a cash deposit and upon completion, the customer will be billed or refunded the difference between the deposit and actual cost to do the job.

Charges Billed on Actual Cost

All Meter upgrades, reinstallations, and relocations (minimum charge - \$160)\$1,000

Installation of greater than 1" permanent meters (minimum charge - \$160)\$1,000

COUNTY OF MAUI
REVENUES - FEES, RATES, ASSESSMENTS AND TAXES

ACCOUNT	REVENUE SOURCE	FEE, RATE, ASSESSMENT OR TAX	HRS	COUNTY CODE	ORDINANCE
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**DEPARTMENT OF WATER SUPPLY
WATER FUND (Cont.)**

Installation of service lateral (1" or 1-1/4") requiring tapping the mainline (minimum charge \$160):

Same side of road.....	\$1,500
Opposite side of road.....	\$2,100
Paving costs.....	\$2,100

Corporation Tap - Wet tap existing waterline with corporation stop (minimum charge \$160).....\$360

Tap-in - Wet tap existing waterline with tapping sleeve and gate valve (minimum charge \$160):

Sizes	
4", 6", 8", 12".....	\$900

Tie-in - Removal of plug or cap from existing waterline and connect new waterline (minimum charge \$160):

Sizes	
4", 6", 8".....	\$900
12" and over.....	\$1,200

Cut-in - Installation of fitting and/or valve in existing waterline (minimum charge \$160):

Sizes	
4", 6", 8".....	\$1,000
Using A/C pipe.....	\$1,500
12" and over.....	\$1,500
Using A/C pipe.....	\$2,000

There will be a minimum charge of \$100 for all jobs billed at actual cost.

Overtime Work -- Additional Deposit.....\$1,200

The contractor shall furnish all fittings, pipes, and valves as well as all excavation, back fill work and reaction blocks for connections. The contractor shall have equipment and equipment operator at the job site to lower pipe, fittings, valves or tapping machine into the trench. A licensed DSO (Distribution System Operator) must be present on the job site. A higher deposit may be required for complex connections or hazardous conditions.

In addition to these charges, labor cost and other incidental supplies shall be computed and billed to the customer upon job completion and shall be based on actual labor time, rate and cost of incidental supplies.

Labor (includes overhead)	Per Hour
Job Costing.....	\$55.83
Overtime.....	\$83.76

Inspection.....	\$68.94
Overtime.....	\$103.41

Materials (includes 20% stores expense)..... (see as follows)

Equipment..... (see as follows)

Transportation	
Per Mile.....	\$0.65

Patching

Without base course	
Per sq. yd.....	\$16.58
Per sq. ft.....	\$2.00

COUNTY OF MAUI
REVENUES - FEES, RATES, ASSESSMENTS AND TAXES

ACCOUNT	REVENUE SOURCE	FEE, RATE, ASSESSMENT OR TAX	HRS	COUNTY CODE	ORDINANCE
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DEPARTMENT OF WATER SUPPLY
WATER FUND (Cont.)

With base course
Per sq yd..... \$24.98
Per sq ft..... \$3.41

Hot Mix
Per ton..... \$133.30

Cold Mix
Per ton..... \$138.00

S4C
Per ton..... \$45.00

Crushed Rock
Half ton..... \$35.00

Meals
Breakfast..... \$6.00
Lunch..... \$8.00
Dinner..... \$10.00

Equipment will be charged at per hour rate schedule.

Equipment ID No.	Per Hour
Air Compressors (Add charge for either compactor, drilling machine, or breaker)	
6 160 CFM, diesel powered.....	\$20.00
8 125 CFM, diesel powered.....	\$22.00
9 185 CFM, diesel powered.....	\$24.00

Chain Saws:
14" Target All-Purpose..... \$20.00
18"..... \$12.00

Compactors:
12", 22", and 24" shoe..... \$15.00

Boom Truck:
International Boom Truck..... \$76.00
2001 Ford 350 w/crane..... \$62.00

Digger:
Post Hole Digger C71-S, 8" auger..... \$15.00
Mini Excavator, Model 303.5..... \$36.00
Mini Excavator, Model 35D..... \$36.00

Drilling Machine:
Mueller CL-12 w/601 air motor..... \$72.00

Forklift:
Wiggins W66ST, 1976, 6,000 lbs, 14 ft. lift..... \$29.00

Generator:
6KW Yamaha..... \$36.00

Pavement Breakers:
69 lbs. and 95 lbs. w/50-foot air hose..... \$11.00

Pavement Saw:
Rebuilt Saw..... \$11.00

Roller:
Hamm Tandem Drum Roller..... \$62.00

COUNTY OF MAUI
REVENUES - FEES, RATES, ASSESSMENTS AND TAXES

ACCOUNT	REVENUE SOURCE	FEE, RATE, ASSESSMENT OR TAX	HRS	COUNTY CODE	ORDNANCE
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DEPARTMENT OF WATER SUPPLY
WATER FUND (Cont.)

Track or Rubber Tire Loaders:	
12 Case 580K, 1990, Backhoe-Loader, diesel driven, rubber tire, CAT 416, 426	\$90.00
31 Case 580M, 2002, Backhoe-Loader, diesel driven, rubber tire w/extendahoe	\$90.00
28, 29 John Deere 410D, 1993, Backhoe, diesel driven (Tractor)	\$90.00
44 John Deere 410E, 1995, Backhoe, diesel driven (Tractor)	\$90.00
Case 580M, Backhoe-Loader	\$90.00
Model 262, Bobcat	\$60.00
Trucks (Includes charge for trailer, add charge for foridift):	
1011 International, 1991 Dump Truck	\$96.00
1704 International, 1998 Dump Truck	\$96.00
1899/2001 Peterbilt, 2005 Model 378 Dump Truck	\$96.00
2145 Peterbilt, 2007 Model 378 Dump Truck	\$96.00
2296 2,000 Gal. Water Truck	\$108.00
1373 International, 1990 Dump Truck	\$96.00
Water Pump:	
Trash Pump, 3" Wacker	\$36.00
Welder:	
Miller Bobcat 250, Gas-Driven	\$30.00
Materials will be charged from Stores Inventory Price list plus 20% warehouse expense.	

COUNTY OF MAUI
REVENUES - FEES, RATES, ASSESSMENTS AND TAXES

ACCOUNT	REVENUE SOURCE	FEE, RATE, ASSESSMENT OR TAX	HRS	COUNTY CODE	ORDINANCE
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DEPARTMENT OF WATER SUPPLY
WATER FUND (Cont.)

	MATERIALS UNIT COST										
	1/4"	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"
GATE VALVE	---	---	43.73	41.00	22.32	64.37	132.68	144.61	183.42	93.60	---
GATE VALVE, MJFE 6"	---	---	---	---	---	---	---	---	---	---	668.63
CHECK VALVE	---	---	57.84	52.79	10.55	42.85	167.86	96.82	189.06	---	---
BALL VALVE	---	22.21	44.88	72.56	---	146.88	216.52	186.29	---	---	---
MALE ADAPTER	---	1.25	2.62	5.45	8.81	9.26	19.08	58.50	22.85	39.02	---
BRASS COCK	3.38	23.32	39.71	57.61	88.80	111.80	184.44	181.62	---	---	---
SERVICE COUPLER PJ x PJ	---	---	15.19	18.07	30.19	53.90	79.32	118.25	---	---	---
COUPLINGS:											
Standard Brass T X T	0.65	---	2.65	3.70	6.37	4.60	15.53	19.57	13.32	---	---
Copper to Copper	0.19	0.23	0.52	1.44	1.18	5.81	1.66	---	30.48	---	---
Galvanized	---	---	0.74	1.21	1.81	2.59	4.66	19.92	10.32	25.28	---
Service x 6	---	17.95	27.92	29.80	25.73	35.68	---	---	38.12	---	---
Service x 12	---	---	36.04	26.46	48.10	74.90	89.86	95.98	114.25	144.10	---
Meter Coupling	---	---	---	14.90	---	---	---	---	---	---	---
Coupler, PJ, Male	---	---	12.98	15.43	29.88	42.42	60.19	---	---	---	---
Coupler, PJ, Female	---	---	13.56	18.53	32.20	48.96	61.98	32.75	---	---	---
ELBOWS 45°:											
Copper to Copper	---	---	0.52	---	---	0.76	---	---	50.89	---	---
Galvanized	---	---	0.92	1.03	1.60	1.27	1.74	3.97	---	10.09	---
ELBOWS 90°:											
Copper to Copper	---	0.24	1.66	4.34	1.45	7.60	4.43	29.98	29.32	---	---
Standard Brass T X T	---	---	4.13	6.34	9.17	10.88	18.66	38.83	18.29	---	---
Standard Brass ST	---	---	4.57	---	---	---	---	---	---	---	---
Galvanized	---	---	---	0.89	1.60	3.06	4.88	28.61	35.29	38.06	---
Galvanized Street	---	---	0.76	1.60	1.14	3.41	7.32	21.24	28.22	56.58	---
PIPE:											
Copper Type K	---	3.55	3.38	4.86	6.11	9.32	15.53	25.03	4.93	8.35	---
Galvanized	---	0.73	1.25	1.70	2.35	3.05	4.09	---	13.64	6.47	---
Drisco 5100, 100 ft.	---	---	---	0.77	0.88	1.10	2.68	---	---	---	---
Drisco 5100, 300 ft.	---	---	---	---	---	1.20	2.09	---	---	---	---
Drisco 8600, 20 ft.	---	---	---	---	---	---	---	---	---	5.44	---
Drisco 8600, 300 ft.	---	---	---	---	---	---	2.50	---	---	---	---
DL TY 6"	---	---	---	---	---	---	---	---	---	---	22.19
PLUG - Brass	---	---	---	2.86	4.07	---	---	---	---	---	---
PLUG - Galvanized	---	1.58	1.64	0.86	2.18	4.57	6.29	7.56	10.19	5.98	---
UNIONS:											
Copper to Copper	---	---	12.35	6.96	17.22	26.44	---	13.80	---	---	---
Copper to Female	---	---	4.42	19.39	76.64	13.14	34.00	368.95	---	---	---
Copper to Male	---	---	9.40	20.42	8.69	14.62	17.40	117.94	---	---	---
Standard Brass T X T	---	---	7.72	7.49	12.14	10.42	28.79	38.46	83.05	---	---
Galvanized	---	---	1.62	2.35	3.79	3.98	5.32	15.44	13.67	62.42	---

COUNTY OF MAUI
REVENUES - FEES, RATES, ASSESSMENTS AND TAXES

ACCOUNT	REVENUE SOURCE	FEE, RATE, ASSESSMENT OR TAX	HRS	COUNTY CODE	ORDNANCE
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DEPARTMENT OF WATER SUPPLY
WATER FUND (Cont.)

TEES	T X T	MATERIALS UNIT COST		
		C - C	GALV.	OTHER
3/4	4.66	2.86	0.94	---
3/4 x 3/4 x 1	---	0.50	---	---
1	8.45	3.04	1.52	---
1 x 1 x 3/4	---	3.47	---	---
1 x 1 x 1-1/2	---	29.24	---	---
1-1/4	12.10	8.17	2.41	---
1-1/4 x 1 x 1	---	12.44	---	---
1-1/4 x 1-1/4 x 1	---	7.54	---	---
1-1/2	15.70	6.43	2.66	---
1-1/2 x 1 x 1	---	0.00	---	---
1-1/2 x 1-1/2 x 1	---	15.53	---	---
1-1/2 x 1-1/2 x 1-1/4	---	---	---	---
2	27.11	33.96	4.32	---
2 x 3/4	---	8.09	---	---
2 x 2 x 1	---	22.75	---	---
2 x 2 x 1-1/4	---	8.20	---	---
2-1/2	34.12	3.23	25.70	---
2-1/2 x 3/4	---	23.20	---	---
2-1/2 x 2-1/2 x 1	---	24.31	---	---
2-1/2 x 2-1/2 x 1-1/4	---	5.57	---	---
2-1/2 x 2-1/2 x 1-1/2	---	5.57	---	---
2-1/2 x 2-1/2 x 2	---	5.57	---	---
3	66.23	---	14.66	---
4	---	---	75.78	---
6" CIMJ	---	---	---	125.26

LEAK REPAIR CLAMP	
1/2 x 3	4.94
3/4 x 3	10.58
3/4 x 6	15.29
1 x 3	10.62
1 x 6	17.78
1-1/4 x 3	10.30
1-1/4 x 6	17.20
1-1/2 x 3	10.25
1-1/2 x 6	21.74
2 x 3	11.62
2 x 6	22.08
2-1/2 x 3	9.10
2-1/2 x 6	19.36
3 x 6	25.15
4 x 6	28.31

NIPPLES	BRASS	GALV.
1/2 x 4	3.34	0.40
1/2 x 6	---	0.58
3/4 x Close	1.72	---
3/4 x 2	2.24	---
3/4 x 2-1/2	2.71	---
3/4 x 4	3.84	0.43
3/4 x 6	5.41	1.00
3/4 x 8	6.56	---
1 x Close	3.04	---
1 x 2-1/2	3.86	---
1 x 4	5.47	0.61
1 x 6	8.26	1.51
1-1/4 x 4	8.23	1.08
1-1/4 x 6	11.64	1.24
1-1/2 x 4	9.82	1.81
1-1/2 x 6	14.04	2.90
2 x 4	12.32	1.03
2 x 6	17.87	4.62
2-1/2 x Close	15.26	---
2-1/2 x 4	28.13	4.94

COUNTY OF MAUI
REVENUES - FEES, RATES, ASSESSMENTS AND TAXES

ACCOUNT	REVENUE SOURCE	FEE, RATE, ASSESSMENT OR TAX	HRS	COUNTY CODE	ORDINANCE
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**DEPARTMENT OF WATER SUPPLY
WATER FUND (Cont.)**

MATERIALS UNIT COST

SERVICE SADDLES		
1-1/2 x 3/4	Galvanized	90.62
2 x 3/4	Galvanized	15.31
2 x 1	Galvanized	13.72
2-1/2 x 3/4	Galvanized	23.02
2-1/2 x 1	Galvanized	---
3 x 3/4	Galvanized	106.25
4 x 3/4	Galvanized	23.56
4 x 1	Galvanized	66.07
4 x 1-1/2	Galvanized	42.96
6 x 3/4	Galvanized	52.12
3 x 1	AC	26.29
4 x 3/4	AC	84.83
4 x 1	AC	80.26
4 x 1-1/4	AC	42.46
4 x 1-1/2	AC	47.12
6 x 3/4	AC	93.66
6 x 1	AC	94.21
6 x 1-1/4	AC	69.66
6 x 1-1/2	AC	107.57
6 x 2	AC	120.71
8 x 1	AC	113.77
8 x 3/4	AC	90.46
8 x 1-1/4	AC	52.70
8 x 1-1/2	AC	123.60
8 x 2	AC	134.11
10 x 2	AC	142.92
12 x 3/4	AC	80.10
12 x 1	AC	168.34
12 x 1-1/4	AC	155.45
12 x 1-1/2	AC	205.16
12 x 2	AC	197.15

REDUCERS	C - C	BRASS	GALV.
3/4 x 1/2	---	3.20	0.78
1 x 3/4	---	6.25	1.60
1-1/4 x 3/4	---	---	0.67
1-1/4 x 1	2.24	10.56	0.86
1-1/2 x 3/4	---	11.80	0.91
1-1/2 x 1	1.48	10.85	0.92
1-1/2 x 1-1/4	7.04	10.75	1.64
2 x 3/4	---	13.52	1.31
2 x 1	5.82	15.08	1.32
2 x 1-1/4	2.09	14.80	1.31
2 x 1-1/2	---	17.05	2.35
2-1/2 x 1	---	4.08	---
2-1/2 x 1-1/4	4.19	---	2.57
2-1/2 x 1-1/2	4.66	21.98	6.10
2-1/2 x 2	4.82	26.12	13.81
3 x 1-1/2	---	---	3.64
3 x 2	---	---	7.72
3 x 2-1/2	---	31.38	3.64
4 x 2	---	---	17.81
4 x 2-1/2	---	---	25.60
4 x 3	---	---	34.62

NIPPLES (Cont.)	BRASS	GALV.
2-1/2 x 6	36.60	8.48
3 x 4	---	4.68
3 x 6	53.16	4.57
4 x 6	76.49	11.62

FULL CIRCLE CLAMP		
4 x 8		88.33
4 x 12		152.06
4 x 15		175.63
6 x 12		164.42
8 x 8		66.68
8 x 12		182.62
12 x 16		307.09

STAINLESS STEEL INSERTS		
1 5100		2.15
1-1/4 5100		3.07
1-1/2 5100		2.74
2 5100		2.22

MISCELLANEOUS ITEMS		
THREAD BOLTS, 5/8 x 3		2.39
THREADED RODS (PER FOOT) 5/8		1.57
THREADED RODS (PER FOOT) 3/4		8.52
HEX NUT, 3/4"		0.43
HEX NUT, 5/8"		0.83
HEX NUT, 5/8", OILED		0.40
MACHINE BOLT, 3/4 x 2-1/2		1.18
MACHINE BOLT, 5/8 X 2-1/2		9.54
MEGA LUG 6"		31.04
FLANGE GASKET #125 4"		6.43
FLANGE GASKET #125 6"		7.16
GASKET, MJ 6"		4.00
SLEEVE, SOLID CIMJ 6 X 12		69.68
BOX, VALVE-ROUND GFEEEN PLASTIC		14.28
GLAND KIT 6"		40.92
SHOVEL, FLAT		13.70
SEALING TAPE		1.43
CEMENT - 1 BAG		---
HOSE REDUCER 2-1/2 x 1-1/2		25.24
HOSE NIPPLE 2-1/2		39.06
DOUBLE HOSE CONNECTION 2-1/2		70.78
SLIDING VALVE BOX, TOP & BOTTOM, 24"		157.01
SVB COVER TYLER 5 1/2"		18.18
TAPPING SLEEVE 6 x 6		204.76
PLASTIC METER BOX		31.61
CAST IRON METER BOX 5/8 & 3/4, SHORT		111.90
CAST IRON METER BOX 5/8 & 3/4, LONG		289.94
CAST IRON METER BOX 1, LONG		396.89
HANDLE, BALL VALVE 3/4 TO 1		4.12

COUNTY OF MAUI
REVENUES - FEES, RATES, ASSESSMENTS AND TAXES

ACCOUNT	REVENUE SOURCE	FEE, RATE, ASSESSMENT OR TAX	HRS	COUNTY CODE	ORDNANCE
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DEPARTMENT OF WATER SUPPLY
WATER FUND (Cont.)

