

Wai Halana

Hawaii Flood News

On the Ballot



“Shall the State be authorized to issue special purpose revenue bonds and use the proceeds from the bond to assist dam and reservoir owners to make their facilities compliant with current safety standards?”



It’s that time again to exercise our right to vote. Have you ever had a mental block in the voting booth because you were not familiar with the issue and left it **blank**? Did you know that when voting on a constitutional amendment, a blank vote is considered a “no” vote? Only a “yes” vote will count toward the passage of the amendment and the amendment needs more than 50% of all the total ballots cast to be “yes” in order to pass.

On the ballot this November, there will be a chance to amend the Constitution of the State of Hawaii (Constitution) to allow the State to issue special purpose revenue bonds to assist dam and reservoir owners with investigating and improving their facilities. The Department of Land and Natural Resources (DLNR) has completed statewide regulated dam and reservoir assessments and issued out findings and recommendations to dam and reservoir owners. These assessments found that the vast majority of regulated dams and reservoirs in the State are in need of engineering investigations and/or improvements. Dam and reservoir owners statewide appealed for assistance to improve their facilities. In 2012, the DLNR and dam and reservoir owners successfully partnered together with the legislature to adopt the proposal to amend the Constitution for this purpose and to have this pro-

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The current and selected past issues are also available at:

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We welcome your comments and suggestions, as well as, newsworthy articles. Your submissions may be sent to the Department of Land and Natural Resources, Engineering Division, P.O. Box 373, Honolulu, Hawaii 96809.

If you'd like to receive the Wai Halana via email or wish to be removed from our mailing list, contact Jerome Acadimia at (808) 587-0254.

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posal appear on the general election ballot for final approval (House Bill 2594, Conference Draft 1).

How would this affect the State? The proposal would allow dam and reservoir owners the ability to apply and obtain special purpose revenue bonds to make their facilities compliant with current safety standards. Many of these facilities have positive impacts on the agricultural community as well as flood mitigation, water quality and ground water recharge benefits. Similar special purpose revenue bonds have been approved for other uses such as health care, industrial enterprises, early childhood care, and schools. The presumption is that as we aid these owners, businesses and non-profits, the public will benefit from their services. In order to obtain a special purpose revenue bond, a dam and reservoir owner must meet compliance requirements, such as being able to generate sufficient revenues in order to support the issuance of these bonds. The State will not be pledging any of its assets or revenues to support a bond sale for this purpose.

For more information on this proposal, visit the following links:



Notice of Proposed Constitutional Amendments to the Constitution of the State of Hawaii:

<http://hawaii.gov/elections/documents/2012/ConAm%20Poster%202012%20Final%20-%20all%20languages.pdf>

Reference "Amending the Hawaii Constitution": <http://hawaii.gov/lrb/lrbnotes02/0205notes.pdf>



Upcoming Events



**ASFPM 2013 Annual Conference
Call for Presenters Now Open!**

SAVE THESE IMPORTANT DATES:

June 9 -14, 2013, for ASFPM's 37th Annual National Conference, "Remembering the Past - Insuring the Future", at the Connecticut Convention Center in Hartford, CT. Presentation submittals are due October 31, 2012.

The theme for 2013 is derived from New England's rich history and its vibrant future. The play on words with "insuring" is a tribute to Hartford's status as "the birthplace of insurance."

CALL FOR PRESENTERS is now online!

This Call for Presenters seeks a broad range of professionals to address the many issues and problems associated with managing flood risk, reducing flood damages, making communities more sustainable, and protecting floodplains and fragile natural resources.

For more info, visit: www.floods.org

Storm Events Database

The National Oceanic and Atmospheric Administration (NOAA) has a Storm Events Database which allows users to search for various types of historical storm events. Storm Data are geographically categorized by County or by NWS Forecast Zone. Smaller coverage are collected by county (Tornado, Thunderstorm Winds, Flash Floods and Hail) while larger scale events are collected by forecast zone (Heat, Cold, Drought, Flood, Tropical & Winter Weather).

Each Event type listed in the database are also listed with their collection type (County or Zone). After selecting your Event Type, you can select the County or Zone from the selection menu.

