

Honolulu Board of Water Supply Stakeholder Advisory Group

Meeting 4 – November 18, 2015, 4:00 pm to 6:30 pm
Royal Hawaiian Golf Club, Ballroom

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

There were 15 stakeholders, 1 member of the public, and BWS and CDM Smith staff present. The stakeholders represent diverse interests and communities island-wide.

The following Stakeholders Advisory Group members attended:

Mark Fox	The Nature Conservancy, Hawai'i
Micah A. Kāne	Pacific Links Hawai'i
Will Kane	Mililani Town Association
Ralph Mesick	First Hawaiian Bank
Helen Nakano	Resident of City Council District 5
Robbie Nicholas	Resident of Council District 3
Dean Okimoto	Nalo Farms
Alison Omura	Coca-Cola Bottling Co.
Dick Poirier	Resident of City Council District 9
Elizabeth Reilly	Resident of City Council District 4
John Reppun	KEY Project
Cynthia Rezentes	Resident of City Council District 1
Josh Stanbro	Hawai'i Community Foundation
Cruz Vina Jr.	Resident of Council District 8
Christopher Wong	Resident of City Council District 7

MEETING AGENDA

- Welcome
- Public Comment on Agenda Items
- Accept Notes from Meeting 3 (For possible action)
- Water Conservation (For possible action)

- Objectives of the Water Master Plan (For possible action)
- BWS Updates (Information only)
- Summary and Next Steps (Information only)

WELCOME

Dave Ebersold, Facilitator and Vice President of CDM Smith, welcomed the group. Dave explained that this would be a very interactive meeting and he asked the stakeholders to get ready to participate.

Dave welcomed John Reppun, KEY Project, a new participant.

Micah Kāne welcomed everyone to the Royal Hawaiian Golf Club.

PUBLIC COMMENT ON AGENDA ITEMS

None.

REVIEW and ACCEPTANCE OF NOTES FROM MEETING 3

The notes from Meeting 3 were held over to Meeting 5 to be held January 12, 2016.

WATER CONSERVATION

Dave reminded the group that Barry Usagawa, BWS Water Resources Program Administrator, discussed the BWS Water Conservation Program in Meeting 3. The BWS Water Conservation Program has been quite effective:

- Since 1990, average water use per person has dropped by about 16.5%.
- During that same time, the population increased by about 100,000 people.

The challenge now is: *What more can be done?*

Dave asked the group to advise on additional conservation ideas. (Please note that stakeholder Lee Yamamoto of the Marine Corps Base Hawai'i [MCBH] contributed ideas to this series of questions prior to the meeting, as he could not attend in person. Lee's input is included below.)

Dave also referred to a meeting handout, the *Hawai'i Business* magazine that has an outstanding article on water in O'ahu.

The first question that stakeholders addressed was:

Insights for Water Conservation – What's coming? What's needed? What impact could it have over the next 30 years?

In Meeting 3, stakeholders addressed this question and contributed a number of ideas about what's on the horizon, including a focus on the following:

- We need more opportunities to use reclaimed water and/or gray water.
- The demographics of O‘ahu are changing, and conservation going forward should consider that the overall population is older and many are moving here from the mainland.
- New types of low-flow toilets are available.
- Recirculation pumps can deliver hot water to the shower faster and save water.
- Capture more stormwater.

Dave asked stakeholders if they could add anything more about what conservation opportunities are on the horizon. The following ideas were discussed:

- With increasing temperatures and higher humidity, more people are running air conditioners and de-humidifiers. We need systems that would enable the reuse of cooling water and condensate.
- We should explore changing our own microclimates within different areas of the island to better use moisture in the air. With more trees and vegetation, more moisture should be available and could possibly help recharge the aquifers.
- Encourage more use of private water catchment systems.
- MCBH has been replacing old toilet fixtures and standard shower heads/faucets with low-flow types; replacing leaky water mains and laterals with new PVC pipe; and providing low-flow fixtures in all new construction. Also, they have been recycling treated effluent for golf course irrigation. MCBH also continues its Awareness Program to change operational wasteful habits of our tenants to conserve water. All of the foregoing resulted in a general downward trend of water use. MCBH expects to continue to reduce potable water use by increasing efficiency and reducing waste.

The next question discussed was:

Incentives for Water Conservation – What incentives would you like to see? Why are those incentives important?

Dave said that this question had also been discussed at Meeting 3 and stakeholders had contributed the following suggestions:

- Offer incentives for hot water recirculation pumps.
- Offer again low-flow plumbing incentives.
- Look into the potential for “time of use” incentives, similar to those offered by power utilities.

