



Honolulu Board of Water Supply
Stakeholder Advisory Group Meeting #39
Thursday, July 15, 2021 4:00 – 6:00 pm
Virtual Meeting

Meeting Notes

PURPOSE AND ORGANIZATION OF MEETING NOTES

The purpose of these notes is to provide an overview of the Board of Water Supply (BWS) Stakeholder Advisory Group meeting. They are not intended as a transcript or as minutes. Major points of the presentations are summarized herein, primarily for context. Copies of presentation materials were provided to all participants and are available on the BWS website. Participants made many comments and asked many questions during the meeting. These are paraphrased to be more concise.

ATTENDEES

This was a virtual meeting in which 20 stakeholders participated on-line and/or by phone, in addition to BWS and CDM Smith staff and members of the public. The stakeholders represent diverse interests and communities island-wide.

The following Stakeholders Advisory Group members participated:

Bill Clark	Resident of Council District 6
Mark Fox	Environmental
Shari Ishikawa	Hawaiian Electric Co.
Micah Kane	Hawaii Community Foundation
Will Kane	Mililani Town Association
Bob Leinau	Resident of Council District 2
Helen Nakano	Resident of Council District 5
Robbie Nicholas	Resident of Council District 3
Dean Okimoto	Nalo Farms, Inc.
Dick Poirier	Resident of Council District 9
John Reppun	KEY Project
Alison Richardson	Coca-Cola Co.
Elizabeth Reilly	Resident of Council District 4
Cynthia Rezentes	Resident of Council District 1
Chace Shigimasa	Resident of Council District 7
Walter Thoemmes III	Kamehameha Schools
Cruz Vina Jr.	Resident of Council District 8
Cheryl Walthall	General Contractors Association of Hawaii
Guy Yamamoto	YHB Hawaii

WELCOME

Dave welcomed everyone to the 39th meeting of the BWS Stakeholder Advisory Group.

Meeting objectives were identified as:

- Accept notes from Meeting #38,
- Receive updates from the BWS
- Discuss BWS's annual budget for FY 21-22.
- Hear about Emergency Preparedness 2021 Hurricane Season from the Department of Emergency Management and BWS.

PUBLIC COMMENTS: None.

ACCEPT MEETING 38 NOTES: Accepted.

Dave introduced the newest stakeholder in the group, Cheryl Walthall, General Contractors Association of Hawaii. Cheryl said she is looking forward to hearing a lot more about the work the group has been doing.

BWS UPDATES

Ernest Lau, BWS Manager and Chief Engineer, welcomed the group. He said that the Board recently authorized BWS to conduct community outreach for the proposed Water System Facilities Charges.

Ernest talked to the group about a 42-inch water main that was damaged by a contractor in the Fort Shafter area. The Army was installing a new 12-inch sewer pipeline using a process called horizontal directional drilling. The break was reported to BWS on June 18, 2021, and it took until June 30 to complete the repairs. Ernie showed several photos of the repair process. He said BWS sent marine welders into the pipe to be able to weld in tight spaces and with water around.

Q: Had the area been inspected where they did the welding?

A: Yes. They did magnetic particle testing, standard practice to look for cracks in the weld. As we pressurized the pipe, we also were monitoring for leaks into the trench, which would be a sign of the welds not forming. The other thing we had to do was clean the pipe and put it through the different tests before reconnecting it.

Q: My question has to do with the welding from inside the pipe. Were there any structural concerns with the freeway that's right next to the break location? I want to make sure that integrity of the freeway onramp has not changed.

A: A structural engineer with the Department of Transportation came out and assessed the situation. The trench was very deep, and the trench was backfilled using a low-strength concrete slurry. This provided more structural capacity to help safely bear loads. The freeway onramp structure is intact and not compromised.

Q: Why did the break happen, and what can you do to keep from having it happen again?

A: An investigation is still ongoing. Underground construction always has risks that things you didn't expect might be encountered. Because the pipeline was damaged by a contractor, BWS expects to recover the costs and be made whole.

Q: Did you do a flush weld or a band-aid weld?

A: We had a local machine shop make a plate so the curvature of the patch would match that of the pipe, and it was a beautiful job. They did a butt weld around the edge of that plate to the existing steel pipe on the inside. Dave added that unintentionally, it gave a great opportunity to inspect the condition of this 42-inch pipe. Looking at the wall thicknesses here, the pipe looks like it's in great shape. Ernie added that there were no signs of external corrosion, and the interior was really in good shape.