For Hawaii's database, the time period of the database is from October 1, 2006 to June 30, 2012.

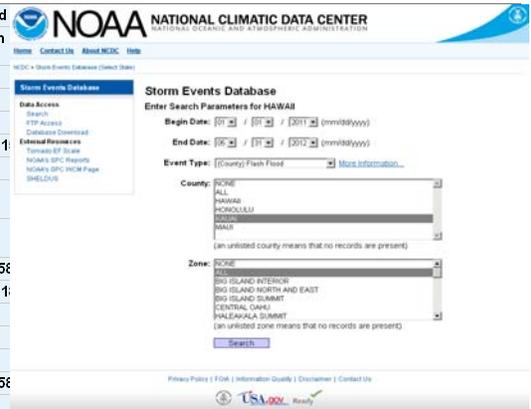
Check out the tool at:

<http://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=15%2CHAWAII>

Storm Events Database

Event Details

Event	Flash Flood
-- Flood Cause	Heavy Rain
State	HAWAII
County/Area	KAUAI
WFO	HFO
Begin Date	01/16/2011 1
Begin Range	5
Begin Azimuth	WNW
Begin Location	HANALEI
Begin Lat/Lon	22.22/-159.58
End Date	01/16/2011 1
End Range	5
End Azimuth	WNW
End Location	HANALEI
End Lat/Lon	22.22/-159.58
Deaths Direct/Indirect	0/0
Injuries Direct/Indirect	0/0
Property Damage	0.00K
Crop Damage	0.00K
Episode Narrative	A cold front produced heavy rain and flash flooding over Niihau and Kauai. There were no reports of serious injuries. The costs of any damages was not available.
Event Narrative	Flooding rains closed Kuhio Highway for a time near Haena at Limahuli Valley in northwest Kauai.



Vertical Datum, Elevation Certificates, & Base Flood Elevations



A vertical datum is a set of reference points from which elevations are determined. Without a common vertical datum, surveyors would measure different elevation values for the same location. Historically, the most common vertical datum in the United States has been National Geodetic Vertical Datum of 1929 (NGVD29). NGVD29 does not technically exist for the State of Hawaii. However, flood elevations (a.k.a. Base Flood Elevations) on older Flood Insurance Rate Maps (FIRMs) for Hawaii were labeled with NGVD29.

The current vertical datums in Hawaii are Local Tidal Datum (LTD), which is based on tidal observations for each island. Tidal datums are determined by averaging the level of water

at a tide gage over time. LTD in Hawaii is also called local mean sea level. Many have used NGVD29 and LTD interchangeably. Consequently, Base Flood Elevations (BFEs) on FIRMs for Hawaii in the past were labeled NGVD29. Clarifying terminology has become more important with recent FIRM revisions. The vertical datum for BFEs on newer FIRMs for Hawaii is being labeled LTD.

FEMA's Elevation Certificate (EC) is a form that is used in all four counties in Hawaii to document compliance with local floodplain management regulations. Accurate BFE and survey data are required to be recorded on the ECs in order for community officials to evaluate compliance and for insurance agents to properly rate a flood insurance policy. When filling out an EC, it is important to use the current effective FIRM and Flood Insurance Study (FIS). It should be noted that each county has multiple iterations of FIRM panels which may have different effective dates. The following lists the current effective FIRMs for each county and the BFE datum labeled on the panel:

MAUI COUNTY FIRM

Panel Effective Date: 9/25/2009
BFE datum: LTD

Effective Date: 9/19/2012
BFE datum: LTD

KAUAI COUNTY FIRM

Panel Effective Date: 9/16/2005
BFE datum: NGVD 29

Effective Date: 11/26/2010
BFE datum: LTD

HAWAII COUNTY FIRM

All Effective FIRM Panels
BFE datum: NGVD 29

CITY & COUNTY OF HONOLULU FIRM

Panel Effective Date: 9/30/2004
BFE datum: NGVD 29

Panel Effective Date: 6/2/2005
BFE datum: NGVD 29

Panel Effective Date: 1/19/2011
BFE datum: LTD

When completing item B11 on the EC, the appropriate datum should be referenced from the current effective maps.