MATERIALS UNIT COST

HYDRANT RISER	
6 x 6	89.80
6 x 12	111.29
6 x 18	141.54

HYDRANT BURY	
6 x 30	215.71
6 x 36	230.62
6 x 42	239.12
6 x 48	295.31

HYDRANTS & ACCESSORIES	
#5 FIRE HYDRANT	1,182.00
#2-1/2" WHARF HYDRANT	499.50
2-1/2" HYDRANT GASKET	2.59
6" HYDRANT GASKET	2.38
5/8 x 3 HYDRANT BOLTS	4.26
5/8 x 3 MACHINE BOLTS	1.01

Corporation Stop	
1/2	7.94
1/2 x 3/4	15.10
3/4 x 3/4	20.50
3/4 x 1	18.16
1 x 1	5.77
1 x 1-1/4	29.71
1-1/4 x 1-1/2	77.53
1-1/2 x 2	78.40
2 x 2-1/2	123.44

Ball Corporation	
1/2	---
1/2 x 3/4	---
3/4 x 3/4	---
3/4 x 1	---
1 x 1	45.34
1 x 1-1/4	---
1-1/4 x 1-1/2	---
1-1/2 x 1-1/2	110.95
1-1/2 x 2	---
2 x 2	192.41
2 x 2-1/2	---

BUSHINGS	BRASS	GALV.
1/2 x 3/8	1.46	---
3/4 x 3/8	2.23	---
3/4 x 1/2	2.29	0.77
1 x 3/4	3.31	0.95
1-1/4 x 3/4	4.61	0.48
1-1/4 x 1	5.42	0.42
1-1/2 x 3/4	9.02	0.92
1-1/2 x 1	7.82	1.86
1-1/2 x 1-1/4	7.19	1.43
2 x 3/4	9.25	1.98
2 x 1	10.69	2.15
2 x 1-1/4	9.49	5.90
2 x 1-1/2	9.62	1.84
2-1/2 x 3/4	22.10	---
2-1/2 x 1	22.02	3.22
2-1/2 x 1-1/4	16.72	0.88
2-1/2 x 1-1/2	11.12	2.64
2-1/2 x 2	20.08	3.07
3 x 1	---	3.23
3 x 1-1/4	---	1.06
3 x 1-1/2	---	16.09
3 x 2	---	14.65
3 x 2-1/2	20.72	1.72
4 x 1-1/2	---	13.15
4 x 2	---	19.45
4 x 2-1/2	38.80	15.37
4 x 3	21.80	19.38

COUNTY OF MAUI
REVENUES - FEES, RATES, ASSESSMENTS AND TAXES

ACCOUNT	REVENUE SOURCE	FEE, RATE, ASSESSMENT OR TAX	HRS	COUNTY CODE	ORDINANCE
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DEPARTMENT OF WATER SUPPLY
WATER FUND (Cont.)

3482 Service Fee for Dishonored Checks \$30

3797 Water System Development Fees

Water System Development Fund (Chapter 3.92, MCC)				
Meter Size	Source	Transmission	Storage	Fee
5/8 inch	5,789	3,859	2,412	\$12,060
3/4 inch	9,064	6,043	3,777	\$18,884
1 inch	16,011	10,674	6,671	\$33,356
1-1/2 inch	34,535	23,023	14,390	\$71,948
2 inch	60,006	40,004	25,002	\$125,012
3 inch	134,102	89,402	55,876	\$279,380
4 inch	238,301	158,867	99,292	\$496,460
6 inch	534,688	356,458	222,786	\$1,113,932
8 inch	949,165	632,777	395,486	\$1,977,428
10 inch	1,482,893	988,595	617,872	\$3,089,360
12 inch	2,134,769	1,423,180	889,487	\$4,447,436

Charter 8-11.4(2)

Fixture units for single-family dwellings, single-family and accessory dwellings with 5/8", 3/4", and 1" meters shall be as follows.

Meter Size	Included with fee	Additional unit cost	Maximum additional units
5/8 inch	31	\$389	8
3/4 inch	53	\$356	14
1 inch	128	\$261	32

Water system development fee rates as of April 1993 will apply to requests of applicants on the priority list for upcountry, pursuant to Section 14.13.090, MCC, as of October 31, 2001 up to a maximum of three lots.

Board of Water Supply Appeals Fees	Appeals.....	\$300 Filing Fee	14.11.030	3557
	Fee for filing appeal may be refunded if board renders final decision and order authorizing refund in full or in part of filing fee.			
Late Fees	Service charge to all late payments over 30 days.....	1% per month	16-7-4(b)	
Tenant Deposit	A tenant (including a lessee or licensee) may be required to provide a lump sum deposit equal to a two billing period estimate, as collateral for future billings.		14.10.010	
Water Shortage Penalty	Violation of "Water Conservation and Control of Water Usage During Water Shortage".....	\$500 per violation	14.06A.090	4178
	Reinstallation fee for water meter removed.....	\$100	14.06A.090	4178

Water Charges

Water Use Charges for Fiscal Year 2017

All figures are in dollars per 1,000 gallons. The Fiscal Year runs from July 1 to June 30. For example, Fiscal Year 2017 is from July 1, 2016 to June 30, 2017.

Rates for Single-Family Dwellings with 5/8" Meters

Gallons	Total
0 - 5,000	\$2.00
5,001 - 15,000	\$3.80
15,001 - 35,000	\$5.70
Over 35,000	\$6.35

Water Shortage Rates for Single-Family Dwellings with 5/8" Meters

Gallons	Stage 1	Stage 2	Stage 3
0 - 5,000	\$2.00	\$2.00	\$2.00
5,001 - 15,000	\$3.80	\$3.80	\$3.80
15,001 - 35,000	\$5.70	\$7.10	\$8.50
Over 35,000	\$6.35	\$9.50	\$11.10

General Rates for All Other Water Consumers

Gallons	Total
0 - 5,000	\$2.00
5,001 - 15,000	\$3.80
Over 15,000	\$5.70

Water Shortage Rates for All Other General Water Consumers

Gallons	Stage 1	Stage 2	Stage 3
0 - 5,000	\$2.00	\$2.00	\$2.00
5,001 - 15,000	\$3.80	\$3.80	\$3.80
Over 15,000	\$5.70	\$7.10	\$8.50

Agricultural Rates

Gallons	Total
Over 15,000	\$1.10

Non-Potable Agricultural Rates

Gallons	Total
All usage	\$1.00

Water Service Charges

Below are regular and agricultural water service charges.

Size of Meter	Cost Per Meter Per Month
5/8 inch	\$19.25
3/4 inch	\$31.00
1 inch	\$46.00
1 1/2 inch	\$68.00
2 inch	\$137.00
3 inch	\$242.00
4 inch	\$420.00
6 inch	\$770.00
8 inch	\$1,215.00

• [Information on sewer rates is available at the Department of Environmental Management](#)

• [Rates and Fees Charged to Customers and Contractors \(water fund only\)](#)

PART 4
FIXING RATES FOR THE FURNISHING OF WATER SERVICE IN THE
COUNTY OF KAUAI

SECTION I - GENERAL USE RATES

1. **Service Charge.** For each service there shall be a charge per month imposed based on the size of the meter, or its service capacity equivalence in the case of parallel meters, as follows:

Meter Size	Effective	Effective	Effective	Effective
	January 1 2012	July 1 2012	July 1 2013	July 1 2014
5/8"	\$12.00	\$14.40	\$16.00	\$17.75
3/4"	16.75	20.00	22.25	24.75
1"	24.25	29.50	32.75	36.50
1-1/2"	46.00	53.00	59.00	65.50
2"	70.00	81.00	90.00	100.00
3"	132.00	146.75	163.00	181.00
4"	216.00	240.00	267.00	297.00
6"	420.00	475.00	528.00	587.00
8"	680.00	755.00	840.00	934.00

2. **Use Charge.** In addition thereto, there shall be a consumption charge imposed per 1,000 gallons as follows:

Use Rate Block	Effective	Effective	Effective	Effective
	January 1 2012	July 1 2012	July 1 2013	July 1 2014
0 th Block	\$3.20	\$3.40	\$3.60	\$3.80
1 st Block	3.50	3.90	4.35	4.85
2 nd Block	4.25	4.50	5.05	5.65
3 rd Block	6.85	7.60	8.50	9.50
4 th Block	7.20	8.05	8.95	10.00

The 0th, 1st, 2nd, 3rd, and 4th block consumption thresholds vary with the size of each meter, and shall be as follows in thousands of gallons per monthly billing:

Meter Size	0 th	1 st	2 nd	3 rd	4 th
	Rate Block Minimum	Rate Block From-To	Rate Block From-To	Rate Block From-To	Rate Block Over
5/8"	1	1-7	7-14	14-18	18
3/4"	2	2-29	29-57	57-65	65
1"	3	3-68	68-137	137-175	175
1-1/2"	10	10-169	169-337	337-387	387
2"	12	12-400	400-750	750-925	925
3"	50	50-600	600-1,200	1,200-1,750	1,750
4"	175	175-1,000	1,000-2,500	2,500-2,750	2,750
6"	225	225-4,000	4,000-7,500	7,500-10,000	10,000
8"	250	250-1,000	1,000-2,500	2,500-12,500	12,500

3. Wharfage Fee. Where applicable, the Department of Transportation's wharfage fee shall be charged in addition to the above use and service charges.

SECTION II - BULK RATES

Bulk rates for specified areas may be established by the Board providing the following conditions are met:

1. The area consists of existing dwellings or business establishment with bulk rates built prior to September 11, 1992.
2. The system has been offered to the Board but refused because of substandard or obsolete pipeline and fixtures.
3. The lots or parcels are under diversified ownership and not under a single or limited number of owners (three (3) and less).
4. There is a savings to the Board in maintenance and operating costs in contrast to accepting the system.
5. All bulk rates shall be renegotiated biennially and may continue upon concurrence of both parties.

SECTION III - AGRICULTURAL RATES

1. Service Charge. For each agricultural service there shall be a charge per month imposed based on the size of the meter, or its service capacity equivalence in the case of parallel meters, as follows:

Meter Size	Effective	Effective	Effective	Effective
	January 1 2012	July 1 2012	July 1 2013	July 1 2014
5/8"	\$15.00	\$15.00	\$16.00	\$17.75
3/4"	20.00	20.00	22.25	24.75
1"	30.00	30.00	32.75	36.50
1-1/2"	55.00	55.00	59.00	65.50
2"	90.00	90.00	90.00	100.00
3"	160.00	160.00	163.00	181.00
4"	260.00	260.00	267.00	297.00
6"	500.00	500.00	528.00	587.00
8"	800.00	800.00	840.00	934.00

2. In addition to the agricultural service charge described in this Section III, for all water drawn, where such water is used for agriculture, stock raising, or dairy farming on a commercial basis, the following consumption charge shall be imposed for each 1,000 gallons used, as of the following effective dates:

Use Rate Block	Effective	Effective	Effective	Effective
	January 1 2012	July 1 2012	July 1 2013	July 1 2014
1 st Block	\$1.75	\$1.90	\$2.05	\$2.20

3. In order to qualify for the charges and rates described in this Section III, the applicant shall file annually with the Department of Water a written application, shall furnish annually satisfactory proof, including State of Hawaii General Excise Tax License for the engagement of business in agriculture, stock raising or dairy farming on a commercial basis and shall have a DOW approved reduced pressure backflow preventer installed on the customers side of the meter with a current inspection certificate. The applicant for agricultural rates must agree to accepting service from the Department of Water on an interruptible basis; i.e., the Department retains the right to limit or restrict water flow for agricultural uses in the event of water shortage or in the event water service to domestic users is curtailed due to agricultural uses. The agricultural rates shall not apply to processing activities, such as canneries, mills, markets or other establishments engaged in the conversion, treatment or packaging of agricultural products.

SECTION IV - SHIPPING RATES

1. For each ship or vessel served, there shall be both an opening charge and a closing charge imposed as follows:
 - A. Opening and Closing Charges:
 1. Charges applicable during regular Water Department working hours: \$53.00
 2. Charges applicable during Saturdays, Sundays, State of Hawai'i holidays, and hours other than regular Water Department working hours: \$123.00
2. Additionally, for all water drawn by ships and vessels, there shall be a consumption charge imposed for each 1,000 gallons of water drawn, as follows:

Effective January 1, 2009:	\$3.70
Effective January 1, 2010:	\$4.00
3. Additionally, for all water drawn by ships and vessels, there shall be a State of Hawai'i Department of Transportation wharfage fee which is the current approved rate as per the Hawai'i Department of Transportation Approved Rate imposed for each 1,000 gallons of water drawn.

SECTION V - PRIVATE FIRE SERVICE CHARGES

1. Types of Fire Lines: There are two types of fire lines, not located on road rights of way, that are considered private fire lines:
 - A. "Fire lines with Detector Check Assemblies" - Fire lines with detector check assemblies which are not be used for anything other than firefighting without written permission from DOW.
 - B. "Fire lines with Full Flow Meters" - Fire lines with full flow meters allowed for dual use in order to provide normal consumption as well as fire flow. These dual use services are oversized, compared to normal service meters, in order to allow for higher than normal consumption. The oversized meter has two meters, a Full Flow Meter and a Small Meter, both of which do not accurately read low flow; the monthly service charge for the low flow offsets the inaccuracy of the meter.
2. Charges for Fire lines with Detector Check Assemblies

- A. **No Charge for Fire Consumption:**
 Fire lines with Detector Check Assemblies, which are used for the sole purpose of firefighting, will not be charged a consumption charge in the case of an actual fire, provided that the use for firefighting purposes is verified in writing, by the County Fire Chief, stating the time and date the firefighting started and ended.
- B. **Total Charges:** Although water is not permitted to be used through Fire lines with Detector Check Assemblies for anything other than firefighting, there remains the possibility of leakage, testing, and other impermissible uses. Therefore, charges for Fire lines with Detector Check Assemblies shall equal the sum of all of the following:
- i. Private Fire Service Inlet Line Charge, as determined in Part 4, Section V, paragraph 4 below; and
 - ii. Meter Reading Service Charge; and
 1. Meter Reading Service Charge is equal to the service charge correlated with the detector check assembly meter size as described and laid out in Part 4, Section I of DOW Rules and Regulations;
 2. The minimum use service charge imposed in Part 4, Section I of DOW Rules and Regulations shall not apply for the detector check assembly;
 3. Removal of the security tag shall result in a fine of \$2,000.
 - iii. Use Determination Charge.
 1. All consumption, including consumption for annual line testing and line leakage, will be billed for use through the: 1) Detector Check Assembly Meter; and 2) Unmetered Fire line
 - a. Unmetered Fire line:
 - i. Total unmetered fire line consumption shall be determined by taking the area ratio from the area of the detector check assembly meter cross-sectional area divided into the cross-sectional area of the inlet line, as listed in Part 4, Section V, paragraph 5 below, multiplied by the reading obtained from the detector check assembly meter.
 - b. Detector Check Assembly Meter:
 - i. The portion of the consumption obtained from the reading on the detector check assembly meter will be billed, according to Part 4, Section I, based on the detector check assembly meter reading from the first one thousand gallons use.
 - ii. The difference of the consumption found from the Use Determination minus the detector check assembly meter reading will be billed at the Block Rate in Part 4, Section I, for a meter equivalent to the size of the line serving the detector check assembly for all remaining consumption without any minimum use charge.

3. Charges for Fire lines with Full Flow Meters

- A. **Total Charges:** Charges for Fire lines with Full Flow Meters shall equal the sum of all of the following:
- i. Private Fire Service Inlet Line Charge, as determined in Part 4, Section V, paragraph 4 below; and
 - ii. Full Flow Meter Charge; and
 1. Full Flow Meter Charge shall equal the service charge imposed in Part 4, Section I and shall be based on the full flow meter size.
 2. Any consumption, including consumption for the annual line testing, line leakage, or fire use, measured on the meter, will be billed at the general use rate for water as listed in Part 4, Section 1 of these rules.

3. Removal of the security tag shall result in a fine of \$2,000.00.
- iii. Small Meter Charge.
 1. The Small Meter Charge shall equal the block rate charge for the respective meter size, as laid out in Part 4, Section 1 of these rules.