Ernie gave a quick summary of activity related to Red Hill. BWS experts provided testimony on a May 2021 leak at the Contested Case Hearing on the Department of Health's permit to operate. Our testimony was based on information provided by the Navy. Our experts concluded that fuel had actually gotten outside of the facility's lower access tunnel and into the environment. All the parties including the Navy, the Department of Health, Sierra Club, and BWS filed our closing arguments and our findings of fact and conclusions of law. The BWS documents can be viewed at boardofwatersupply.com/redhill. Ernie said the Hearing Officer has all of this information, and that it's going to be a little while until he can make a recommendation to the Department of Health.

BWS BUDGET

Dave welcomed Raelynn Nakabayashi, Executive Assistant in the BWS Executive Support Office, to present the annual budget. Raelynn said the Fiscal Year (FY) 2022 operating budget increased by approximately \$7.3 million and the CIP budget decreased by about \$21.6 million compared to the previous fiscal year. The CIP decrease reflects that the FY 2021 budget was larger to be able to implement a reservoir project and the Lanikai Water System Improvements project.

Raelyn showed the group a chart of total resources compared to total expenditures over the past six years. During this time, the gap has closed between the amounts budgeted and the amounts spent. Raelynn also said that the debt service coverage and working capital financial principles that were so significantly influenced by Stakeholder Advisory Group feedback continue to meet the policy parameters.

Q: How has climate change affected BWS revenue projections?

A: BWS revenue is almost entirely from water rate revenues. As it gets hotter, people use more water, and that generates more revenue. BWS is seeing summer trends of water use pick up earlier. Climate change is causing rising temperatures and potentially less rainfall, and greater water demand.

Q: What is in BWS's waste stream that requires tipping fees?

A: Material from main break repairs and other field operations require that some things get landfilled. Green waste from groundskeeping, carbon from granular activated carbon (GAC) vessels, and other materials like these are landfilled, hence the tipping fees are included in the budget.

Raelynn said that BWS has been issuing more debt and continues to have very good ratings, including a AAA from S&P. On average, an AAA-rated borrower pays about 20 basis points less than an AA-rated borrower. On \$61 million of bonds, that would be \$122,000 in annual savings. She summarized BWS's operating budget:

(DECREASED RESOURCES)

- The projected carryforward/beginning fund balance continues to decline
- Revenues are projected to increase slightly by \$3.7 million or 1.5%

(INCREASED TOTAL EXPENDITURES)

- Annual operating expenditures increase by 3.5%, in alignment with the Updated LRF
- Increased Operating Funded CIP. We continue to implement the WMP Capital Program; increasing the CIP Budget and funding it with both bonds and cash

(EQUALS REDUCED FUND BALANCE)

- As we prepare to enter our next rate setting study, BWS has right-sized our Operating Budget to align with our Updated Long Range Financial Plan

Raelynn invited Jason Takaki, BWS Capital Projects Division Manager, to provide more information about the annual CIP budget. He said the annual CIP budget is BWS's commitment to the future of the water system. The CIP supports the BWS's vision and mission and is aligned with the Water Master Plan and Strategic Plan.

The CIP has three major project categories: research and development, renewal and replacement, and capacity expansion. The table below shows these categories and their respective sources and amounts of funding budgeted for FY 2022.

	Categories	Operating Fund	Operating Fund (SRF Eligible)	Special Expendable Fund	Improvement Fund	Total
I.	Research & Development	\$ 6,900,000	---	---	---	\$ 6,900,000
II.	Renewal & Replacement	25,375,000	10,000,000	---	86,100,000	121,475,000
III.	Capacity Expansion	---	4,300,000	18,900,000	---	23,200,000
	Subtotal	32,275,000	14,300,000	18,900,000	86,100,000	151,575,000
	Construction Cost Index	2,421,000	1,430,000	1,700,000	7,250,000	12,801,000
	Contract Adjustment	15,600,000	---	---	---	15,600,000
	Total	\$ 50,296,000	\$ 15,730,000	\$ 20,600,000	93,350,000	\$ 179,976,000

Jason noted that the municipal water system is massive and diverse. He showed a map of this year's design and construction projects around the island. He reviewed budgets and planned projects for the next year:

Research and Development \$6.9 million budgeted

- Kunia Wells IV Exploratory Wells
- Construction Management (CM) for various BWS projects
- Newtown Ridge and Royal Summit reliability improvements