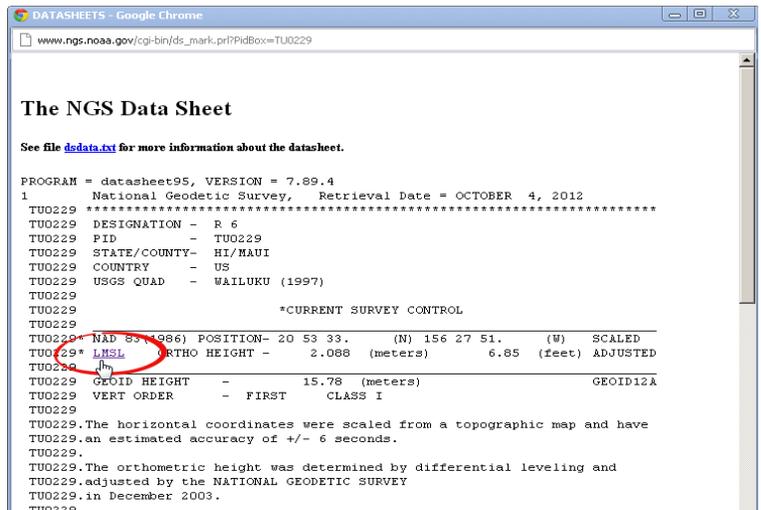
B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9.
 FIS Profile FIRM Community Determined Other (Describe) _____

B11. Indicate elevation datum used for BFE in Item B9: NGVD 1929 NAVD 1988 Other (Describe) **LTD**

When recording the surveyed information, make sure the correct vertical datum is recorded based on the benchmark utilized to collect the surveyed elevations. For example, if NGS PID # TU0229 was used to survey a property in Wailuku, Maui, then item C2 on the EC should be filled in as follows:

C2. Elevations – Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO. Complete Items C2.a-h below according to the building diagram specified in Item A7. Use the same datum as the BFE.
 Benchmark Utilized **TU 0229** Vertical Datum **LMSL**
 Conversion/Comments _____

In correctly filling in items B11 and C2 of the EC, you may find that the vertical datums "differ". Normally, a conversion would be required. But FEMA has recently issued a letter stating NGVD29 and LTD on FIRMs, elevation certificates and other FEMA related documents are the same in Hawaii for floodplain management and flood insurance purposes. This letter should be referenced in the comment section and be kept with the completed EC in the event questions arise by NFIP stakeholders.



Please contact your county NFIP Coordinators for a copy of the subject letter, "[Vertical Datum References on the Flood Insurance Rate Maps for Hawaii County, City and County of Honolulu, Kauai County, and Maui County](#)", dated October 4, 2012.

Sources: NOAA-NGS, FEMA

National Flood Insurance Program is Reauthorized

On July 6, President Obama signed into law the "Moving Ahead for Progress in the 21st Century Act" (HR 4348) which reauthorizes the National Flood Insurance Program (NFIP) and extends the program until September 30, 2017. The reauthorization of the NFIP was amended to include the following:

- Amends the premium rate structure and establishes a Reserve Fund which will create a long-term solvency for the NFIP. To date, the NFIP has \$18 billion in debt.
- A Technical Mapping Advisory Council will be established to improve the quality and distribution of Flood Insurance Rate Maps. Moreover, the Technical Mapping Advisory Council will also improve the performance metrics used to map flood risk.
- Owners in areas protected by levees and dams will not be required to purchase flood insurance.
- Improve the communication and outreach to States, local communities and property owners about any potential flood map changes that may result in flood insurance purchase requirements, educating property owners on flood risk, and how to read and access flood maps.

For additional information on HR 4348, go to: <http://www.gpo.gov/fdsys/pkg/BILLS-112hr4348enr/pdf/BILLS-112hr4348enr.pdf>

Sources: APWA, ASFPM

Flood Insurance Committee Corner

PRP Eligibility Extension Has Been Extended

On August 21, 2012 FEMA released a Bulletin that announced the extension of the 2-year Preferred Risk Policy (PRP) Eligibility Extension for buildings newly mapped into a high-risk area (the Special Flood Hazard Area, SFHA).