4. Private Fire Service Inlet Line Charge: For the two types of private fire service connection allowed for the purpose of automatic fire sprinklers or other private fire protection, there shall be a Private Fire Service Inlet Charge, per month, based on the diameter of the inlet line connection as follows:

PRIVATE FIRE SERVICE INLET CHARGE

<u>Inlet Line Diameter</u>	<u>Effective January 1 2012</u>	<u>Effective July 1 2012</u>	<u>Effective July 1 2013</u>	<u>Effective July 1 2014</u>
2"	\$20.50	\$22.75	\$25.25	\$28.25
3"	35.50	39.50	44.00	49.00
4"	58.00	64.50	71.75	80.00
6"	121.00	134.50	149.50	166.00
8"	206.00	229.00	255.00	283.00

5. Area Ratio Table

<u>Line Diameter</u>	<u>5/8 meter to line size dia ratio</u>	<u>3/4 meter to line size dia ratio</u>	<u>1" meter to line size dia ratio</u>	<u>1 1/2" meter to line size dia ratio</u>	<u>2" meter to line size dia ratio</u>	<u>3" meter to line size dia ratio</u>	<u>4" meter to line size dia ratio</u>
<u>2.000</u>	<u>10.24</u>	<u>7.1</u>	<u>4.0</u>	<u>1.8</u>			
<u>3.000</u>	<u>23.04</u>	<u>16.0</u>	<u>9.0</u>	<u>4.0</u>	<u>2.3</u>		
<u>4.000</u>	<u>40.96</u>	<u>28.4</u>	<u>16.0</u>	<u>7.1</u>	<u>4.0</u>	<u>1.8</u>	
<u>6.000</u>	<u>92.16</u>	<u>64.0</u>	<u>36.0</u>	<u>16.0</u>	<u>9.0</u>	<u>4.0</u>	<u>2.25</u>
<u>8.000</u>	<u>163.84</u>	<u>113.8</u>	<u>64.0</u>	<u>28.4</u>	<u>16.0</u>	<u>7.1</u>	<u>4</u>

SECTION VI - PUBLIC FIRE SERVICE CHARGES

For each fire hydrant or standpipe connected to operating pipelines of the Department of Water, there shall be a charge imposed against the County of Kauai as follows:

<u>Type and Size</u>	<u>Effective January 1 2012</u>	<u>Effective July 1 2012</u>	<u>Effective July 1 2013</u>	<u>Effective July 1 2014</u>
2-1/2" Standpipe	\$7.75	\$8.75	\$9.75	\$10.75
4" Hydrant	16.50	18.50	20.50	23.00
6" Hydrant	48.50	54.00	60.00	67.00

SECTION VII - OTHER CHARGES

1. **Restoration of Water Service.** If a consumer's water service is turned off for failure to pay a bill, for violation of any of the provisions of these rules and regulations, or for other reasons, all outstanding accounts against said consumer plus the charge for reopening, reinstallation or reconnection must be paid before water service be restored. Said charges shall be as established by the Department.
2. **Fire Hydrant and Other Temporary Meters.** In addition to regular meter service charge and water consumption charge, there shall be installation, removal, testing and user charges for all Fire Hydrant and other temporary meters as established by the Department.
3. **Pass Through of Private Charges.**
 - a) As used in this Paragraph 3:

"Private charge" or "private charges" means charges, fees, assessments, exactions, and all other moneys a private water company may require the Department to pay to permit the Department to purchase water from the company. The terms include contribution-in-aid-of-construction charges that a company may assess against the Department.

"Private water company" or "company" means any department or agency of the federal government or the State of Hawaii, any private person, trust, association, corporation, partnership, or business, and any water utility regulated by the Hawaii Public Utilities Commission.

(b) Whenever the Department purchases water from a private water company for end use by any of the Department's consumers or prospective consumers and the company imposes private charges in excess of any similar charge or fee imposed under the Department's administrative rules, the Department shall require a consumer or prospective consumer to pay, in addition to the Department's charge or fee, the difference between the charge or fee imposed under the Department's rules and the similar private charge imposed by the company. If the private charge imposed is less than the similar charge or fee imposed under the Department's administrative rules, the consumer or prospective consumer shall not be entitled to the difference between the private charge imposed and the similar charge or fee imposed under the Department's rules.

Whenever the Department purchases water from a private water company for end use by any of the Department's consumers or prospective consumers and the company imposes private charges that are dissimilar to any charge or fee imposed under the Department's administrative rules, the Department shall require a consumer or prospective consumer to pay an amount equal to the dissimilar private charge imposed by the company."

SECTION VIII - TEMPORARY GRANTS OF WATER

1. **Purpose.** The purpose of this section is to establish standards for temporary grants of water to support the initial development of county or state public beautification projects or the initial or further development of county or state public parks and public ways.
2. **Temporary Grants of Water.** The Board of Water Supply may, in its discretion, authorize temporary grants of water to support the initial development of county or state public beautification projects or the initial or further development of county or state public parks and public ways.

Any county or state department, office, or agency wishing to receive such temporary grants of water shall apply to the Board of Water Supply for such temporary grants. The application shall explain or describe in detail the contemplated project, why a temporary grant of water from the Department is

necessary, what other efforts the applicant has made to obtain water from other sources, for what specific purposes the water will be used, and how the water provided will yield public benefits. The applicant shall also certify that there were no other available sources which can be used to support the project in question.

For each application, the Board shall determine and establish a maximum time limit that water may be provided to an applicant and a quantity limit on the amount of water that may be drawn.

The Board and the Manager and Chief Engineer may prescribe conditions under which water may be drawn so that the provision of water to the applicant does not adversely affect the Department's ability to provide water to its other users.

SECTION IX - COST OF POWER ADJUSTMENT CLAUSE

All water consumption (for general use, agriculture use and ships) shall be subject to the imposition of a Cost of Power Adjustment as part of all water consumption charges.

The Department will review the actual unit costs of power for each twelve month period ending March 31st as part of the Department's annual budget review process. The power cost adjustment for the upcoming fiscal year will be calculated as the sum of the following two components:

- 1) the difference (plus or minus) between budgeted unit power costs for the upcoming fiscal year and the projected unit power costs, and
- 2) the difference (plus or minus) between the actual unit power costs incurred during the twelve-month period ending March 31st as previously described and the projected unit power costs.

The sum of these two components, calculated on a dollar[s] per thousand gallons basis, will be applied to all water consumption.

Any power cost adjustments will be implemented on July 1st of each year.

SECTION X – LATE CHARGES

A late payment charge may be applied to any delinquent balance payable to the Department. The late payment charge shall be assessed at the rate of half a percent (0.5%) for each month or fraction thereof against the delinquent balance, beginning 30 days after the date of the bill.

For the purposes of this section, 'delinquent balance' includes any loan, fee, charge, or other liquidated sum which is 30 days past due to the Department, regardless of whether there is an outstanding judgment for that sum, and whether the sum has accrued through contract, subrogation, tort, operation of law, or administrative order.

PART 5
FACILITIES RESERVE CHARGE
within the County of Kauai
and Providing Penalties for the Violations Thereof

SECTION I – GENERAL PROVISIONS

1. Purpose and Authority
 - a. Capital water facilities expansion is needed in order to accommodate increased demands on existing source, storage, and transmission pipeline capacity due to new development and/or additional demand of existing users. **New development and/or additional demand shall be assessed a Facilities Reserve Charge** in proportion to its impact and demand on capital water facilities. The Facilities Reserve Charge shall be expended for public capital water facilities projects. These rules were enacted pursuant to Hawaii Revised Statutes (H.R.S.) §46-141 *et seq.* and other applicable State law.

2. Findings
 - a. In the review of the impact of growth relative to the existing and planned capital water system facilities capacity available to the water system, the Board hereby finds that the recent and anticipated population growth rates and corresponding water demands would place additional burdens on the existing water system. The Board further finds that such growth and increased demand would necessitate increased expenditures of public funds in order to create adequate facilities and to promote and protect the public health, safety, and welfare. The Board also finds that it is fair and reasonable to impose additional fees to accommodate such development. *Finally, the Board finds that establishing benefit zones as identified in Hawaii Revised Statutes (H.R.S.) §46-14* is not necessary as a reasonable benefit can otherwise be derived.*

 - b. The following rules shall govern the assessment of impact fees for the Board of Water Supply, County of Kauai capital water facilities expansion. New development and/or additional demand shall be assessed impact fees in proportion to its demand on capital water facilities and the impact fees assess shall be expended for public capital water facilities projects. The Facilities Reserve Charge (FRC) was adopted in accordance with the report prepared by an independent consultant retained by the County of Kauai, Board of Water Supply (Board) to

assess and study water facilities. The report calculated the proportionate costs associated with the water development needs as laid out in the Board approved Department facilities needs assessment study entitled "Water Plan 2020", as amended.

SECTION II – DEFINITIONS

"Affordable or Workforce Housing Project" shall mean any project confirmed or sponsored by the County Housing Agency as a residential development where the majority of housing lots, single family dwelling units, or multiple-family dwelling units are affordable housing or workforce housing as defined in Chapter 7A of the Kauai County Code 1987, as amended.

"Applicant" means any person, individual, subdivider, corporation, partnership, business, organization, association, or other entity whatsoever that applies for water service from the Department.

"Consumer" has the meaning ascribed to it under Section I of Part 2 of the Department's Rules and Regulations.

"Facilities Reserve Charge" (FRC) means the fee to be paid by an Applicant as their proportionate share in required improvements to capital water facilities.

"Grant Funds" shall mean a contribution, gift, or subsidy bestowed to the Board for specific water facilities improvement associated with a specific project that necessitates such water facilities improvements.

"Grantor" means the person or entity that makes a grant of funds.

"Offset" means a reduction in Facilities Reserve Charge designed to fairly reflect the value of non-site related capital water facilities improvements provided by an Applicant pursuant to Department of Water requirements.

"Recoupment" shall be defined as in H.R.S. 46-141, as amended, and refers to the proportionate share of the water facility capital improvement costs of excess capacity in existing water capital facilities where excess capacity has been provided in anticipation of the needs of development.

"Subdivider" has the meaning ascribed to it under section I of Part 3 of the Department's Rules and Regulations.

“Subdivision” has the meaning ascribed to it under section I of Part 3 of the Department’s Rules and Regulations.

“Water transmission main” or “main” means a main extension under Paragraph 2.d [2.a.(4)] of Section II of Part 2 of the Department’s Rules and Regulations.

As used in this Section, the following rules of construction shall apply:

Number. Words in the singular or plural number signify both the singular and plural number.

“Or”, “and”. Each of the terms “or” and “and”, has the meaning of the other or of both.

SECTION III – APPLICABILITY

1. The Facilities Reserve Charge shall be assessed against all new developments and subdivisions requiring supply of water from the County of Kauai, Department of Water, and existing developments requiring new or additional supply of water from the Department’s system. The Facilities Reserve Charge must be paid before water services are made available to the new or existing development.
2. The Facilities Reserve Charge shall be paid by all Applicants for new or additional water service, including but not limited to the following:
 - a. All irrigation services and/or meters.
 - b. Additional buildings to be connected to existing services where additional demands are indicated. The charges shall be based on the meter sizes required if the buildings were metered separately.
 - c. Additional dwellings connected to existing services and meters under the categories of single family and multi-family residential units. The charges will be based on the established schedule of charges for the respective categories.
 - d. Changes in service that require an increase in meter size.
 - e. Where an FRC was paid but a water meter was never installed to serve the subject property, the applicant shall pay the Facilities Reserve Charge in accordance with Part 5, Section IV (4) of these Rules.

3. The Facilities Reserve Charge shall apply to all Applicants for water service as follows:
 - a. For each parcel created by subdivision, including the first lot created; and for every new single family residential dwelling unit not yet metered and a Facilities Reserve Charge has not yet been paid, the applicable Facilities Reserve Charge shall be \$14,115.00.
 - b. The Facilities Reserve Charge for multi-family and/or resort development will be the cost of the approved meter size or the cost of \$9,880.00 per unit or hotel room, whichever number is larger.
 - c. For all other uses, the Facilities Reserve Charge shall be determined by the size of the meter, as shown below. Meter sizes shall be determined by the Department and not by the Developer or Applicant.

Meter Size	Amount
5/8"	\$ 14,115.00
3/4"	\$ 21,170.00
1"	\$ 35,290.00
1 1/2"	\$ 70,580.00
2"	\$ 112,920.00
3"	\$ 225,840.00
4"	\$ 352,880.00
6"	\$ 705,750.00
8"	\$ 1,129,200.00

Facilities Reserve Charges are periodically adjusted by the Department. These adjustments may increase or decrease existing Facilities Reserve Charge amounts. Where adjustments to Facilities Reserve Charges result in decreases of such charges, no refund will be made of the difference between the higher, pre-existing charges and the lower, adjusted charges.

SECTION IV – COLLECTION AND REFUND OF FRC

1. Upon collection of the Facilities Reserve Charge, the Facilities Reserve Charge shall be deposited in a special trust fund or interest-bearing account. The portion that constitutes recoupment may be transferred to any appropriate fund.

2. If the Facilities Reserve Charge is not expended or encumbered within six years from the date of collection, it shall be refunded to the property owner or the property owner's successor in title, together with accrued interest (if any).
 - a. An application for a refund shall be submitted to the Board within one year of the date upon which the refund right arises;
 - b. Amounts unclaimed within one year of the date the right to refund arises shall be retained in a special trust fund or interest bearing account and shall be expended for capital facilities improvement projects.
3. If the Board terminates the Facilities Reserve Charge (or analogous) requirement, all unexpended or unencumbered funds shall be refunded to the property owner or the property owner's successor in title, together with accrued interest (if any).
 - a. Public notices of termination and availability of refunds shall be given by the Board at least two times in a manner approved by the Board. All funds available for refund shall be retained for a period of one year and at the end of said one year period, any remaining funds may be transferred to the Board's general fund and expended for any public purposes involving water supply or service as determined by the Board.
4. No FRC refund shall be made for existing meters requiring a decrease in water demand, decrease in meter size, or decrease in existing water supply fixture units; or requests to change service categories.
5. Recoupment shall be exempt from subsections (2) and (3).
6. **Facilities Reserve Charge Paid Prior to Enactment of Part 5 Rules**
 - a. This Section applies to those Applicants that have paid a Facilities Reserve Charge prior to enactment of these Part 5 Rules and have failed to install a water meter on the subject property for which the Facilities Reserve Charge was paid, hereinafter referred to as "Prior Applicants".
 - b. Prior Applicants shall have three (3) years from the date of enactment of these Part 5 Rules, hereinafter referred to as the "Grace Period", to install a water meter, at no additional Facilities Reserve Charge cost.

- c. After expiration of the Grace Period, Prior Applicants must pay the difference of the original Facilities Reserve Charge paid and the Facilities Reserve Charge in effect at the time the meter is installed.
 - d. The Manager may grant exceptions to item 6c if the Manager finds all of the following:
 - i. Strict application of the rule would cause an absurd, unfair, or unreasonably harsh result; and
 - ii. The Prior Applicant's circumstance or condition is unique or exceptional and the Manager would grant the same request if made by ever similarly situated Prior Applicant; and
 - iii. Such exception thereof is as reasonably necessary or expedient and not contrary to law or the intent and purposes of these rules.
7. **Facilities Reserve Charge Paid After Enactment of Part 5 Rules**
- a. The Department may issue conditional approval for water service requests.
 - b. A conditional approval shall be valid for a period of one year and shall expire unless installation of the meter occurs within that period or an extension of the conditional approval is granted.
 - i. An extension of the conditional approval may be granted for a single additional one-year period.
 - c. Upon expiration, the conditional approval shall become null and void and the Applicant will be required to re-apply to the Department of Water for water service. Any request for water service will be dependent on the adequacy of the source, storage, and transmission facilities existing at that time.
 - d. A Water Meter Application and FRC payment can only be made upon completing the requirements set forth in the conditional approval.
8. **Facilities Reserve Charges for Affordable and Work Force Facilities Housing Projects**

- a. The Manager may defer collection of Facility Reserve Charges for Affordable or Workforce Housing Projects, provided, however that applicable Reserve Charges shall be collected before building permit approval or installation of applicable meters, whichever occurs first.
- b. Administrative fees related to the Facility Reserve Charge shall be waived for Affordable or Workforce Housing Projects.

SECTION V - FRC OFFSETS

When an Applicant, is required to construct and dedicate water source or water storage facilities, or water transmission mains, to the Department, the following rules shall apply:

1. The applicable FRC liability of such Applicant, shall be offset by up to 22% where water source improvements are constructed, up to 41% where water storage improvements are constructed, and up to 37% where water transmission mains are constructed; provided that the total amount of all offsets that an Applicant, receives shall not exceed 100% of the Applicant's, FRC liability.
 - a. An Applicant who provides 100% of the necessary source or storage or transmission requirements shall be entitled to an offset for the entire amount per category of source, storage, or transmission improvements as shown above.
2. The Department, and not the Applicant, shall calculate and determine the total amount of an Applicant's, FRC offset in any given case. The Department may require the Applicant to submit documentation verifying the actual cost of a source or storage improvement or transmission main.
3. The offsets described in this Section V "FRC Offsets" shall not apply to water transmission mains constructed by an Applicant which are within or adjacent to a subdivision or lands either 1) owned by the Applicant, or 2) developed by the Applicant. Where water transmission mains are constructed within, adjacent to, or outside of such subdivisions or lands, the offsets shall apply only to mains constructed outside of and off-site from such subdivisions or lands.
4. Grant Funds. Grant funds, specifically allocated to projects by the Grantor, may be used by the Manager to offset the FRC assessed to said projects on a dollar for dollar basis as it relates to source development, storage development and/or transmission main development.

- a. Applicants shall be offset by up to 22% where water source improvements are constructed; up to 41% where water storage improvements are constructed; and up to 37% where water transmission mains are constructed; provided that the total amount of all offsets that an Applicant receives shall not exceed 100% of the Applicant's FRC liability.
- b. The Manager shall determine which improvements are eligible for FRC offsets.
- c. FRC offsets shall be afforded only to those Applicants that are beneficiaries of the Grantor and identified as such at the time the Grant fund is made.
- d. FRC offsets for Grant Funds shall be a one-time event.

SECTION VI – APPEAL OF FACILITIES RESERVE CHARGE

1. Any person assessed a Facilities Reserve Charge under these rules may contest the amount of the Facilities Reserve Charge assessed by following the requirements in Part 1 of these Rules and Regulations.

Our Mission:

Providing Safe & Dependable Drinking Water at a Reasonable Cost

How is your money spent?

Water Quality

Providing safe drinking water is the foremost goal of the Department. We intend to meet the stringent requirements of the federal Safe Drinking Water Act. This includes testing of the water on a regular basis, developing better sources, and furnishing more treatment facilities.

Dependable Systems

Making sure that you have water involves drilling more wells (since well water is more dependable and less susceptible to droughts than surface sources), repairing and replacing outdated systems, and installing new modern equipment to monitor our systems.

EXPLANATION OF CHARGES:

- Your water bill consists of three components:
- Standby Charge:** This is a minimum monthly service charge based on meter size.
 - Consumption Charge:** This is a service charge based on water use.
 - Power Cost Charge:** This is a charge to offset power costs incurred by the Department.
 - Energy CIP (Capital Improvement Project) Charge:** This is a charge to fund projects that improve energy efficiency.

HOW TO PAY YOUR BILL:

- Mail in your payment.
- In person at our office at 345 Kekūānāhā St., Suite 20, in Hilo, or at our district offices in Waimea, Kona, and Ka'u.
- By Automatic Bill Payment from your checking account.
- On-line at payments.hawaii.gov.