Renewal and Replacement \$121.5 million budgeted

- Waialae Iki Booster No. 1 relocation
- Waihee Line Booster: replace pumping units
- Kaamilo Booster and Kaamilo Wells renovation
- Waipio Heights Wells and Wells 1 renovation
- Kamaile Wells renovation, drainage improvements, and well sealing
- Makaha Shaft Tunnel rehabilitation
- Water main replacement construction in Kailua, Kalihi, Nuuanu, Palolo, and Kawaii Kai (10 miles)
- Water main replacement design in various locations (10 miles)
- GAC water treatment facility corrosion control

- New service lateral installations
- Beretania IT Data Center renovation
- Facility reroofing, repair, and renovations
- Security improvements at various locations

Capacity Expansion \$23.2 million budgeted

- Honouliuli Wastewater Treatment Plan expansion, 16-inch main
- Mililani Wells II GAC installation
- Kalaeloa Seawater Desalination Facility

Q: When new water sources are developed to supply growth, are those sources “matched” in the Department of Environmental Services’ plans for wastewater facilities?

A: Both infrastructure agencies identify and plan for growth similarly. In areas that have capacity limitations, the two agencies work on projects like these to expand our respective systems, otherwise, we would have to deny permits if we hadn’t adequately planned for that type of growth.

Comment: A few years ago, I took the tour of BWS’s buildings. One of my complaints then was that the IT department is in dire need of operational upgrades. I’m glad that upgrades have been planned in the budget for this year coming up. I really appreciate that!

A: Thank you. It’s been a few years in the making and a bit of a logistical challenge to move systems during the renovation process and do construction on the IT center, but it is critical to the BWS operation.

Comment: The outside of the main administration office could also use a little cosmetic improvement. It is the headquarters, and I would like to see BWS spending a little money on making the place look nicer.

A: Thank you for that comment. It just so happens that we awarded a \$4 million contract for a major renovation to the exterior of the Beretania complex.

Q: Have you taken into consideration the unprecedented increase in material costs and supply constraints caused by the pandemic?

A: Yes, we have taken this into consideration, and we share your concerns. Raelynn showed a table that includes a construction cost index (see table on page 4). The index is specifically for when construction bids come in higher than our budgeted amounts.

Comment: I understand that BWS and many other businesses are experiencing problems attracting personnel and suggest opening a childcare center or childcare services close to your offices. Parents want to make sure their kids are well taken care of. The Federal building has a nursery preschool for its workers. This benefit could attract some real talent for your organization.

A: The City is fairly forward-looking and established the early learning center across the street from us. A number of BWS’s young engineers take their kids there for preschool. It is available to our employees and is open to everyone. City employees get preference. BWS has not mentioned this in our recruiting for positions and we should. Thank you.

EMERGENCY PREPAREDNESS

Dave welcomed guest speaker Hirokazu Toiya, Director of the Department of Emergency Management (DEM), to talk to the group about emergency preparedness. Hiro works with DEM staff to coordinate efforts with other City departments as well as State, Federal, and non-governmental partners on all aspects of emergency management for the City and County of

Honolulu. He has extensive experience with the City's Emergency Operations Center, including for tsunamis, tropical cyclones, severe weather, structure and wildfires, and other high-profile events. Previously, he served as the training and exercise officer for the department and worked in public health emergency management as the senior planner at the Hawaii State Department of Health. Hiro has also worked with the U.S. Centers for Disease Control and Prevention.

Hiro told stakeholders he had heard that they are passionate about emergency preparedness. He said that DEM's work is like an insurance policy that we all hope we never have to use.

As DEM coordinates with the community and other city departments, effective communication comes into play immediately, regardless of the type of disaster scenario. He said that many people hold common misconceptions/attitudes like: "Emergencies happen", "FEMA's going to fly everything in" or that they just need a generator or to get on the top of a priority list. These are obviously not always true.

In fact, the number of generators available to Hawaii from the Federal government is limited. Help might not be as available as we would like if Oahu was hit with a hurricane, for example. Our agencies and the public would likely be on their own for a little bit. DEM focuses on coordination and empowering other departments to prepare before emergencies occur.

Hiro added that the military on Oahu can't be counted on for help during major emergencies. It will be dealing with its own problems and must operate within its authorities and limitations. Most emergency responses will have to be done on our own as a local government, as state government, and as individuals and residents here on the islands.

Hiro said that Hawaii has unique challenges because of our geographic location. Oahu is 2,400 miles to the closest point in the continental U.S. and we depend on imported goods. All of our petroleum products are imported, and most of our fuel supply locations are in inundation zones. 60% of our power generation plants are located within tsunami evacuation zones.