Under the initial 2-Year PRP Eligibility Extension, buildings newly mapped into an SFHA on or after October 1, 2008, became eligible for the PRP for 2 years beginning on January 1, 2011. Buildings newly mapped into an SFHA on or after January 1, 2011, were also eligible for the PRP during the 2-year period following the map revision date. At the end of the 2-year period, the policies were required to be rewritten as standard-rated policies (aka grandfathered).

As FEMA continues to develop an implementation strategy for the Biggert-Waters Insurance Reform Act of 2012, policies issued under this PRP Eligibility Extension (and that meet the loss history requirements) will continue to be issued as PRPs at each renewal until further notice and do not need to be rated as standard-rated policies. This also applies to new business.



For a copy of the NFIP Bulletin, go to www.nfipiservice.com/bulletin_2012.html and click on Bulletin W-12054.

--Your Humble Insurance Committee Co-Chairs
Bruce Bender & Gary Heinrichs

This column is produced by the ASFPM Insurance Committee.

More State General Flood Control Plan Forums Planned



You may or may not know this, but the State of Hawaii has a General Flood Control Plan (GFCP). Can I get a show of hands for how many of you use the GFCP daily? Monthly? Annually? If you didn't raise your hand, then you know why the GFCP is in dire need of an update. The Department of Land and Natural Resources' Engineering Division has taken on the challenge to update and reinvent this plan. The purpose of the GFCP is to guide the implementation of the state-wide flood mitigation projects, but this won't be just another bound report that sits on everyone's shelf and becomes outdated the month after it's released. This

GFCP update will be an online GIS-based portal where Hawaii residents, companies, and agencies can access information of all things flood related. Whether you would like to know what your neighborhood's flood history is, or what project is being built down the road from your workplace, the GFCP will be able to help. You will also be able to determine what type of flooding hazards (coastal and inland) you and your loved ones could be at risk for, and how to mitigate those risks. The GFCP will also become the statewide repository that will provide Government agencies, elected officials, engineers, planners and the public access to all available post-flood reports, flood studies, and flood history data.

We recently met with several stakeholders from the Federal, State, County, and Private sectors who helped us brainstorm how the new GFCP could best be utilized by them and the rest of the community. Our consultant, LYON Associates, Inc. has now begun the process of gathering all of the GIS data, flood studies and flood histories that are available from our stakeholders. If you know of any flood related information or studies that you feel should be included as part of the GFCP, please contact the GFCP Update Project Manager, Darron Agawa (darron.k.agawa@hawaii.gov) at (808) 587-0277 or our consultant, Christina Gamayo at Christina.Gamayo@LYON.us.com. Mahalo!



Flood Insurance Rate Maps *Updates*

Are you currently doing work in the Counties listed here? If so, please take note that FEMA has approved the following Letter of Map Changes to the flood hazard information shown on the effective Flood Insurance Rate Maps.

City and County of Honolulu

Type: LOMR-F
FIRM Panel 0352F
Effective Date of the Revision: August 14, 2012
FEMA Case Number: 12-09-2507A
Flooding Source: Kalihi Stream

On-line readers can view LOMC [here](#)

County of Maui

Type: LOMR-F
FIRM Panel 0586E
Effective Date of the Revision: July 10, 2012
FEMA Case Number: 12-09-2200A
Flooding Source: Pacific Ocean

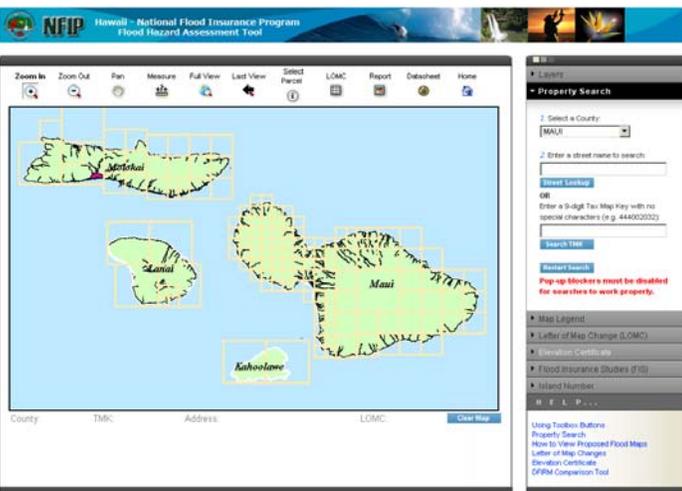
On-line readers can view LOMC [here](#)