Please allow sufficient time for your payment to reach us by the DUE DATE. We are not responsible for any payment which may be in transit on the due date. A late payment penalty of one-percent (1%) per month will be assessed on unpaid account balances outstanding for more than 30 days.

If payment is not received by the due date, a shut-off notice with a scheduled shut-off date will be mailed to the account holder. Contact us immediately if you are unable to pay amounts due by the due date. A disconnected service will not be restored until all amounts due are paid.

We assess a \$20 fee for all dishonored payments.

All water charges will continue to be your responsibility until you notify us to close your account.

ESTIMATED READINGS:

We try to read your meter each billing period. However, if it is not possible to do so, we will estimate your consumption based on your recent average water usage. Please help us by keeping your meter accessible and clear of cars, fences, walls, debris, foliage, and animals.



The Department of Water Supply is an equal opportunity provider and employer.

...Water, Our Most Precious Resource...
The Department of Water Supply is an equal opportunity provider and employer.

Department of Water Supply
345 Kekūānāhā Street, Suite #20
Hilo, Hawaii, 96720

Water Rates

Department of Water Supply

County of Hawai'i

345 Kekūānāhā Street, Suite #20
Hilo, Hawai'i 96720



Effective October 1, 2016

You Can Contact Us at the Following Numbers:

Administration/Finance/General(808) 961-8050
Billing/Customer Service(808) 961-8060
Engineering(808) 961-8070
Emergencies & Field Operations(808) 961-8790
Water Quality(808) 961-8670
Website Addresswww.hawaiidws.org

A. MONTHLY STANDBY CHARGES*

All meter connections shall be subject to a monthly standby charge as follows:

Meter Size (Inches)	Effective July 1, 2015	Effective July 1, 2016	Effective July 1, 2017	Effective July 1, 2018	Effective July 1, 2019
5/8"	\$ 16.75	\$ 17.40	\$ 18.30	\$ 19.20	\$ 20.20
1"	36.00	37.00	39.00	41.00	43.00
1-1/4"	67.00	70.00	73.00	77.00	80.00
2"	104.00	108.00	113.00	119.00	125.00
3"	190.00	197.00	207.00	218.00	229.00
4"	313.00	325.00	342.00	359.00	377.00
6"	621.00	646.00	678.00	712.00	747.00
8"	990.00	1,030.00	1,081.00	1,135.00	1,192.00
10"	1,426.00	1,480.00	1,560.00	1,630.00	1,720.00
12"	2,490.00	2,590.00	2,720.00	2,860.00	3,000.00

*Standby charge is a minimum monthly charge.

B. GENERAL USE RATES (per 1,000 gallons)

In addition to standby, power cost, and energy CIP charges, a consumption charge will be applied to all general use customers as follows:

Meter Size (Inches)	Effective July 1, 2015	Effective July 1, 2016	Effective July 1, 2017	Effective July 1, 2018	Effective July 1, 2019
1" Block	\$ 0.89	\$ 0.91	\$ 0.91	\$ 0.91	\$ 0.92
2" Block	1.80	1.80	1.88	1.95	2.01
3" Block	3.10	3.20	3.30	3.40	3.53
4" Block	4.06	4.20	4.35	4.50	4.69

BLOCK THRESHOLDS (gallons per month)

The threshold for the rate blocks vary with the size of the water meter as follows:

Meter Size (Inches)	1st Block	2nd Block	3rd Block	4th Block
5/8"	5,000	5,001 - 15,000	15,001 - 40,000	> 40,000
1"	5,000	5,001 - 100,000	100,001 - 300,000	> 300,000
1-1/4"	5,000	5,001 - 400,000	400,001 - 1,000,000	> 1,000,000
2"	5,000	5,001 - 900,000	900,001 - 2,000,000	> 2,000,000
3"	5,000	5,001 - 2,000,000	2,000,001 - 5,000,000	> 5,000,000
4"	5,000	5,001 - 4,700,000	4,700,001 - 10,000,000	> 10,000,000
6"	5,000	5,001 - 10,000,000	10,000,001 - 25,000,000	> 25,000,000
8"	5,000	5,001 - 20,000,000	20,000,001 - 50,000,000	> 50,000,000
10"	5,000	5,001 - 40,000,000	40,000,001 - 100,000,000	> 100,000,000
12"	5,000	5,001 - 60,000,000	60,000,001 - 150,000,000	> 150,000,000

C. AGRICULTURAL USE RATES (per 1,000 gallons)

In addition to standby, power cost, and energy CIP charges, a consumption charge will be applied to all agricultural use customers as follows:

Meter Size (Inches)	Effective July 1, 2015	Effective July 1, 2016	Effective July 1, 2017	Effective July 1, 2018	Effective July 1, 2019
1st Block	\$0.89	\$0.91	\$0.91	\$0.91	\$0.92
2nd Block	1.80	1.80	1.88	1.95	2.01
3rd Block	1.16	1.16	1.20	1.24	1.27

AGRICULTURAL BLOCK THRESHOLDS (gallons per month)

Meter Size (Inches)	1st Block	2nd Block	3rd Block
All Sizes	5,000	5,001 - 15,000	> 15,000

In order to qualify for agricultural rates, applicants shall file annually with the Department, a written application and furnish upon request, satisfactory proof (as determined by the Department), of engagement in agriculture, stock raising or dairy farming on a commercial basis, and that water used in addition to the above is limited to one dwelling. The Department reserves the right to limit or restrict water flow to agricultural users in the event of water shortage or in the event water service to domestic users is disrupted or lowered because of agricultural water use. Applicants shall install backflow preventers which shall be inspected and approved by the Department before water service is granted. Agricultural rates are not applicable to canneries, mills or markets or other establishments engaged in the conversion or treatment or packaging of agricultural products.

D. FIRE PROTECTION - MONTHLY STANDBY CHARGES*

For each connection of automatic fire sprinklers or other private fire protection, there shall be a standby charge per month, in addition to consumption, power cost, and energy CIP charges, based on the size of the connection as follows:

Size of Service (Inches)	Effective July 1, 2015	Effective July 1, 2016	Effective July 1, 2017	Effective July 1, 2018	Effective July 1, 2019
2"	\$ 18.00	\$ 18.00	\$ 18.00	\$ 18.00	\$ 18.00
3"	35.00	35.00	35.00	35.00	35.00
4"	48.00	48.00	48.00	48.00	48.00
6"	99.00	103.00	108.00	113.00	119.00
8"	150.00	156.00	164.00	172.00	181.00

E. FIRE LINE OR FIRE SERVICE METERS - MONTHLY STANDBY CHARGES*

For each connection of combined fire & domestic services, there shall be a standby charge per month, in addition to consumption, power cost, and energy CIP charges, based on the larger size of the connection as follows:

Size of Service (Inches)	Effective July 1, 2015	Effective July 1, 2016	Effective July 1, 2017	Effective July 1, 2018	Effective July 1, 2019
3"	\$ 172.00	\$ 179.00	\$ 188.00	\$ 197.00	\$ 207.00
4"	283.00	294.00	309.00	324.00	340.00
6"	561.00	583.00	612.00	643.00	675.00
8"	895.00	931.00	978.00	1,027.00	1,078.00
10"	1,288.00	1,340.00	1,407.00	1,477.00	1,551.00

F. SERVICE LATERAL INSTALLATION CHARGES

Installation charge for service lateral connection with a 5/8-inch meter:

Country	Right-of-Way	Effective July 1, 2010 Same Side	Effective July 1, 2010 Cross Road
Country	Right-of-Way	\$ 3,000.00	\$ 4,000.00
State	Right-of-Way	12,000.00	17,000.00

CONDITIONS:

- For special conditions such as concrete sidewalks, compaction tests, large cut or fill areas where additional work is required, additional charges, as determined by the Department, shall be added to the installation charges listed above.
- Deduct \$40 if no meter is required.

G. FACILITIES CHARGES

A facilities charge will be applicable to all new service connections based on the maximum size of the meter and type of service the service lateral can support or by the number of lots, dwelling units or equivalent units in the development, whichever cost is larger. The unit cost in determination of the facilities charges shall be \$5,500 for each additional lot, dwelling unit, or equivalent unit. The facilities charge is in addition to the service lateral installation charge. The schedule of facilities charges is as follows:

Meter Size (Inches)	Facilities Connection	Effective July 1, 2010
5/8"	First Connection	\$ 1,190.00
	Additional Connection	5,500.00
1"	Each Connection	13,750.00
1-1/4"	Each Connection	27,500.00
2"	Each Connection	44,000.00
3"	Each Connection	82,500.00
4"	Each Connection	137,500.00
6"	Each Connection	275,000.00
8"	Each Connection	495,000.00
10"	Each Connection	797,500.00
12"	Each Connection	1,182,500.00

H. TEMPORARY SERVICE ON HYDRANT CHARGES

Each applicant for a temporary connection of a meter to a fire hydrant shall be charged an initial payment, to be set periodically by the Department, in addition to consumption, standby, power cost, and energy CIP charges. Service shall be limited to a period not longer than 180 calendar days. The Department reserves the right to deny any application or remove any temporary connection at any time.

I. STANDPIPE CHARGES

New customers obtaining water service from Department of Water Supply standpipe facilities shall be charged an initial payment and a proportional cost of the standpipe facility on a monthly basis. These charges are as follows and are in addition to consumption, standby, power cost, and energy CIP charges:

Initial Payment	Effective July 1, 2014	Effective July 1, 2016	Effective July 1, 2017	Effective July 1, 2018	Effective July 1, 2019
Meter Size					
5/8"	\$ 152.00	\$ 158.00	\$ 166.00	\$ 174.00	\$ 183.00
1"	306.00	318.00	334.00	351.00	369.00
1-1/4"	382.00	397.00	417.00	438.00	460.00
2"	458.00	476.00	500.00	525.00	551.00
Annular Installation Cost - Monthly Meter Size					
5/8"	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00	\$ 10.00
1"	20.00	20.00	20.00	20.00	20.00
1-1/4"	25.00	25.00	25.00	25.00	25.00
2"	29.00	29.00	29.00	29.00	29.00

J. POWER COST CHARGES (per 1,000 gallons)

All water use shall be subject to the imposition of a Power Cost Charge in addition to consumption, standby, and energy CIP charges. The Department shall calculate the rate based on actual power costs and consumption every two months or for the period since the last revision to the power cost charge. Current and historic power cost charges are as follows:

Effective Date	Power Cost Charges
October 1, 2016	\$1.61
June 1, 2016	\$1.70
February 1, 2016	\$1.81
September 1, 2015	\$1.85

K. ENERGY CIP CHARGES (per 1,000 gallons)

All water use shall be subject to the imposition of an Energy CIP Charge in addition to consumption, standby, and power cost charges. The rate shall be adjusted annually in order to fund projects designed to improve the Department's energy efficiency. The current energy CIP charge is as follows:

Effective Date	Energy CIP Charge
July 1, 2016	\$0.05

2 bath dwelling

water closet	2 x 1.7 FU	= 3.4 FU
lavatory	2 x 0.6 FU	= 1.2 FU
Tub/shower	2 x 1.6 FU	= 3.2 FU
washing mach.	1 x 2 FU	= 2 FU
laundry tray	1 x 2 FU	= 2 FU
hose bibbs	4 x 1 FU	= 4 FU
kitchen sink	1 x 1.6 FU	= 1.6 FU
dishwasher	1 x 2 FU	= 2 FU

Total 19.4 FU

This equates to 15 gpm

4-1/2 bath dwelling (no pool or automatic irrigation)

water closet	5 x 1.7 FU =	8.5 FU
lavatory	5 x 0.6 FU =	3.0 FU
Tub/shower	4 x 1.6 FU =	6.4 FU
washing mach.	1 x 2 FU =	2.0 FU
laundry tray	1 x 2 FU =	2.0 FU
hose bibbs	6 x 1 FU =	6.0 FU
kitchen sink	1 x 1.6 FU =	1.6 FU
dishwasher	1 x 2 FU =	2.0 FU

Total 31.5 FU

This equates to 20 gpm

Water Meter Capacities

Meter	Flow Requirements	Conversion of gpm to Fixture Unit Count
Size	(gpm)	Fixture Unit (FU)
5/8"	0 - 20	Min. 20 - 30
3/4"	21 - 30	31 - 53
1"	31 - 50	54 - 130
1- 1/2"	51 - 100	131 - 400
2"	101 - 160	401 - 700
3"	161 - 320	701 - 1900
4"	321 - 500	1901 - 2700

SPECIFICATION SHEET

Series 406

Detector Check for Automatic Fire Sprinkler Systems

Size: 2" (50mm)

The FEBCO Series 406 Detector Check is designed for automatic fire sprinkler systems.

Features

- Meter detects leakage and/or theft of water from Automatic Fire Sprinkler Systems
- Can be installed horizontally or vertically (up or down)
- Center-stem-guided, spring-loaded check for more positive seating
- Replaceable bronze seat ring
- Reversible seat disc for ease of service
- Bronze body and cover
- End Detail – 2 Bolt Meter Flange

Operation

In a non-flowing condition, the mainline check and by-pass check are closed and the meter is stopped. When water begins to flow, the by-pass check opens and the meter begins to register. When the pressure drop across the valve approximates 1.5psi (10.3 kPa), the mainline check opens and allows full flow of water. The by-pass meter and check remain operating and open at all flow rates.

Specifications

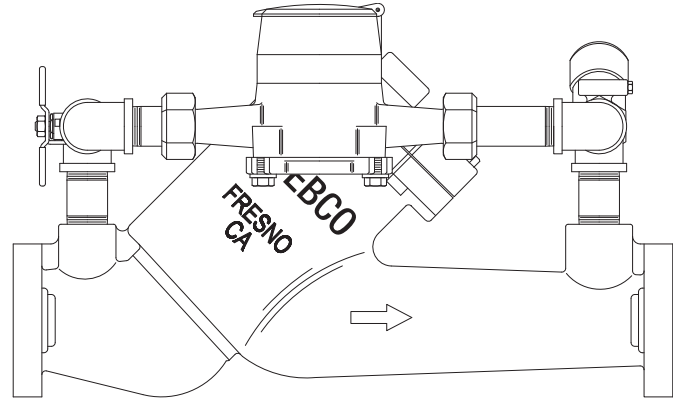
The Detector Check 2" (50mm) mainline valve shall consist of an internally spring loaded "Y" pattern check valve having a bronze body, bronze replaceable bushing in the cover, a bronze replaceable seat ring, stainless steel spring and delrin disc holder to insure positive check seating.

The bypass line shall consist of a 3/4" (20mm) IPS shut-off valve, bronze totalizing water meter and a bronze single check valve in series. The unit is also available without bypass.

The assembly shall be rated to 175psi working pressure and water temperatures from 32°F to 110°F (0°C to 43°C).

NOTICE

Inquire with governing authorities for local installation requirements



406

Pressure – Temperature

Sizes:	Mainline: 2" (50mm) By-pass: 3/4" (20mm) IPS
Maximum Working Pressure:	175psi (12.1 bar)
Hydrostatic Test Pressure:	350psi (24.1 bar)
Temperature Range:	32°F to 110°F (0°C - 43°C)

Materials

Main Valve Body:	Bronze
Seat Ring:	Bronze
Disc Holder:	Delrin
Spring:	Stainless Steel
By-pass Meter:	Bronze Totalizing Water Meter Optional (gpm or cfm)

⚠ WARNING

It is illegal to use this product in any plumbing system providing water for human consumption, such as drinking or dishwashing, in the United States. Before installing standard material product, consult your local water authority, building and plumbing codes.

Job Name _____

Job Location _____

Engineer _____

Approval _____

Contractor _____

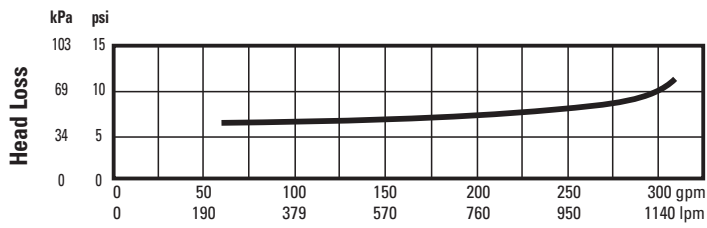
Approval _____

Contractor's P.O. No. _____

Representative _____

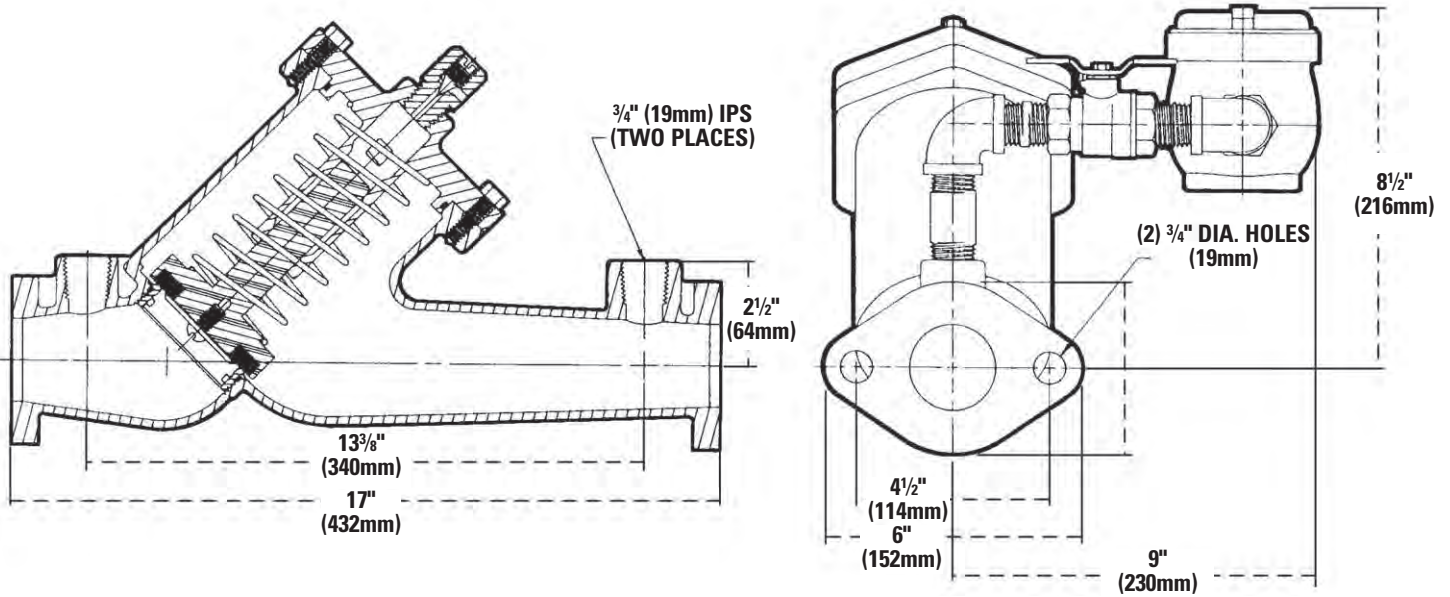
FEBCO product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact FEBCO. FEBCO reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on FEBCO products previously or subsequently sold.