FEMA has about 90 generators on the island, but even if they are operated to the fullest extent possible, they can supply only 2% of our daily generation needs. Our food supplies must be replenished every 5-8 days. Depending on the timing of shipments, the island's supply on-hand could be at the lower end if a major disaster occurs. Many families maintain 2-4 days of food on hand and hotels keep a similar amount for staff and guests. But COVID really showed us how fragile everything is. Demand for food was so high at some points of the pandemic that the City was distributing food on a mass scale while supporting the Hawaii Foodbank and efforts around the island.

In the scenario of a hurricane, shipping ports take protective measures up to 72 hours prior to impact, and they may stop bringing in goods two days ahead of time. For neighbor islands, goods come through Oahu first, adding a couple of days to their timelines.

When a disruptive event happens, it is possible to lose the refinery, petroleum product importation, and distribution capabilities. Most retail gas stations on Oahu do not have emergency generators. In the event of a major hurricane, it has been estimated that up to 50% of the generation and the distribution system could get disrupted. It could be possible to fly in MREs, but just one meal a day for a million people would require 445 flights at a cost of \$500 million to sustain our food supply. Hiro mentioned Hurricane Maria that devastated Puerto Rico in recent years. He said that Puerto Rico is geographically much closer to the mainland and aid than we are here.

DEM's four emergency mission areas are preparedness protection, response, mitigation and prevention, and recovery. The department works on actions that develop, sustain, and/or enhance response capabilities. Hiro said that mitigation activities to reduce or eliminate long-term risk to people and property include investing in more emergency generators, hardening of buildings, and updating the building codes.

Response activities aim to reduce casualties and damage and expedite recovery. DEM will activate our emergency operations center and start coordinating the response needed. Short-term recovery efforts (weeks to months) seek to restore critical services and provide basic needs to the public. Longer-term recovery (months to years) is more about rebuilding, planning and permitting.

Hiro said that some departments' roles during an emergency are clear – e.g., HFD, ENV, BFS, and BWS. These departments are going to be doing their regular activities “on steroids”. DEM coordinates with them and other departments to sustain essential agency functions and to support response and recovery operations. Hiro said that DEM leans heavily on the Department of Parks and Recreation because they are used to working with large groups of the public. During COVID, DEM operated in conjunction with the Department of Health and Department of Land Management to assist people in need of a safe place away from their home to quarantine.

During emergencies, City departments work with the City Emergency Operations Center (EOC) to coordinate actions. DEM serves as the link to the State's EOC.

Where funds come from to cover these services is an important subject. The \$387 million in CARES Act monies were distributed in batches to the City and County to use for the COVID emergency response, but not to all departments. Small businesses and restaurants were able to access some relief. Federal monies including FEMA funding for most disasters do not come in for many months after the disaster occurs and has been documented.

Hiro said that the forecast for the 2021 Hurricane season indicates an 80% chance of being near to or below a normal season. Only 2-5 tropical cyclones are forecast; a normal season has 4-5.

DEM has worked on public messaging about preparedness. Hiro wants people to know their own risks, such as whether they live in a flood zone, when their home was built, and whether or not it has been retrofitted for hurricanes. People have to make informed decisions about whether or not to shelter in-place or evacuate to higher ground or a shelter. They can create their emergency plan after assessing their risk and build their kits accordingly. He said if you're going to evacuate, the emergency supplies must be organized and bundled in such a way that you can take them with you.

Under any hurricane scenario, if you live in a single-wall home that hasn't been retrofitted to withstand hurricane force winds, you need to evacuate during a hurricane event. If you are able to shelter in-place, you still have to be prepared to evacuate. There are a lot of nuances to determining when to evacuate. DEM is trying to educate the public about those nuances so people can make informed decisions.

DEM wants people to do as much as possible to be able to shelter in-place. If your home is relatively new or is retrofitted to withstand hurricane force winds, then you probably could shelter in-place as long as you're able to protect your windows and you're located outside of high-risk flood areas. Hiro said his department talked with local structural engineers about residents in high-rises and evacuating vertically during hurricane scenarios, similar to what we might do during a tsunami. High-

rise buildings have some additional risk, e.g. if power is lost for instance, you might be walking up and down lots of stairs and have to be capable of doing that.

Hiro said that DEM continues to tell the public to make a plan. The first step is to be informed about the hazards that can impact you and then decide ahead of time whether you may or may not need to evacuate. Plan accordingly and build your emergency supplies kit around that. Significant disruption to our supply chain system is not only possible, but likely during a major hurricane event. Having your own supplies ahead of time is key. Of course, stay informed, and know the credible sources of information that you can turn to. Hiro encouraged the group to visit the DEM website (<https://www.honolulu.gov/dem.html>).