NEW LAYERS ADDED **to the Hawaii Flood Hazard Assessment Tool (FHAT)**

Preliminary DFIRM for Hawaii County (source: FEMA)

NEW DFIRMs Effective for Maui County

On September 19, 2012, new flood insurance rate maps became effective for 45 panels for Maui and Lanai. Be sure to check the new maps on the Hawaii Flood Hazard Assessment Tool (<http://gis.hawaiiifip.org/fhat>) to see if these changes affect you.



Frequently Asked "Floodplain Management" Questions

By: Rebecca Quinn, CFM

Topo Shows Ground Below Base Flood Elevation (BFE), But Site is Outside of Special Flood Hazard Area

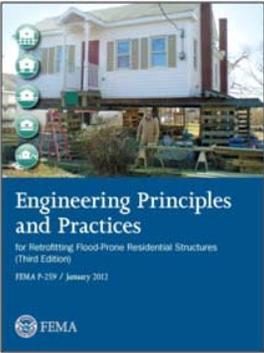
As more and more Flood Insurance Rate Maps (FIRMs) are being revised using updated and more refined topographic mapping, this situation should occur less and less. The question is what do you do when you have clear technical documentation in the form of recent topo map or surveyed data that show the ground elevation of areas adjacent to but outside of the mapped special flood hazard area is lower than the base flood elevation? This scenario is probably quite common, especially in communities where Special Flood Hazard Areas (SFHAs) were delineated years ago using topo maps that had 5-, 10- or even 20-foot contour intervals.

There are at least two ways to handle it, but in my opinion, only one makes sense. Sure, you could say "we adopt the maps, the maps show the SFHA, and that's what we regulate –good, bad or ugly." What bothers me about this is it means you'd ignore credible technical evidence that the flood risk shown on the FIRM is not reasonable. Deciding to ignore the evidence would thus allow people to build at-risk. I expect some lawyers would find this an interesting scenario after a flood that damages people allowed to build without recognition of the risk. I recommend the other way to handle it, and that is to acknowledge that it is appropriate to base decisions on good data to avoid putting people and their property at risk. Some states and communities include specific "elevation prevails" language in their floodplain management regulations to clearly provide authority to regulate these areas not shown on FIRMs. While having that language certainly makes it easier, in my opinion it's not necessary. I think the public purpose of protecting public safety and minimizing future flood damage is sufficient basis on which communities can regulate areas that clearly are subject to flooding under the base flood conditions, even if not shown as SFHA on FIRMs.

Fences in SFHAs

Every now and then I get asked about fences – usually the question is "Really? We're supposed to regulate fences in SFHAs?" Well, sure, fences definitely fall under the broad NFIP definition of "development." The next question is always about what requirements apply. Before we get to that answer, let's examine why fences should be regulated. Solid fences and fences that trap debris can obstruct the free flow of water and cause water to back up, increasing flood depths. I've even seen where such a fence held back a lot of water and then suddenly failed, sending a rather

Engineering Principles and Practices for Retrofitting Flood-Prone Residential Structures (Third Edition), FEMA P-259



The third edition of Engineering Principles and Practices for Retrofitting Flood-Prone Residential Structures (FEMA P-259) is here! It is available from the FEMA Publications Warehouse at no cost at <http://www.fema.gov/library/viewRecord.do?id=1645>.

The document's focus is residential buildings; it is intended to help engineers and architects select flood retrofitting measures that are feasible and cost-effective and to successfully implement them. The document contains current issues, modern techniques, and engineering concepts in floodproofing demonstrated through drawings, photographs, design equations, example problems, and case studies.