Capacity



NOTE:
Velocities are calculated
for flows in Schedule
40 steel pipe.

Dimensions



A Watts Water Technologies Company

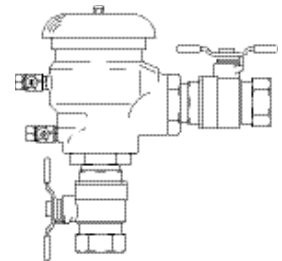
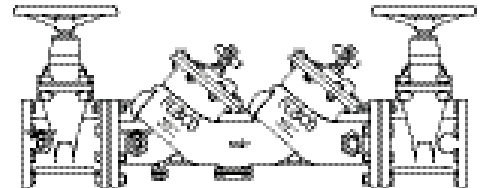
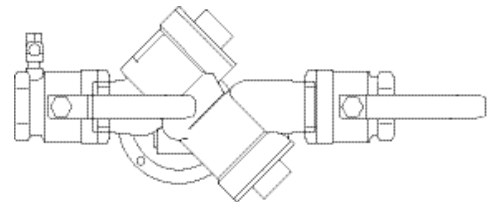
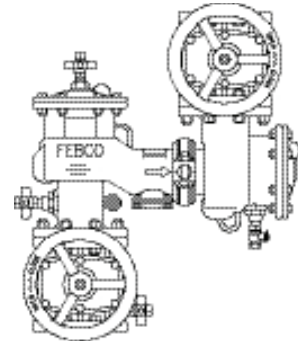
USA: Tel: (800) 767-1234 • Fax: (800) 788-4491 • FEBCOonline.com

Canada: Tel: (905) 332-4090 • Fax: (905) 332-7068 • FEBCOonline.ca

Latin America: (52) 81-1001-8600 • Fax: (52) 81-8000-7091 • FEBCOonline.com

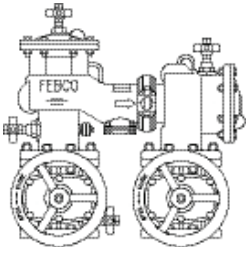
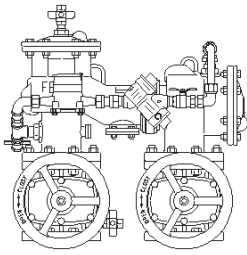
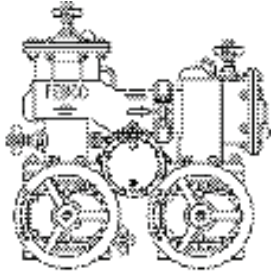
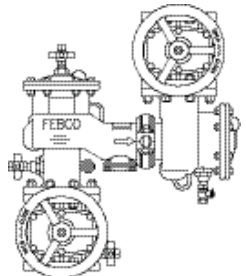
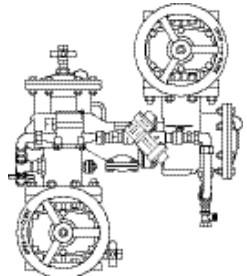
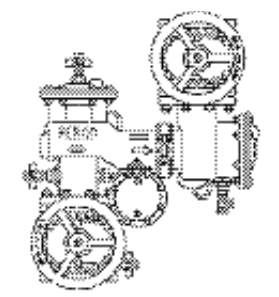
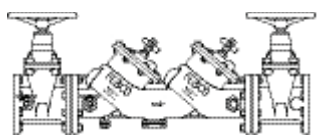
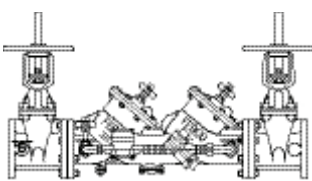
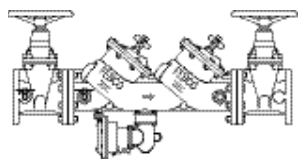
BACKFLOW PREVENTION PRODUCTS PRICE LIST

Effective June 1, 2012



FEBCO BACKFLOW PREVENTION – WHOLE GOODS LIST PRICES

MasterSeries (2½" - 10") Body Styles/Product Matrix

	Double Check Assembly	Double Check Detector Assembly	Reduced Pressure Assembly
"N" - Shape	<p style="text-align: center;">Model 870V</p> 	<p style="text-align: center;">Model 876V</p> 	<p style="text-align: center;">Model 880V</p> 
Vertical	<p style="text-align: center;">Model 870V</p> 	<p style="text-align: center;">Model 876V</p> 	<p style="text-align: center;">Model 880V</p> 
Conventional In-Line	<p style="text-align: center;">Model 850</p> 	<p style="text-align: center;">Model 856</p> 	<p style="text-align: center;">Model 860</p> 

MasterSeries (2½" - 10") Available Shutoffs¹

FEBCO MasterSeries	In-Line Configuration		"N"-Shape Configuration		Vertical Configuration	
Type	Model	Available Shutoff	Model	Available Shutoff	Model	Available Shutoff
Double Check Assembly	850	NRS/OSY/LG	870V	NRS/OSY/LG	870V	NRS/OSY/LG
Double Check Detector Assembly	856	OSY/LG	876V	OSY/LG	876V	OSY/LG
Reduced Pressure Assembly	860	NRS/OSY/LG	880V	NRS/OSY/LG	880V	NRS/OSY/LG

Supersedes all other price lists / Prices subject to change / Weights are estimated

¹ Grooved ends available on OS&Y gate valves in some models & sizes. Expect larger lead times.

FEBCO BACKFLOW PREVENTION – WHOLE GOODS LIST PRICES

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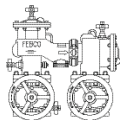
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805YD (2½" - 10")	4
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856 (2½" - 10")	5
806YD (3" - 10")	6
Reduced Pressure Assemblies - RP	
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860 (2½" - 10")	6
825YD (2½" - 10")	6
826YD (2½" - 10") RPDA	7
860/860U (½" - 2")	7
825Y (¾" - 2")	7
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How To Order

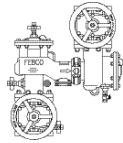
1. Determine the type of valve assembly required, such as a Double Check Assembly (DC).
2. Determine size, options, and accessories.
3. Use the following pages to determine the part number, list price and shipping weight.
4. Contact your local representative or visit our website at www.FEBCOonline.com for up-to-date approvals.
5. Prices subject to change without notice.
6. Weights are estimated.

FEBCO BACKFLOW PREVENTION – WHOLE GOODS LIST PRICES

MasterSeries Model 870V Double Check Assembly



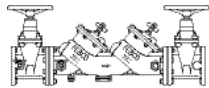
N-Shape Configuration



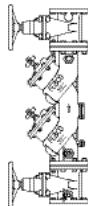
Vertical Configuration

870V	With NRS Gate Valves			With OSY Gate Valves			Less Gates		
Size	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)
2½"	2132	2,214.50	284	2139	2,832.60	295	2125	1,807.80	164
3"	2133	2,678.00	306	2140	2,884.00	335	2126	1,878.20	165
4"	2134	3,327.00	430	2141	3,502.10	465	2127	2,730.10	228
6"	2135	5,356.00	683	2142	5,582.60	650	2128	3,985.90	311
8"	2136	10,712.10	914	2143	11,021.10	950	2129	7,967.10	425
10"	2137	14,420.10	1490	2144	14,935.10	1590	2130	11,091.30	68

MasterSeries Model 850 Double Check Assembly (upgrade from Model 805YD*)



Horizontal Installation

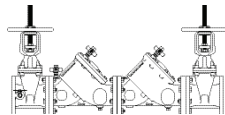


Vertical Installation

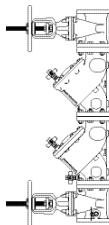
850	With NRS Gate Valves			With OSY Gate Valves			Less Gates		
Size	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)
2½"	1132	2,420.50	278	1139	2,667.80	283	1125	1,656.20	168
3"	1133	2,575.00	303	1140	2,884.00	321	1126	1,749.00	180
4"	1134	4,738.10	397	1141	3,296.10	421	1127	2,439.90	183
6"	1135	3,160.50	654	1142	5,041.90	654	1128	3,588.10	324
8"	1136	8,652.10	980	1143	9,373.10	1008	1129	7,340.60	435
10"	1137	12,617.70	1080	1144	13,699.10	1108	1130	10,847.20	535

* See Accessory Section for Spool Adapter to retrofit from Model 805YD.

DuraCheck Model 805YD Double Check Assembly



Horizontal Installation



Vertical Installation

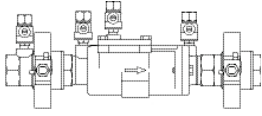
805YD	With OSY Gate Valves		
Size	Part #	List \$	Ship Wt. (lbs)
3"	805KRO	4,983.30	312
4"	805MRO	6,436.60	476
6"	805RRO	9,169.90	815
8"	805SRO	15,065.80	1089

* Limited Availability. See Accessory Section for Spool Adapter to retrofit to Model 850.
CF-Contact Factory

805YD	With NRS Gate Valves			With OSY Gate Valves			Less Gates		
Size	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)
10"	805TRN	12,777.30	1460	805TRO	15,439.90	1700	805TLG	10,356.70	850

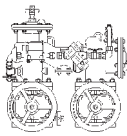
FEBCO BACKFLOW PREVENTION – WHOLE GOODS LIST PRICES

MasterSeries Model 850 / 850U Double Check Assembly

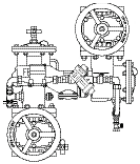


850/850U	850 (With Ball Valves)			850U (with Union Ball Valves)		
Size	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)
1/2"	1111	211.50	5	2611	266.80	6
3/4"	1112	226.60	6	2612	346.10	7
1"	1113	255.40	7	2613	384.20	10
1 1/4"	1114	466.50	8	2614	675.60	18
1 1/2"	1115	474.90	19	2615	741.60	21
2"	1116	545.90	21	2616	873.40	27

MasterSeries Model 876V Double Check Detector Assembly



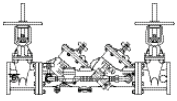
N-Shape Configuration



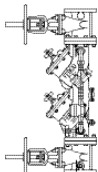
Vertical Configuration

876V	With OSY Valves - Neptune Gal. Meters			Less Gate - Neptune Gal. Meters		
Size	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)
2 1/2"	22391	4,532.00	303	22251		190
3"	22401	4,624.80	334	22261	3,508.10	205
4"	22411	4,892.60	458	22271	4,042.20	235
6"	22421	6,870.30	665	22281	6,048.20	390
8"	22431	12,205.60	955	22291	10,709.00	500
10"	22441	17,489.50	1590	22301	14,825.10	715

MasterSeries Model 856 Double Check Detector Assembly (upgrade from Model 806YD)*



Horizontal Installation



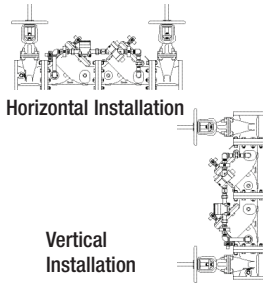
Vertical Installation

856	With OSY Valves - Neptune Gal. Meters			Less Gate - Neptune Gal. Meters		
Size	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)
2 1/2"	12391	4,500.20	291	12251	3,388.80	174
3"	12401	5,500.20	325	12261	4,089.20	182
4"	12411	5,654.80	439	12271	3,708.10	202
6"	12421	7,313.10	650	12281	5,036.70	328
8"	12431	13,235.70	967	12291	9,321.60	459
10"	12441	18,056.10	1067	12301	13,493.20	559

* See Accessory Section for Spool Adapter to retrofit from Model 806YD.

FEBCO BACKFLOW PREVENTION – WHOLE GOODS LIST PRICES

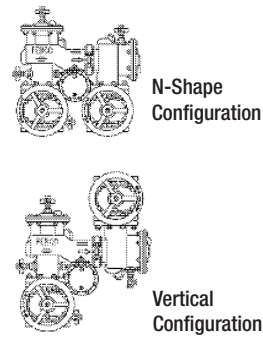
Model 806YD Double Check Detector Assembly



806YD		With OSY Gate Valves - Neptune Gal. Meters		
Size	Part #	List \$	Ship Wt. (lbs)	
3"	806KR000A	7,151.00	341	
4"	806MR000A	7,477.20	504	
6"	806RR000A	10,713.90	832	
8"	806SR000A	16,463.20	1150	
10"	806TR000A	16,770.40	1800	

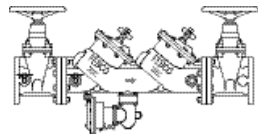
* Limited Availability. See Accessory Section for Spool Adapter to retrofit to Model 856.

MasterSeries Model 880V Reduced Pressure Assembly



880V		With NRS Gate Valves		With OSY Gate Valves			Less Gates		
Size	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)
2½"	2332	2,987.00	297	2339	3,296.10	290	2325	2,719.40	180
3"	2333	3,399.00	332	2340	3,687.40	328	2326	3,026.50	185
4"	2334	4,532.00	435	2341	5,026.50	445	2327	4,005.90	220
6"	2335	7,158.70	650	2342	7,725.10	680	2328	6,346.80	390
8"	2336	14,729.10	943	2343	15,450.20	960	2329	10,811.80	450
10"	2337	19,879.20	1500	2344	21,218.20	1535	2330	15,517.00	712

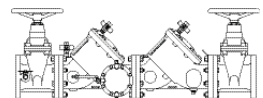
MasterSeries Model 860 Reduced Pressure Assembly (upgrade from Model 825YD)*



860		With NRS Gate Valves		With OSY Gate Valves			Less Gates		
Size	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)
2½"	1332	2,812.00	313	1339	3,193.00	333	1325	2,488.90	196
3"	1333	3,193.00	343	1340	3,450.60	348	1326	2,764.90	225
4"	1334	4,429.10	450	1341	4,789.60	457	1327	3,600.00	236
6"	1335	6,592.00	660	1342	7,364.60	695	1328	5,584.50	344
8"	1336	14,059.70	1004	1343	14,626.20	1034	1329	9,743.70	518
10"	1337	18,952.20	1104	1344	19,879.20	1134	1330	14,562.40	618

* See Accessory Section for Spool Adapter to retrofit from Model 825YD.

DuraCheck Model 825YD Reduced Pressure Assembly

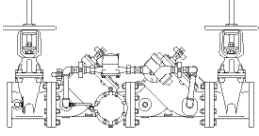


825YD		With NRS Gate Valves		With OSY Gate Valves		
Size	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)
2½"	825JRN	4,938.10	245	825JRO	5,405.20	277
3"	825KRN	5,405.20	324	825KRO	5,732.80	322
4"	825MRN	6,669.30	485	825MRO	7,448.40	460
6"	825RRN	11,204.90	762	825RRO	11,380.60	834
8"	825SRN	16,554.10	1122	825SRO	17,543.40	1145
10"	825TRN	17,585.20	1500	825TRO	18,477.80	1700

* Limited Availability. See Accessory Section for Spool Adapter to retrofit to Model 860.