Dave asked Raelynn to talk about BWS's emergency preparedness efforts. She said the water system infrastructure serves 145 million gallons of water a day to around a million people. BWS's Emergency Management Mission Statement is to restore water service as quickly and safely as possible.

Communications is a key component of that. Communication redundancies include analog, digital, data transmission, and satellite. BWS has base yards across the island, and staff are ready to be deployed to do whatever is needed. We maintain communications with the Central Emergency Operations Center, the command center at Beretania, and staff.

BWS recently formed an Amateur Radio Club with 29 employees who are ham radio licensed. If normal communications – cell phones, internet, emails to each other – go down, we want to make sure we can still talk to each other through any type of disaster. Raelynn said BWS is exploring ways to build on that capacity and expand the ham radio community.

She said that BWS did a Risk and Vulnerability Assessment prior to updating its Emergency Response Plan. We have a plan for a power loss and how we would maintain a resilient water system. Our emergency operations goal is to deliver at least 85 gallons per person per day through the system and cover 85% of our service area. This would result in very low risk to hygiene and public health and safety.

To achieve that, we have a generator plan. BWS has both fixed and portable generators. She said that portable generators are pre-deployed at the beginning of hurricane season so that they are ready for use if needed. She showed a map of where fixed and portable generators are located around the island.

BWS has applied for and gotten a few grants through the Hazard Mitigation Grant Program, including agreements pending for generators at Kaonohi Wells and Mililani Wells.

Q: Is there a place you can go to purchase an emergency kit that's all put together for a few hundred dollars?

A: There is a retail location in Waipio that specializes in the emergency preparedness goods, but we should consider that those items are oftentimes highly personal – what one person really needs. The Department of Emergency Management (DEM) has a basic list on our website, but you've got to really think about what are the essential things that you might need. One of the things that DEM is doing this year is to do emergency preparedness on a limited budget, at a realistic level for people who might not have much financial means.

Q: I didn't see any generators on the Windward side of Oahu on the map. Is there a reason?

A: That side of the island is lucky in that it has tunnel-fed sources that do not require BWS to pump the water out of the ground and move it into the transmission system. Gravity does that for us.

Comment: You did a fantastic job of scaring us and I would like you to take an abbreviated presentation all over. In our (Manoa) community needs survey, we asked who people would turn to for information in case of an impending disaster like a hurricane. Seventy percent of the people said: "the government". They're hoping and expecting HiEMA, DEM and all of the government agencies to rescue them. Your report is very clear that most of us will have to fend for ourselves. I urge you to work with the other government organizations to make the public really understand how difficult the situation is and what they should do to help protect themselves.

A: A silver lining is that people said they trust government on this subject, which is something that hasn't been true throughout the COVID response. Certainly, DEM's public outreach efforts for these types of physical disasters was really curtailed over the last 15 months or so and we are making a concerted effort to get back to doing more. As we become more able to do in-person activities we will certainly increase that, and we will do a better job of leveraging technology to do outreach.

Q: What about a cyber-attack or hacking in an emergency?

A: A cyber-attack is one of the top threats of concern, and we've seen them happen across the globe, including where there were actual physical consequences to the cyber-attack. DEM works with Homeland Security and makes investments in protection against cyber threats. Depending on the type of cyber impact, we have to look at our planning assumptions and resources that are available to respond.

Ernie added that BWS's water systems are part of critical infrastructure and life can't exist without a supply of drinking water. We take cyber security very seriously. He asked Henderson Nuuhiwa, the head of BWS's IT Division, to talk about what we're doing and how we're coordinating with national organizations.

Henderson told the group that BWS has multiple layers of cyber security. On a daily basis, we check with various sources, including Homeland Security, on any threats. BWS coordinates with the state, the FBI and CIA at the state level, and the police department. Every day BWS works to monitor, reinforce, be aware of what new types of threats are occurring, assess our vulnerability and risks to exposure, and take the appropriate steps. Some of these things can take a while to put in place; the challenge is managing the windows of exposure and trying to make that window as small as possible.

NEXT STEPS

Dave told the group that the next meeting is Thursday, October 21, 2021, at 4:00 PM.

Hirokazu said that as a professional and a resident of Oahu, he feels fortunate to have Ernie Lau and Ellen Kitamura and their team because they're so forward-thinking and proactive. He thanked them for all the work they do. Ernie added that Hirokazu has been a great partner and BWS is really happy that he's at DEM so we can continue to work together.

Ernie said that he can't express enough appreciation for everybody's commitment to support this effort. Stakeholders' input is valuable and appreciated. Mahalo everybody.