The flood retrofitting measures that are included are elevation of a structure, relocation of a structure, construction of barriers (floodwalls and levees), dry floodproofing (sealants, closures, sump pumps, and backflow valves), and wet floodproofing (using flood damage-resistant materials to protect utilities and contents). The book also discusses dry and wet floodproofing measures that are active – they require human intervention prior to flooding, and therefore require adequate warning. The other measures that are described are passive and do not require human intervention.

FEMA P-259 has been an important resource for engineers, architects, and local code officials in flood-prone areas since the first edition was published in 1995. The third edition includes: Updated regulations; Detailed information on evaluating, planning, and designing retrofitting measures; Site-specific load calculation guidance based on Minimum Design Loads for Buildings and Other Structures (ASCE 7) and Flood Resistant Design and Construction (ASCE 24); New case studies and example problems; and Programmatic and economic considerations in retrofitting.

Other related resources include: National Flood Insurance Program (NFIP) Technical Bulletins on the minimum requirements in NFIP regulations (<http://www.fema.gov/plan/prevent/floodplain/techbul.shtm>); and Homeowner's Guide to Retrofitting (FEMA P-312), a guide on protecting homes from flooding for readers who have little or no experience in flood protection or construction (<http://www.fema.gov/library/viewRecord.do?id=1420>).

The FEMA Publications Warehouse
Phone: 800-480-2520
Fax: 240-699-0525
Email: FEMA-Publications-Warehouse@dhs.gov



News About the FloodSmart Co-Op Ad Program



Effective September 20, 2012, the FloodSmart co-operative (Co-Op) advertising program will be suspended temporarily to undergo a comprehensive redesign. FloodSmart will re-launch the program in spring 2013 with new creative media options including online advertising, more comprehensive guidance for the use of the program, and a new system for requesting approvals and managing Co-Op accounts. All of the current materials will be available for agents to access, customize and use while FloodSmart works to enhance and improve the Co-Op advertising program; however, pre-approval requests for Co-Op advertising will be suspended. Previously approved ads that are submitted with proper documentation within 90 days of the run date will be honored. Over the years, the Co-Op advertising program has helped more than 1,300 agents across the country promote the benefits of flood insurance. We've heard many success stories that are directly attributable to the Co-Op program. In addition, we have received numerous suggestions from agents on ways to make the program even better. We listened! We are taking your suggestions to heart, and we are working to provide you with new and improved marketing tools that will help you sell flood policies. Watch for the new program to be launched in spring 2013. If you have questions or suggestions, please call the FloodSmart Co-Op Program Support line at 703-539-6621 or email us at info@nfipfloodsmart.com.





*Make Hawaii a Great
Place to Live !*

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substantial "wall" of water downstream, causing more damage than if the fence hadn't been there. Another concern is that fences themselves become debris that contributes to blockage of flow, clogging culverts and bridges, and causing property damage, even in coastal areas.

Now, let's get to the question about what requirements should apply. First, many communities regulate fences. Those that enforce building codes based on the International Code Series explicitly regulate fences not over 6 ft (or 7 ft; the height changes between the 2009 and 2012 editions of the codes). The codes don't have requirements written specifically for fences: the general requirement to resist loads applies (most common is to ensure fences don't collapse under design wind loads). I did an internet search and turned up a number of state and local regulations and guidance documents for fences in SFHAs. The following are some of the requirements or methods suggested:

- Prohibit new fences in floodways or prohibit certain "solid" fences and fences that block flow in floodways.
- Require encroachment analysis for fences in floodways.
- Fences outside of floodways are permitted if they will not "divert or change the flow."
- Fences shall be "open to allow the free flow of water," such as split rail and 2- or 3-wire.
- Chain link fencing not allowed unless demonstrated it will not impede flow when debris is piled against it.
- Use "very sturdy pull posts" set deep and angled slightly upstream to increase resistance.
- Require fencing materials to be attached on the downstream side of posts to break away more readily.
- Construct a hinge, pivot mechanism, or other means for the portion of the fence that is below the BFE to break away or float to avoid obstructing flow.
- For low-water pedestrian bridges, use railings that are held by hinged pins that allow the railing to collapse or fold down when the water rises.
- Require fences in floodways to be tethered so as the water rises, the fence is displaced from its normal position, but doesn't float downstream and generally can be reinstalled when the water recedes.