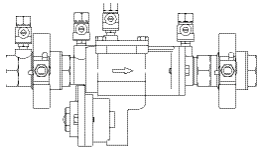
FEBCO BACKFLOW PREVENTION – WHOLE GOODS LIST PRICES

DuraCheck Model 826YD Reduced Pressure Detector Assembly



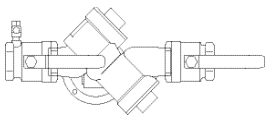
826YD	With OSY Gate Valves			Less Gates		
Size	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)
2½"	826JR000A	5,375.70	297	826JLG00A	3,842.40	184
3"	826KR000A	5,660.20	390	826KLG00A	4,207.80	225
4"	826MR000A	6,621.60	530	826MLG00A	5,489.50	300
6"	826RR000A	9,796.90	757	826RLG00A	7,530.80	470
8"	826SR000A	17,853.50	1130	826SLG00A	12,825.30	562
10"	826TR000A	24,700.60	1770	826TLG00A	16,993.70	935

MasterSeries Model 860 / 860U Reduced Pressure Assembly



860/860U	860 (With Ball Valves)			860U (with Union Ball Valves)		
Size	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)
½"	1311	289.40	4	2811	333.60	10
¾"	1312	348.20	9	2812	407.20	10
1"	1313	408.10	10	2813	435.60	12
1¼"	1314	608.20	20	2814	705.30	22
1½"	1315	681.80	23	2815	802.40	25
2"	1316	765.10	28	2816	875.00	30

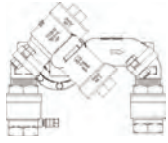
Model 825Y Reduced Pressure Assembly



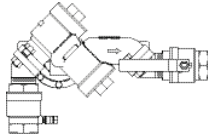
825Y	With Ball Valves		
Size	Part #	List \$	Ship Wt. (lbs)
¾"	825DBV	686.70	13
1"	825EBV	824.00	15
1¼"	825FBV	1,280.30	17
1½"	825GBV	1,334.10	31
2"	825HBV	1,667.60	35

FEBCO BACKFLOW PREVENTION – WHOLE GOODS LIST PRICES

Model 825YA Reduced Pressure Assembly



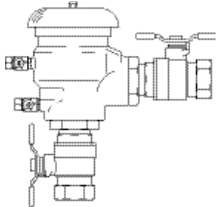
Standard Configuration



Inlet Flow Up/
Outlet Flow Horizontal

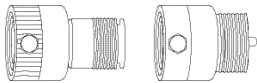
825YA	With Ball Valves		
Size	Part #	List \$	Ship Wt. (lbs)
¾"	825DBV70	705.60	17
1"	825EBV70	832.20	18
1½"	825GBV70	1,367.90	38
2"	825HBV70	1,627.40	43

Model 765 Pressure Vacuum Breaker



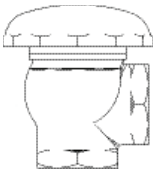
765	765 (With Ball Valves)			765 (with Union Ball Valves)		
Size	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)
½"	765CBV	212.80	4	765CUB	225.60	5
¾"	765DBV	212.80	5	765DUB	225.60	6
1"	765EBV	219.80	7	765EUB	233.50	10
1¼"	765FBV	382.70	9	765FUB	407.20	19
1½"	765GBV	461.10	18	765GUB	490.50	20
2"	765HBV	505.30	22	765HUB	534.60	28

Model 730D Hose Bibb Vacuum Breaker



730DSB	Hose Bibb Vacuum Breaker		
Size	Part #	List \$	Ship Wt. (lbs)
¾" Brass	730DSB (Self Draining)	42.30	1
¾" Brass	730DMB (Manual Draining)	18.60	1
¾" Chrome	730DMC (Manual Draining)	18.60	1

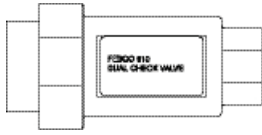
Model 710/715 Atmospheric Vacuum Breaker



710/715	Atmospheric Vacuum Breaker		
Size	Part #	List \$	Ship Wt. (lbs)
½"	715C	54.50	1
¾"	715D	57.70	1
1"	710E	98.90	2
1¼"	710F	160.60	3
1½"	710G	190.60	4
2"	710H	283.20	5

FEBCO BACKFLOW PREVENTION – WHOLE GOODS LIST PRICES

Model 810 Dual Check



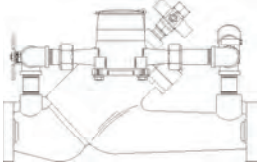
FPT = Female Iron Pipe Thread
MPT = Male Iron Pipe Thread

810	Dual Check			
Size	Part #	Description	List \$	Ship Wt. (lbs)
3/4"	810DA11	FPT x FPT, Union Inlet	72.10	1.5
3/4"	810DB21	MPT x FPT, Union Outlet	72.10	1.5
1"	810EB11	FPT x FPT, Union Outlet	87.50	1.5
1"	810EB21	MPT x FPT, Union Outlet	87.50	1.5

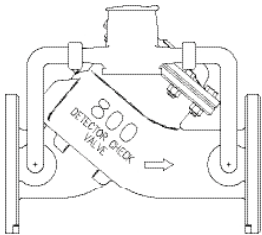
* Contact Factory

Model 406 and 800 Detector Checks

Model 406



Model 800

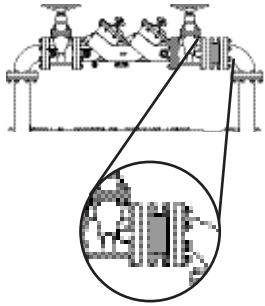


Model	Size	Bypass	No Bypass	Gal Meter	CF Meter	
406	2"	3/4"	Part #	406HND	406HRD11	406HRD13
			List Price	2,712.40	3,176.00	3,176.00
			Ship Wt.	29	33	33
800	4"	3/4"	Part #	800M5111	800M2211	800M2311
			List Price	1,454.80	1,864.00	1,864.00
			Ship Wt.	90	138	138
800	4"	1"	Part #	800M	N/A	N/A
			List Price	1,524.00	N/A	N/A
			Ship Wt.	90	N/A	N/A
800	6"	3/4"	Part #	800R5111	800R2211	800R2311
			List Price	1,846.40	2,477.20	2,477.20
			Ship Wt.	145	220	220
800	6"	1"	Part #	800R	N/A	N/A
			List Price	1,651.20	N/A	N/A
			Ship Wt.	145	N/A	N/A
800	8"	3/4"	Part #	800S5111	800S2211	800S2311
			List Price	3,344.60	3,612.50	3,613.50
			Ship Wt.	245	347	347
800	8"	1"	Part #	800S	N/A	N/A
			List Price	3,344.60	N/A	N/A
			Ship Wt.	245	N/A	N/A
800	10"	3/4"	Part #	N/A	800T2211	800T2311
			List Price	N/A	6,410.50	6,410.50
			Ship Wt.	N/A	495	495
800	10"	1"	Part #	800T	N/A	N/A
			List Price	5,182.80	N/A	N/A
			Ship Wt.	393	N/A	N/A

FEBCO BACKFLOW PREVENTION – ACCESSORIES LIST PRICES

Spool Adapter Kits

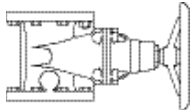
For use when retrofitting from Duracheck to MasterSeries Models.



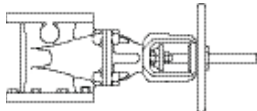
Spacer	Duracheck to Inline MasterSeries Spool Adapter Kit		
Size	Part #	List \$	Ship Wt. (lbs)
4"	905523	854.90	CF
6"	905524	9,52.70	CF
8"	905525	1,349.40	CF

CF-Contact Factory

Resilient Wedge Gate Valve



NRS Gate Valve



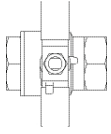
OSY Gate Valve

RW Gates		NRS RW Gate Valves		OSY RW Gate Valves		
Size	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)
2½"	781005	687.50	40	780891	1,053.30	50
3"	781006	705.60	50	780893	1,120.20	89
4"	781007	901.30	66	780895	1,127.80	100
6"	781008	1,272.10	124	780897	1,568.30	151
8"	781009	2,155.30	172	780899	2,709.00	233
10"	781010	3,780.10	277	780-901	4,089.20	391

The resilient wedge gate valve consists of a cast iron, epoxy coated body, with fully rubber encapsulated wedge. The valve body is flanged and rated to 200 PSI and tapped for test cock requirements. The non-rising stem gate valve is tested to AWWA (C509 NRS). The outside stem and yoke gate valve is UL Listed and FM Approved. Customer needs to specify the gate valve manufacturer required on the project.

FEBCO BACKFLOW PREVENTION – ACCESSORIES LIST PRICES

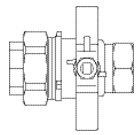
Full Port Ball Valve



Model 622F
Model 622FT (Tapped)

622F/FT	622F (Non Tapped)			622FT (Tapped)		
Size	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)
½"	781047	15.50	0.5	781244	15.50	0.5
¾"	781048	18.00	1	781053	20.70	1
1"	781049	36.10	2	781054	38.60	2
1¼"	781050	48.90	3	781055	56.60	3
1½"	781051	69.60	4	781056	69.60	4
2"	781052	90.10	6	781057	108.10	6

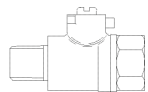
Union End Full Port Ball Valve



Model 622UF
Model 622UFT (Tapped)

Size	622UF (Non Tapped)			622UFT (Tapped)		
Size	Part #	List \$	Ship Wt. (lbs)	Part #	List \$	Ship Wt. (lbs)
½"	781287	18.00	1	781293	20.70	1
¾"	781288	25.70	1.5	781294	38.60	1.5
1"	781289	41.10	2.5	781295	51.60	2.5
1¼"	781290	69.60	3.5	781296	77.30	3.5
1½"	781291	100.40	4.5	781297	108.10	4.5
2"	781292	131.40	6.5	781298	157.00	6.5

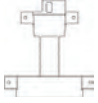
Full Port Test Cock



TC1	Full Port Test Cock		
Size	Part #	List \$	Ship Wt. (lbs)
¼ M x ¼ F	781074	25.70	2
¼ M x ¼ F	781075	25.70	2

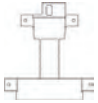
FEBCO BACKFLOW PREVENTION – ACCESSORIES LIST PRICES

Air Gap Drains



Model 601 Plastic

Air Gap Drains	Model 601 For MasterSeries Models 860/860U		
Size	Part #	List \$	Ship Wt. (lbs)
½", ¾", 1"	905358	51.60	2.5
1¼", 1½", 2"	905359	63.90	2.5



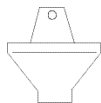
Model 601 Metal

Air Gap Drains	Model 601 For MasterSeries Models 860/860U		
Size	Part #	List \$	Ship Wt. (lbs)
½", ¾", 1"	905532	55.60	3
1¼", 1½", 2"	905533	67.00	3



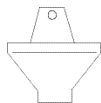
Model 601

Air Gap Drains	Model 601 For MasterSeries Models 860/880V/880		
Size	Part #	List \$	Ship Wt. (lbs)
2½" - 10"	905213	164.80	3



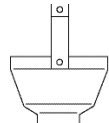
Model AGD-Y Plastic

Air Gap Drains	Model AGD-Y Models 825Y/825YA		
Size	Part #	List \$	Ship Wt. (lbs)
¾" - 2"	905082	51.60	3



Model AGD-Y Metal

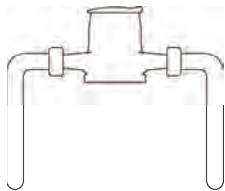
Air Gap Drains	Model AGD-Y Models 825Y/825YA		
Size	Part #	List \$	Ship Wt. (lbs)
¾" - 2"	905531	67.00	3



Model AGD-L

Air Gap Drains	Model AGD-L Models 825YD/826YD		
Size	Part #	List \$	Ship Wt. (lbs)
2½" - 10"	905083	164.80	3

Model 800 By-Pass Kit



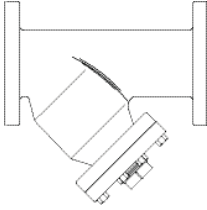
By-Pass Kit	Less Meter		
Size	Part #	List \$	Ship Wt. (lbs)
¾"	905140	618.00	22

Backflow Prevention Assembly Test Kit

TK845-5	Backflow Prevention Test Kit		
Size	Part #	List \$	Ship Wt. (lbs)
All	TK845-5	2,405.00	12

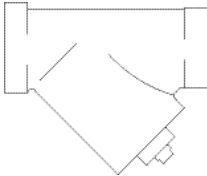
FEBCO BACKFLOW PREVENTION – ACCESSORIES LIST PRICES

Strainers (2½" - 10")



758A	Cast Iron Epoxy Coated Flanged "Y" Strainer		
Size	Part #	List \$	Ship Wt. (lbs)
2½"	4325	398.70	32
3"	4326	439.40	41
4"	4327	669.30	71
6"	4328	1,238.50	150
8"	4329	2,610.40	269
10"	4330	4,266.10	389

Strainers (½" - 2")



650A	Bronze "Y" Strainer		
Size	Part #	List \$	Ship Wt. (lbs)
½"	4303	56.60	1
¾"	4304	82.50	1
1"	4305	113.40	2
1¼"	4306	190.60	2
1½"	4307	247.30	4
2"	4308	321.40	5

FEBCO BACKFLOW PREVENTION – ACCESSORIES LIST PRICES

FREIGHT TERMS:

All shipments are F.O.B. shipping point. Shipments from the factory of less than 500 lbs or \$3,500.00 net are F.O.B. factory. Factory shipments over 500 lbs, \$5,000.00 list or \$3,500.00 net will be prepaid and allowed within Canada when made at the lowest motor carrier transportation rate. Short-shipments and/or damaged goods must be reported within 72 hours.

PAYMENT TERMS:

Invoices are due and payable 30 days from the date of invoice. A 2% cash discount is allowed on net amount of invoice if paid on or before the 10th of the following month. Invoices dated on or after the 25th will be considered as dated the first of the next month.

STOCKING WHOLESALE MINIMUM CHARGE:

A minimum billing charge of \$75.00 applies to shipments F.O.B. factory. Stocking Wholesaler Customers are encouraged to order sufficient material to avoid this charge which is necessitated by increased costs of processing small orders.

SPECIAL PRODUCTS:

Orders for special or modified products are non-cancellable and non-returnable.

LIMITED WARRANTY:

WATTS Industries Canada Inc. warrants each product against defects in material and workmanship for a period of one year from the date of original shipment. In the event of such defects within the warranty period, the Company will, at its option, replace or recondition the product without charge. This shall constitute the exclusive remedy for breach of warranty, and the Company shall not be responsible for any incidental or consequential damages, including, without limitation, damages or other costs resulting from labor charges, delays, vandalism, negligence, fouling caused by foreign material, damage from adverse water conditions, chemicals, or any other circumstances over which the Company has no control. This warranty shall be invalidated by any abuse, misuse, misapplication or improper installation of the product.

THE COMPANY MAKES NO OTHER WARRANTIES EXPRESS OR IMPLIED EXCEPT AS PROVIDED IN THIS LIMITED WARRANTY.

RETURNED GOODS RESTOCKING CHARGE:

No material shall be returned without authorization. When credit is issued it will be at the price charged, or prevailing price if lower, less handling charges based on costs of reconditioning, boxing, etc. However, a minimum 25% handling charge will apply. A minimum handling charge of \$35.00 is applied whenever the 25% handling deduction does not total \$35.00. Products which are obsolete or made to special order are not returnable.

NOTE:

Prices and terms are subject to change without notice and supersede all previous quotations. The right is reserved to change or modify product design or construction without prior notice and without incurring any obligation to make such changes and modifications on products previously or subsequently sold.

WATTS Industries Canada Inc. reserves the right to modify or change product design or construction without prior notice and without incurring any obligation to make similar changes and modifications to products previously or subsequently sold.

See your WATTS representative for any clarification.



WATTS INDUSTRIES (CANADA) INC.

Canadian Manufacturing and Sales Offices

5435 North Service Road

Burlington, ON

L7L 5H7

Phone: 905-332-4090 Fax: 905-332-7068

www.wattscanada.ca

Toll Free Customer Service: 1-888-208-8927

EXHIBIT "H"

Letter of Support

We, name of organization, support the efforts of BIA Hawaii to remove Section 3 (the Sunset provision) of Act 83, SLH 2012. Removal of the sunset provision in this Act would prohibit the Counties from requiring the installation or retrofitting of automatic fire sprinklers or an automatic fire sprinkler system in most new construction of one or two family residential dwellings, which is currently mandated in the International Residential Code (IRC).

We understand and respect the position of the Fire Fighters in our community and remain committed to preventing loss of life and property through financially sensible building codes and ongoing community education.

At the same time, we in Hawaii are concerned about the dramatic increase in housing prices, especially for our first time home buyers and families. Adding the cost of a new automatic fire sprinkler system and required upgrades to water meters will add to the already high prices of housing in Hawaii.

We firmly believe that there are more cost effective methods of addressing the concerns raised by the fire protection organizations. These methods will not only protect fire fighters and homeowners but will **NOT** significantly increase the price of a new home in Hawaii.

As such, we are in full support of the proposed amendment to Act 83, SLH 2012 to delete the sunset provision of the bill.

Sincerely,

Name of Organization



P.O. Box 757
Kailua, HI 96734
Ph. (808) 263-4900
Fax (808) 263-5966
www.ccs-hawaii.com

March 13, 2017

**Testimony to the House Committee Housing
Tuesday, March 14, 2017
10:00 a.m.
State Capitol - Conference Room 423
RE: SB 611 SD1 – Relating to Fire Sprinklers**

Chair Brower, Vice Chair Nakamura, and members of the committee:

I am Greg Thielen, President and RME of Complete Construction Services. I am a Small Business Owner and have over 25 years' experience in the Construction Industry. I am also a Past President of BIA Hawaii and serve as the National Area Chair for Hawaii and California for the National Association of Home Builders.

I am in **strong support** of S.B. 611 SD1, which repeals the June 30, 2017, expiration date of Act 83, SLH 2012, which prohibits counties from requiring installation or retrofitting of automatic fire sprinklers in (1) new or existing detached one- or two-family dwelling units used only for residential purposes; and (2) non-residential agricultural and aquacultural structures located outside an urban area

Affordable housing is a statewide concern for Hawaii and should be addressed by the State Legislature. It is **impossible** to support affordable housing for the people of Hawaii **and** support mandatory residential fire sprinklers. If Act 83, SLH 2012, is allowed to sunset the result will be thousands of more Hawaii families priced out of home ownership.

Thank you for the opportunity to provide this testimony.

Sincerely,

Greg Thielen
President/RME



HAWAII LABORERS-EMPLOYERS COOPERATION AND EDUCATION TRUST
650 Iwilei Road, Suite 285 · Honolulu, HI 96817 · Phone: 808-845-3238 · Fax: 808-845-8300

**TESTIMONY OF HAWAII LECET
PETER H. M. LEE**

COMMITTEE ON HOUSING
Rep. Tom Brower, Chair
Rep. Nadine K. Nakamura, Vice Chair

LATE

NOTICE OF HEARING

DATE: Tuesday, March 14, 2017
TIME: 10:00am
PLACE: Conference Room 423

TESTIMONY ON SENATE BILL NO. 611 SD1, RELATING TO TO FIRE SPRINKLERS.

ALOHA COMMITTEE CHAIR BROWER, COMMITTEE VICE CHAIR NAKAMURA, AND MEMBERS OF THE COMMITTEE ON HOUSING

My name is Peter H. M. Lee, and I am the Construction Compliance Officer of Hawaii LECET. Hawaii LECET is a labor-management partnership between the Hawaii Laborers Union, Local 368, and its unionized contractors.

I am in **support of S.B. 611 SD1** to keep residential fire sprinklers optional in all new one- and two-family homes. Act 83, SLH 2012, is scheduled to sunset on June 30, 2017, so this bill will remove this sunset date and keep sprinklers optional for the new homeowner.

I support the safety of residents and fire fighters, but we have a housing crisis throughout the State. DBEDT reports that Hawaii needs over 66,000 new housing units over the next ten years to accommodate population growth. Homeowners should have a choice whether to install fire sprinklers or not in their homes, not a mandate.

Alternatively, a working smoke alarm has proven to save lives. Today's technology has presented many cost effective ways to prevent fires including suppression canisters that cost about \$65 that you can place above your stove that will activate with heat and flames, or even sensors that will automatically shut your stove off if no movement is detected for a period of time.

I am not opposed to fire sprinklers. Anyone who wants to install one is free to do so. I am strongly opposed to mandating fire sprinklers in all new one- and two-family homes because doing so is not cost-effective.

For these reasons, I support of S.B. 611 SD1, and humbly ask that this measure moves forward.



**Testimony to the House Committee on Housing
Tuesday, March 14, 2017 at 10:00 A.M.
Conference Room 423, State Capitol**

LATE

RE: SENATE BILL 611 SD1 RELATING TO FIRE SPRINKLERS

Chair Brower, Vice Chair Nakamura, and Members of the Committee:

The Chamber of Commerce Hawaii ("The Chamber") **strongly supports** SB 611 SD1, which repeals the June 30, 2017, expiration date of Act 83, Session Laws of Hawaii 2012, which prohibits counties from requiring installation or retrofitting of automatic fire sprinklers in (1) new or existing detached one- or two-family dwelling units used only for residential purposes; and (2) non-residential agricultural and aquacultural structures located outside an urban area.

The Chamber is the leading statewide business advocacy organization, representing about 1,600+ businesses. Approximately 80% of our members are small businesses with less than 20 employees. As the "Voice of Business" in Hawaii, the organization works on behalf of members and the entire business community to improve the state's economic climate and to foster positive action on issues of common concern.

This bill will help keep new homes affordable for Hawaii's families. The Chamber is not against fire sprinklers, just the mandating of them.

Cost prohibitive

The true cost of installing fire sprinklers in single family homes ranges, depending on where in the State you live. The largest cost is from an upgraded water meter, which is required to support a sprinkler system. For a typical 3 bedroom, 2 bath single-family dwelling upgraded to a 1" meter:

Oahu \$10,007.82 (1" meter) + \$25,826.67 (installation costs) = \$35,834.19

Maui \$33,356 (1" meter) + \$32,760.34 (installation costs) = \$66,116.34

Hawaii \$13,750 (1" meter) + \$26,902.80 (installation costs) = \$40,652.80

These numbers are the minimum required. On Kauai, the cost of the meter alone is \$35,290. If a larger home is built, a larger meter is required at a much higher cost. For example, to upgrade to a 1 1/2" meter, it would cost \$71,948 on Maui and \$70,580 on Maui, just for the meter. Yearly sprinkler inspections add to the cost of maintenance.

With the median price of a new home on Oahu at approximately \$730,000.00, adding the cost of a fire sprinkler system and larger water meter will dramatically increase the price of a



home. The National Association of Home Builders' 2016 data for Hawaii found that for every \$1,000 increase in new home price, 548 households are priced out of our housing market.

Statewide concern

Sprinklers are of statewide concern because housing affordability is a statewide concern, as evidenced by the number of bills this session addressing affordable housing and homelessness. DEBEDT reported that Hawaii needs over 66,000 new housing units through 2015 and significantly adding costs to construction will be more of a barrier to new housing. Furthermore, the State Building Code Council works on codes with county officials that impact all the Counties, so it is not a home rule issue.

Prevention and education are critical

Proponents say the contents of your home, which they say are made of materials that burn faster, cause fires. Educating the public on this is critical in prevention. Nationally, the number one cause of home fires is cooking. The public should instead be informed that cost-effective fire suppression canisters placed above your stove help prevent such fires from spreading, and also prevent any water damage that will result from a fire sprinkler.

Working smoke detectors save lives

National organizations such as the American Red Cross advocate for a working smoke detector and an escape plan to help keep your family safe during a fire. According to the National Fire Protection Association (NFPA), the fire survival rate in homes with working smoke detectors is 99.41% and only rises to 99.6% with a sprinkler. However, the cost difference between the two systems is quite significant.

New homes are safer and older homes burn

New homes are constructed with technology that offers safer, more durable building materials and products than ever before. Interconnected smoke alarms, and other improvements mean you and your family are safer than ever.

The age of the home is an important piece of information when discussing residential fires, because various aspects of older homes can make them more prone to fires and more dangerous in the case one occurs. The leading causes of unintentional home structure fires are 1) cooking equipment, 2) heating equipment and 3) electrical distribution and lighting equipment. A strong relationship between housing age and the rate of electrical fires has been observed, with housing over 40 years old having the strongest association with electrical distribution fires.

Based on data from the Honolulu Fire Department, 77% of fires occurring in residential structures between 2009 and 2015 involved homes built before 1980. Building codes have dramatically increased since 1980. The improvements to fire safety required by building codes do not evaporate with age, so it can be expected that homes built today will continue to outperform those built several generations ago.



Chamber of Commerce HAWAII
The Voice of Business

Chamber members would benefit

Many of the Chamber's members would benefit from a mandate, but they support keeping sprinklers optional because if no homes are built due to the increased cost, then there will be nowhere to install plumbing or supply piping. Furthermore, pipes filled with water within your walls and ceilings run the risk of leakage, leading to water damage and mold.

Not a national trend

Twenty-four States defeated a sprinkler mandate through their code adoption process and 20 States defeated the mandate legislatively. Only California, Maryland, and the District of Columbia have adopted a mandate.

We do not want to place homeowners or firefighters in unnecessary danger resulting from a one or two family structure fire. We believe that there are more cost-effective means available that would provide the same level of protection at a fraction of the cost of a new fire sprinkler system and larger water meter.

Our main concern is the impact a sprinkler mandate would have on the affordability of housing in Hawaii.

We **strongly support** this bill to keep residential sprinklers optional. Thank you for the opportunity to express our views on this matter.

LATE

From: mailinglist@capitol.hawaii.gov
Sent: Monday, March 13, 2017 11:57 AM
To: HSGtestimony
Cc: tony@rmasalesco.com
Subject: Submitted testimony for SB611 on Mar 14, 2017 10:00AM

SB611

Submitted on: 3/13/2017

Testimony for HSG on Mar 14, 2017 10:00AM in Conference Room 423

Submitted By	Organization	Testifier Position	Present at Hearing
Anthony B. Borge	RMA Sales	Support	No

Comments: Chair Brower, Vice Chair Nakamura and committee members, We are a small locally owned and managed business here on Oahu. We are in STRONG SUPPORT of SB 611 Relating to Fire Sprinklers which repeals the sunset date of June 30, 2017. The question to install or not install a fire sprinkler system in a residential dwelling should remain status quo, an option for the respective homeowners. Thank you. Anthony Borge

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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1065 Ahua Street
Honolulu, HI 96819
Phone: 808-833-1681 FAX: 839-4167
Email: info@gcawhawaii.org
Website: www.gcawhawaii.org



GCA of Hawaii

GENERAL CONTRACTORS ASSOCIATION OF HAWAII

Quality People. Quality Projects.

Uploaded via Capitol Website

March 14, 2017

TO: HONORABLE TOM BROWER, CHAIR, HONORABLE NADINE NAKAMURA, VICE CHAIR AND MEMBERS OF THE HOUSE COMMITTEE ON HOUSING

SUBJECT: **SUPPORT OF S.B. 611, SD1, RELATING TO FIRE SPRINKLERS.** Repeals the June 30, 2017, sunset date of Act 83, Session Laws of Hawaii 2012, which prohibits counties from requiring installation or retrofitting of automatic fire sprinklers in (1) new or existing detached one- or two-family dwelling units used only for residential purposes; and (2) non-residential agricultural and aquacultural structures located outside an urban area. Takes effect 5/22/2050. (SD1)

HEARING

DATE: March 14, 2017
TIME: 10:00 AM
PLACE: Conference Room 423

LATE

Dear Chair Brower, Vice Chair Nakamura and Members of the Committee:

The General Contractors Association (GCA) is an organization comprised of over five hundred general contractors, subcontractors, and construction related firms. The GCA was established in 1932 and is 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. 611, SD1, Relating to Fire Sprinklers, which proposes to make permanent the prohibition that prevent the counties from requiring fire sprinklers in specific family dwelling units and agricultural and aquacultural buildings with exceptions.

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, homeowners and renters alike. Instead, GCA encourages incentives that would encourage homebuilders and homeowners to install fire safety measures that would reduce the likelihood of fire hazards.

GCA is opposed to the mandated installation of automatic sprinklers in residential homes for the following reasons: new homes are built safer; newer technologies to address fire hazards may be available in near future, negating installation of fire sprinklers; unknown costs not only for installation but maintenance, and incentives are encouraged, rather than mandates.

GCA is in support of S.B. 611, SD1 and would respectfully request that this Committee passes these measures. Thank you for the opportunity to testify.



HAWAII FIRE FIGHTERS ASSOCIATION

INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS LOCAL 1463, AFL-CIO
1018 PALM DRIVE, HONOLULU, HAWAII 96814-1929
TELEPHONE (808) 949-1566 FAX: (808) 952-6003
WEBSITE: www.hawaiifirefighters.org

LATE

HOSUE OF REPRESENTATIVES
THE TWENTY-NINTH LEGISLATURE
REGULAR SESSION OF 2017

March 14, 2017

Committee on Housing

Testimony by
Hawaii Fire Fighters Association, Local 1463

LATE

S.B. No. 611, S.D. 1 RELATING TO FIRE SPRINKLERS

The Hawaii Fire Fighters Association (HFFA), Local 1463, IAFF, AFL-CIO, represents more than 1,900 professional active-duty and 800 retired fire fighters throughout the State. The HFFA, on behalf of our members, opposes S.B. No. 611, S.D. 1 which proposes to repeal the sunset date of Act 83, SLH 2012.

The safety of the community and fire personnel is of utmost important to HFFA. This bill prohibits the State and Counties from even considering whether or not a requirement for the installation sprinkler systems would be in the best interest of their community. HFFA believes that allowing Act 83, SLH 2012 to sunset affords the State and Counties to do determine if required installation or retrofitting of automatic fire sprinkler systems is appropriate for their respective communities and is in the best interest of the people of Hawaii.

Thank you for the opportunity to testify.



LATE

March 12, 2017

From: George S. Massengale
To: House Committee on House
Date: March 14, 2017 at 10:00 A.M.
Subj: SB611, SD1, Relating to Fire Sprinklers

TESTIMONEY IN SUPPORT

Chair Brower, Vice Chair Nakamura and members to the Committee on Housing. I am here today on behalf of Hawaii Habitat for Humanity Association, and our seven Habitat affiliates on statewide to testify in support of SB611, SD1. This bill will help keep new homes affordable for Hawaii's families.

I would like to start by talking about Habitat's business model. All Habitat's in Hawaii and across the United States utilize volunteer labor and donations of material, and money, to build simple, decent, and affordable homes. Habitat is an organization that strives to keep cost low. The average Habitat construction cost for a 3 bedroom 2 bath home is slightly over \$150,000.

In 2011, House Resolution HR47 was adopted to have the State Building Conde Council (SBCC) prepare a sprinkler implementation report to look at cost and installation issues of installing home sprinkler systems in new single and two family dwelling and retrofitting existing single and two family dwellings. This report estimated the square foot cost for a 1,500 sq. ft. home to be \$6,750. We would estimate that today the cost would \$7,500 plus. For a Habitat homeowner this would be added to the construction cost. For and existing Habitat home owner, with very limited resources, this cost would be prohibitive. The average yearly income for a Habitat family of 4 is between \$50,000 and \$60,000 or 50 to 60 percent Adjusted Median Income (AMI). I would also point out the many Habitat families have incomes much lower than \$50,000 annually.

Because of the cost burden of installing and retrofitting new and existing Habitat Homes we would ask the committees to repeal the June 30, 2017 sunset.

Respectfully,

A handwritten signature in black ink, appearing to read "G. Massengale".

George S. Massengale
Director, Community Engagement

LATE

From: mailinglist@capitol.hawaii.gov
Sent: Monday, March 13, 2017 10:25 PM
To: HSGtestimony
Cc: graybip@gmail.com
Subject: Submitted testimony for SB611 on Mar 14, 2017 10:00AM

SB611

Submitted on: 3/13/2017

Testimony for HSG on Mar 14, 2017 10:00AM in Conference Room 423

Submitted By	Organization	Testifier Position	Present at Hearing
Margaret Graybill	FACE	Support	No

Comments: Upgrading the automatic sprinkler systems in current housing makes for more safe, affordable housing.

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

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LATE

From: mailinglist@capitol.hawaii.gov
Sent: Monday, March 13, 2017 7:01 PM
To: HSGtestimony
Cc: hpp@aloha.net
Subject: Submitted testimony for SB611 on Mar 14, 2017 10:00AM

SB611

Submitted on: 3/13/2017

Testimony for HSG on Mar 14, 2017 10:00AM in Conference Room 423

Submitted By	Organization	Testifier Position	Present at Hearing
Gerald Peters	Fixit Fridays Radio-HPS Construction Services	Support	No

Comments: Testimony of Gerald Peters- Fixit Fridays Home Improvement Live on The Mike Buck Show, & Pres/Gen Mgr of HPS Services, Inc. & HPS Const Services, Ltd. Committee of Housing SB611, SD1 Relating to Fire Sprinklers Tuesday, March14, 2017 10:00 am, Conference Room 423 Chair Brower, Vice Chair Nakamura, and Members: My name is Gerald Peters – 24 years in Hawaii Licensed Contracting, 12 years content producer and on Air Co-host with Mike Buck on Fixit Fridays radio in strong support of this bill. While my company does not build new homes, as a 39 year resident, I am concerned for the negative economic impact of the well intended but economically dangerous effort to mandate sprinklers in new homes. These sprinklers should be an option, as are many safety and aging in place items such as grab bars. Mandating such an expensive system will have numerous known effects (eg. inflationary pricing of Kamaaina out of the new house market) and I believe numerous unforeseen effects (eg. Huge increase in property insurance rates due to six figure damage claims from accidental activation of the sprinklers, worsening the brain drain problem (my own born here, UH graduates, grown sons have left for new mainland careers, fearful of never being able to afford home ownership, and more). We cannot afford to do this kind of “piling on” just because something is of course a good idea in the abstract. The proponents of this idea are not considering the “rest of the story.” Please approve this legislation. Thank you.

Please note that testimony submitted less than 24 hours prior to the hearing, improperly identified, or directed to the incorrect office, may not be posted online or distributed to the committee prior to the convening of the public hearing.

Do not reply to this email. This inbox is not monitored. For assistance please email webmaster@capitol.hawaii.gov

nakamura1 - Natalie

From: Tammy Kohrer <tammy.kohrer@gmail.com>
Sent: Sunday, March 12, 2017 2:46 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

Dear Chair Brower, Vice-Chair Nakamura, and members of the Committee,

I am in strong support of S.B. 611 S.D.1, which removes the sunset on Act 83, and keeps fire sprinklers optional for the homeowner. Passage of this bill into law will allow me to decide whether fire sprinklers are right for me and my family and for my finances.

Since we are not building enough homes to meet demand, many families are rebuilding on their existing lot. If I tore down my old house, and built a new house on the same lot, that is considered a "new" home under the sprinkler mandate. Design, which requires a licensed engineer to stamp the plans, and installation, which involves dredging to connect to the water source, even without upgrading the water meter, has come in over \$27,000 on actual current contractor jobs.

However, if the home is a larger, multi-generational home, which Hawaii has the most of nationwide at 11%, then an upgraded water meter would be required, adding up to an additional \$6,412 on Oahu, \$21,296 on Maui, \$21,135 on Kauai, and \$12,560 on Hawaii Island, and even more, depending on how big your home is and where you live.

Furthermore, new homes, which are where sprinklers would be required, are built safer than ever before with more fire-retardant materials, and technology such as hard-wires smoke alarms.

A new home also includes accessory dwelling units, or ADUs, which are either 400 or 800 square feet, that are meant to respond to our housing crisis by providing affordable rentals. Adding tens of thousands of dollars to construction cost will not make them affordable. Instead, it will be a barrier to much needed affordable homes and rentals and may not end up getting built at all.

Finally, a statewide sprinkler mandate would require state housing projects involving one- and two-family homes to be sprinklered.

I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

Tammy Kohrer
91-1048 KALEHUNA ST
KAPOLEI, HI 96707
tammy.kohrer@gmail.com

nakamura1 - Natalie

From: Lorie Goodman <makai808@zoho.com>
Sent: Sunday, March 12, 2017 2:45 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

Dear Chair Brower, Vice-Chair Nakamura, and members of the Committee,

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Finally, a statewide sprinkler mandate would require state housing projects involving one- and two-family homes to be sprinklered.

I sincerely ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from rising even further.

Sincerely,

Lorie Goodman
112 Meleana Pl
Honolulu, HI 96817
makai808@zoho.com

nakamura1 - Natalie

From: Daniel Sandomire <user@votervoice.net>
Sent: Sunday, March 12, 2017 2:54 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

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I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

Daniel Sandomire
1880 Laukahi St
Honolulu, HI 96821
dsando@yahoo.com

nakamura1 - Natalie

From: John hayama <John.Hayama@locationshawaii.com>
Sent: Sunday, March 12, 2017 2:57 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

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I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

John hayama
3148 E Manoa Rd Apt C
Honolulu, HI 96822
John.Hayama@locationshawaii.com

nakamura1 - Natalie

From: William Bonnet <bbonnet@hawaii.rr.com>
Sent: Sunday, March 12, 2017 3:11 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Chair Brower,

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I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

William Bonnet
65 Kamalii Pl
Haiku, HI 96708
bbonnet@hawaii.rr.com

nakamura1 - Natalie

From: Kimo Pierce <Kimo@HawaiiPlumbingGroup.com>
Sent: Sunday, March 12, 2017 3:31 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Chair Brower,

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Sincerely,

Kimo Pierce
1177 Queen St
Honolulu, HI 96814
Kimo@HawaiiPlumbingGroup.com

nakamura1 - Natalie

From: Cynthia Fricke <irishram@msn.com>
Sent: Sunday, March 12, 2017 4:08 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

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Sincerely,

Cynthia Fricke
637 Ilikai St
Kailua, HI 96734
irishram@msn.com

nakamura1 - Natalie

From: Eric Carson <eric@reflections-glass.com>
Sent: Sunday, March 12, 2017 4:05 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

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I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

Eric Carson
91-1018 KAIKOHOLA ST
EWA BEACH, HI 96706
eric@reflections-glass.com

nakamura1 - Natalie

From: Darrick Ching <dching@fhb.com>
Sent: Sunday, March 12, 2017 4:00 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

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Sincerely,

Darrick Ching
520 Lunalilo Home Rd
Honolulu, HI 96825
dching@fhb.com

nakamura1 - Natalie

From: Mr. & Mrs. Steve Hile <histevjudy@hotmail.com>
Sent: Sunday, March 12, 2017 4:51 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

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Sincerely,

Steve Hile
94-226 KANAWAO PL
WAIPAHU, HI 96797
histevjudy@hotmail.com

nakamura1 - Natalie

From: Joan Sato <Joan@JSatoAssociates.com>
Sent: Sunday, March 12, 2017 5:03 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

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Sincerely,

Joan Sato
2232 Kapiolani Blvd Apt 804
Honolulu, HI 96826
Joan@JSatoAssociates.com

nakamura1 - Natalie

From: Jessica Omoto <jesm1@hawaiiintel.net>
Sent: Sunday, March 12, 2017 6:14 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

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Sincerely,

Jessica Omoto
98-402 KOAUKA LOOP APT 2215
AIEA, HI 96701
jesm1@hawaiiintel.net

nakamura1 - Natalie

From: Michael Lum <mlum@mlpacific.com>
Sent: Sunday, March 12, 2017 7:46 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

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Sincerely,

Michael Lum
1302 Kaeleku St
Honolulu, HI 96825
mlum@mlpacific.com

nakamura1 - Natalie

From: Jan Kaeo <jankaeo@dalecarnegiehawaii.com>
Sent: Sunday, March 12, 2017 8:09 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

Dear Chair Brower, Vice-Chair Nakamura, and members of the Committee,

I am in strong support of S.B. 611 S.D.1, which removes the sunset on Act 83, and keeps fire sprinklers optional for the homeowner. Passage of this bill into law will allow me to decide whether fire sprinklers are right for me and my family and for my finances.

Since we are not building enough homes to meet demand, many families are rebuilding on their existing lot. If I tore down my old house, and built a new house on the same lot, that is considered a "new" home under the sprinkler mandate. Design, which requires a licensed engineer to stamp the plans, and installation, which involves dredging to connect to the water source, even without upgrading the water meter, has come in over \$27,000 on actual current contractor jobs.

However, if the home is a larger, multi-generational home, which Hawaii has the most of nationwide at 11%, then an upgraded water meter would be required, adding up to an additional \$6,412 on Oahu, \$21,296 on Maui, \$21,135 on Kauai, and \$12,560 on Hawaii Island, and even more, depending on how big your home is and where you live.

Furthermore, new homes, which are where sprinklers would be required, are built safer than ever before with more fire-retardant materials, and technology such as hard-wires smoke alarms.

A new home also includes accessory dwelling units, or ADUs, which are either 400 or 800 square feet, that are meant to respond to our housing crisis by providing affordable rentals. Adding tens of thousands of dollars to construction cost will not make them affordable. Instead, it will be a barrier to much needed affordable homes and rentals and may not end up getting built at all.

Finally, a statewide sprinkler mandate would require state housing projects involving one- and two-family homes to be sprinklered.

I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

Jan Kaeo
2101 Nuuanu Ave Apt 704
Honolulu, HI 96817
jankaeo@dalecarnegiehawaii.com

nakamura1 - Natalie

From: Lynne Meyer <lynnegmeyer@hotmail.com>
Sent: Sunday, March 12, 2017 9:56 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

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Sincerely,

Lynne Meyer
3083 Pacific Heights Rd
Honolulu, HI 96813
lynnegmeyer@hotmail.com

nakamura1 - Natalie

From: Ricky Li <rickyli99@gmail.com>
Sent: Monday, March 13, 2017 6:55 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

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Sincerely,

Ricky Li
1425 Liliha St Apt 5H
Honolulu, HI 96817
rickyli99@gmail.com

nakamura1 - Natalie

From: Roy Nihei <royn@g70.design>
Sent: Monday, March 13, 2017 6:55 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

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Sincerely,

Roy Nihei
925 Bethel St Fl 5
Honolulu, HI 96813
royn@g70.design

nakamura1 - Natalie

From: Paul Silen <psilen@hdcc.com>
Sent: Monday, March 13, 2017 7:09 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

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Sincerely,

Paul Silen
44-291 KANEOHE BAY DR APT F
KANEOHE, HI 96744
psilen@hdcc.com

nakamura1 - Natalie

From: Mr. & Mrs. Gary Okimoto <koapens@hawaii.rr.com>
Sent: Monday, March 13, 2017 7:19 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

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Sincerely,

Gary Okimoto
92-1328 Punawainui St
Kapolei, HI 96707
koapens@hawaii.rr.com

nakamura1 - Natalie

From: Evan Fujimoto <evan@grahambuilders.com>
Sent: Monday, March 13, 2017 7:15 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

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Sincerely,

Evan Fujimoto
5616 Haleola St
Honolulu, HI 96821
evan@grahambuilders.com

nakamura1 - Natalie

From: Karen Berry <karen@tradepublishing.com>
Sent: Monday, March 13, 2017 7:25 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

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Mahalo for your valuable time and contributions to Hawaii!

Sincerely,

Karen Sayuri Berry
60 N Beretania St Apt 3502
Honolulu, HI 96817
karen@tradepublishing.com

nakamura1 - Natalie

From: Clifton Crawford <cjcontracting@hawaii.rr.com>
Sent: Monday, March 13, 2017 7:40 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

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Clifton Crawford
364 N Kainalu Dr
Kailua, HI 96734
cjcontracting@hawaii.rr.com

nakamura1 - Natalie

From: Greg Sakamoto <greg@scpacific.com>
Sent: Monday, March 13, 2017 8:00 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

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Sincerely,

Greg Sakamoto
1248 Ala Mahamoe St
Honolulu, HI 96819
greg@scpacific.com

nakamura1 - Natalie

From: Craig Washofsky <craigw@servco.com>
Sent: Monday, March 13, 2017 8:31 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

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Sincerely,

Craig Washofsky
825 Alahaki St
Kailua, HI 96734
craigw@servco.com

nakamura1 - Natalie

From: Michael Yee <myee@mcyia.com>
Sent: Monday, March 13, 2017 9:03 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Chair Brower,

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Sincerely,

Michael Yee
1845 Kualono St
Honolulu, HI 96817
myee@mcyia.com

nakamura1 - Natalie

From: Mike Brant <mikeb@gentryhawaii.com>
Sent: Monday, March 13, 2017 8:58 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

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Sincerely,

Mike Brant
2101 Nuuanu Ave Apt 1304
Honolulu, HI 96817
mikeb@gentryhawaii.com

nakamura1 - Natalie

From: Debra Luning <DebbieL@GentryHawaii.com>
Sent: Monday, March 13, 2017 8:56 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

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Sincerely,

Debra Luning
2825 S King St
Honolulu, HI 96826
DebbieL@GentryHawaii.com

nakamura1 - Natalie

From: Chuen Yee <chuen@mcyia.com>
Sent: Monday, March 13, 2017 9:00 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

Dear Chair Brower, Vice-Chair Nakamura, and members of the Committee,

I am in strong support of S.B. 611 S.D.1, which removes the sunset on Act 83, and keeps fire sprinklers optional for the homeowner. Passage of this bill into law will allow me to decide whether fire sprinklers are right for me and my family and for my finances.

Since we are not building enough homes to meet demand, many families are rebuilding on their existing lot. If I tore down my old house, and built a new house on the same lot, that is considered a "new" home under the sprinkler mandate. Design, which requires a licensed engineer to stamp the plans, and installation, which involves dredging to connect to the water source, even without upgrading the water meter, has come in over \$27,000 on actual current contractor jobs.

However, if the home is a larger, multi-generational home, which Hawaii has the most of nationwide at 11%, then an upgraded water meter would be required, adding up to an additional \$6,412 on Oahu, \$21,296 on Maui, \$21,135 on Kauai, and \$12,560 on Hawaii Island, and even more, depending on how big your home is and where you live.

Furthermore, new homes, which are where sprinklers would be required, are built safer than ever before with more fire-retardant materials, and technology such as hard-wires smoke alarms.

A new home also includes accessory dwelling units, or ADUs, which are either 400 or 800 square feet, that are meant to respond to our housing crisis by providing affordable rentals. Adding tens of thousands of dollars to construction cost will not make them affordable. Instead, it will be a barrier to much needed affordable homes and rentals and may not end up getting built at all.

Finally, a statewide sprinkler mandate would require state housing projects involving one- and two-family homes to be sprinklered.

I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

Chuen Yee
1050 Queen St
Honolulu, HI 96814
chuen@mcyia.com

From: Mary Flood <MKFlood@drhorton.com>
Sent: Monday, March 13, 2017 10:36 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

Dear Chair Brower, Vice-Chair Nakamura, and members of the Committee,

I am in strong support of S.B. 611 S.D.1, which removes the sunset on Act 83, and keeps fire sprinklers optional for the homeowner. Passage of this bill into law will allow me to decide whether fire sprinklers are right for me and my family and for my finances.

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Finally, a statewide sprinkler mandate would require state housing projects involving one- and two-family homes to be sprinklered.

I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

Mary Flood
1236 Kamehame Dr
Honolulu, HI 96825
MKFlood@drhorton.com

LATE

From: Joan Riggs <joan.riggs88@gmail.com>
Sent: Monday, March 13, 2017 11:00 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Chair Brower,

Dear Chair Brower, Vice-Chair Nakamura, and members of the Committee,

I am in strong support of S.B. 611 S.D.1, which removes the sunset on Act 83, and keeps fire sprinklers optional for the homeowner. Passage of this bill into law will allow me to decide whether fire sprinklers are right for me and my family and for my finances.

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Finally, a statewide sprinkler mandate would require state housing projects involving one- and two-family homes to be sprinklered.

I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

Joan Riggs
1157 Lunaai St
Kailua, HI 96734
joan.riggs88@gmail.com

LATE

From: Michael Watanabe <Michael@jwinchawaii.com>
Sent: Monday, March 13, 2017 11:14 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

Dear Chair Brower, Vice-Chair Nakamura, and members of the Committee,

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Finally, a statewide sprinkler mandate would require state housing projects involving one- and two-family homes to be sprinklered.

I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

Michael Watanabe
1200 Queen Emma St Apt 2312
Honolulu, HI 96813
Michael@jwinchawaii.com

nakamura1 - Natalie

LATE

From: Dwight Mitsunaga <dmitsunaga@pacarchitects.com>
Sent: Monday, March 13, 2017 11:20 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

Dear Chair Brower, Vice-Chair Nakamura, and members of the Committee,

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Finally, a statewide sprinkler mandate would require state housing projects involving one- and two-family homes to be sprinklered.

I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

Dwight Mitsunaga
817 Ikena Cir
Honolulu, HI 96821
dmitsunaga@pacarchitects.com

nakamura1 - Natalie

From: Laurie Ann Chan <lc@avalonhi.com>
Sent: Monday, March 13, 2017 11:53 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Follow Up Flag: Follow up
Flag Status: Flagged

LATE

Dear Chair Brower,

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Finally, a statewide sprinkler mandate would require state housing projects involving one- and two-family homes to be sprinklered.

I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

Laurie Ann Chan
2003 Mahao Pl
Honolulu, HI 96819
lc@avalonhi.com

From: Brian Moore <brian.moore@centralpacificbank.com>
Sent: Monday, March 13, 2017 11:58 AM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

Dear Chair Brower, Vice-Chair Nakamura, and members of the Committee,

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Finally, a statewide sprinkler mandate would require state housing projects involving one- and two-family homes to be sprinklered.

I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

Brian Moore
1487 Hiikala Pl # 7
Honolulu, HI 96816
brian.moore@centralpacificbank.com

From: Tyler Nekoba <tnekoba@gmail.com>
Sent: Monday, March 13, 2017 12:22 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

Dear Chair Brower, Vice-Chair Nakamura, and members of the Committee,

I am in strong support of S.B. 611 S.D.1, which removes the sunset on Act 83, and keeps fire sprinklers optional for the homeowner. Passage of this bill into law will allow me to decide whether fire sprinklers are right for me and my family and for my finances.

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Finally, a statewide sprinkler mandate would require state housing projects involving one- and two-family homes to be sprinklered.

I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

Tyler Nekoba
7234 Pikoni Pl
Honolulu, HI 96825
tnekoba@gmail.com

From: Samuel Dannaway, PE <dannaways@coffman.com>
Sent: Monday, March 13, 2017 12:32 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

Dear Chair Brower, Vice-Chair Nakamura, and members of the Committee,

I am strongly opposed to S.B. 611 S.D.1, which removes the sunset on Act 83. Passage of this bill into law will usurp the home-rule rights of the individual counties, responsible for adopting their buildings.

The justification used by BIA in support of this bill is based on significant misrepresentation of facts about the value of sprinkler protection and its cost impacts.

I respectfully ask this Committee's kill S.B. 611 S.D. 1 and allow county building and fire code officials to determine if sprinklers are needed in the name of public safety.

Samuel S. Dannaway
Fire Protection Engineer
dannaways@coffman.com

Sincerely,

Samuel S. Dannaway
501 Sumner St Ste 421
Honolulu, HI 96817
dannaways@coffman.com

LATE

From: LINDA KONDO <lindak3@servco.com>
Sent: Monday, March 13, 2017 1:07 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

Dear Chair Brower, Vice-Chair Nakamura, and members of the Committee,

I am in strong support of S.B. 611 S.D.1, which removes the sunset on Act 83, and keeps fire sprinklers optional for the homeowner. Passage of this bill into law will allow me to decide whether fire sprinklers are right for me and my family and for my finances.

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Finally, a statewide sprinkler mandate would require state housing projects involving one- and two-family homes to be sprinklered.

I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

LINDA KONDO
94-1049 MOLALE ST
WAIPAHU, HI 96797
lindak3@servco.com

LATE

From: Greg Liu <greg@dtchawaii.com>
Sent: Monday, March 13, 2017 2:19 PM
To: HSGtestimony
Subject: Strong Support for S.B. 611 to Keep Residential Sprinklers OPTIONAL for the homeowner

Dear Chair Brower,

Dear Chair Brower, Vice-Chair Nakamura, and members of the Committee,

I am in strong support of S.B. 611 S.D.1, which removes the sunset on Act 83, and keeps fire sprinklers optional for the homeowner. Passage of this bill into law will allow me to decide whether fire sprinklers are right for me and my family and for my finances.

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Finally, a statewide sprinkler mandate would require state housing projects involving one- and two-family homes to be sprinklered.

I respectfully ask this Committee's support on S.B. 611 S.D. 1 to keep sprinklers optional and to keep housing prices from increasing significantly.

Sincerely,

Greg Liu
92-831 MAKAKILO DR
KAPOLEI, HI 96707
greg@dtchawaii.com



From: Curt Kiriu <curtk@hawaii.rr.com>
Sent: Monday, March 13, 2017 5:12 PM
To: HSGtestimony
Subject: My Support for S.B. 611 to Keep Choice of Residential Sprinklers OPTIONAL for homeowner

Follow Up Flag: Follow up
Flag Status: Flagged

Dear Chair Brower,

Aloha Chair Brower, Vice-Chair Nakamura, and members of the Committee,

I would like to explain why I support fire sprinklers as a choice and not as a mandate, because I am for giving the homeowner the choice of deciding what is best for their families; and not be told what they are required to do; regardless of their financial situation.

Yes, I am in strongly support of S.B. 611 S.D.1, which removes the sunset on Act 83, and keeps fire sprinklers optional for the homeowner; and yes, you all will hear testimony from many, who are for and against S.B. 611.

I and a licensed general contractor who specializes in remodeling and modifying homes to make it accessible for seniors and those with physical and intellectual challenges; but I am not here as a contractor; but as a person who sees first hand the daily challenges of families struggling to survive in Hawaii. As you know, Hawaii has the highest percentage of multi-generational families in the nation, not only because of our local (Polynesian, Asian, Portuguese, Filipino etc...) traditions of caring for our elders; but also because the generations X, Y and Millennials, cannot afford to purchase a home.

Therefore, must move back with their parents, but most times, not even move out; but remodel. There are many that have demolished their parent's older home because of the age of the home, deterioration, inadequate size; and build a new home for 2, 3 or more generations.

Keeping that in mind, if there was additional cost of a mandated fire sprinkler system, it would make building a new impossible for the majority of families. It would be worse on the outer islands, where everything is already much more expensive than Oahu.

My other concern is the lack of infrastructure and water source. I serve as the Housing Domain Coordinator on the Honolulu's Age Friendly City Committee, and was on the initial Citizens Advisory Committee that implemented the ADU (Accessory Dwelling Units) into the Final plan; and I know first hand the lack of infrastructure and water source we have on Oahu and it is worse on the outer islands. We as an island state, cannot just divert or truck in millions of gallons pf water from another states's resources. It has been decades that we have been told to conserve our water resources, and having mandated fire sprinkler systems, is not conservation; especially as an island.

I understand that the Fire department and their spokesperson, has continued to use emotion as a lobbying tool saying "what is the cost of a life", and I understand, as I am a family man, with many relatives that life safety is important. As a contractor, I would build a structurally sound home for my family and relatives, so it would not fall and last a lifetime, as I would for all of my homeowner (clients); because I believe in building a structurally sound home. I would ask every fireman/fire woman in the fire department and everyone in support of the mandate, if they currently have a fire sprinkler system in their home and their homes and all of their families homes. If not, why not; especially if they want

everyone else to install them. Why push this mandate on others, if you do not have them in your home? Nothing is stopping them, from getting a system, or would the financial cost be prohibitive to their financial situation? This sounds like "Do as I say, not as I do".

Finally, if you search long enough, you will sadly understand that there are industries and lobbying groups (fire sprinkler systems companies and manufacturers, fire sprinkler coalition, fire fighter unions etc...) behind this push; and their main goal is not because of life safety; but union jobs.

I ask for your Committee's support on S.B. 611 S.D. 1 to keep sprinklers the choice of the homeowners.

Sincerely,

Curt Kiriu
94-477 HAIWALE LOOP
MILILANI, HI 96789
curtk@hawaii.rr.com