- Develop an informational menu of incentives, such as is done for solar power.
- Develop directed incentives towards specific types of water users.
- Set up a certification program for water conserving homes, similar to what is done for green homes, as marketing advantage.

He asked stakeholders if the group could add any other ideas for incentives, and the following were suggested:

- Consider bucketing incentives into different areas: residential, consumer, and/or industry, so that we can look at who our targets are and motivate them appropriately. Different customer groups are incentivized differently. Looking back, we see that the results of the BWS's incentives to install low-flow toilets were excellent. That was a consumer-driven incentive program. If we start looking at what motivates these critical segments, we might be more effective with our incentives.
- Pricing is the biggest incentive of all to conserve. We could tier water rates to different segments, some of which might be more (or less) sensitive to pricing points.
- A lot of water is lost through leaks. Make sure purveyors and others are running systems that are as efficient as possible.
- Look at educating and incentivizing students for the future.
- Look at partnerships and the players. If a company, like a golf course, is paying tens of thousands of dollars a month for a precious commodity like water, the potential partners (e.g. golf course, recycled water provider, City/County) should work together to develop water conservation solutions.
- Several mainland utilities are implementing peer incentives that are not financially based. For example, the utility may send a letter informing a resident that his/her family uses XX% below (or greater) than the average home in their residential area. This reinforces conservation using peer leverage rather than through financial savings. This is done in Sacramento and possibly other areas. WaterSmart will text or send an email to residents that compares water use within a microclimate. They get about 5% water savings just by using this informational method.
- Kamehameha Schools is shifting towards a regional perspective – from education to economic development to cultural awareness – and basically adopting Department of Education's geographic footprint. The Department of Hawaiian Home Lands uses a regional perspective as well, and the department tries to get people of a certain community to take ownership of certain outcomes that are wanted. This could include development of a community center, or things similar. In an ideal world, the things that are most important to us, like educating our children, having pure quality water,

are inherent to having a good life. We may want to frame some of these discussions about incentives in a regional perspective when we start talking to others. If we start by aligning to those things that are most important to us, we might be more effective.

- When large water users and proposed developments come to the BWS to ask for a certain amount of water, the BWS should take a hard look at how much of that needs to be fresh water vs. other water that can be used. As an example, within Council District 1, when Hawaiian Energy Co. wanted to build a new peaking power plant, the community asked Hawaiian Electric Co. to stop using potable drinking water for Kahe Power Plant. So Hawaiian Electric installed facilities to provide recycled water from the Honouliuli Treatment Plant to offset the use of 250,000 gallons of potable water per day. The quality of recycled water was so good that it reduced the overall cost of operations of the power plant. So for all of the developments going up and other large users, it might be an incentive to require using recycled water rather than precious potable water when that's possible.
- For farms and nurseries, where standards require very high water quality, consider incentives like credits for equipment to sterilize water (e.g., UV).
- If we want to encourage sustainable farming, we will need to incentivize certain things or at least bring costs down somehow. New food safety standards will force some farms to convert to potable water. We should consider incentivizing water meters, which can be cost prohibitive. The agriculture community appreciates that the BWS has a lower rate for agriculture water.
- Think through the effects of incentivizing through pricing. Costs of business are recovered in the costs of goods and services. On the other hand, Hawai'i businesses generally want to be good citizens. Giving a good "report card" to a business for being water conserving and/or energy efficient might be one way to effectively incentivize water conservation in the Hawai'i business community. For a business to receive a good report card, a certain percentage of its employees (e.g., 75%) would have to meet metrics of being green.
- No one lives in a business; no one is solely a consumer; but we are all part of a region. If part of an incentive is that a certain stream can be restored (or something similar), helping people identify as a region can be very effective in getting them to want to improve the situation as a community.
- We have to make incentives relevant. Without context, it will be hard to get traction.

- In multi-family housing, incentives are needed to submeter individual units. This helps reduce water consumption and control costs in housing associations.
- Incentives are needed for water conservation that are similar to Hawaiian Electric's incentives for electrical efficiencies/reductions.
- Offer incentives for rebates for ultra-efficient fixtures and major reductions in water use.
- Offer cost sharing for leak detection services and systems. Incentives drive actions.

The third question discussed was:

Research or Pilot Programs needed for water conservation – What research could the BWS do? Why would it be important? Should the BWS do the research/pilot project or should they include partners?

Stakeholders contributed the following suggestions:

- The University of Hawai'i studied how much water certain crops require, but the study needs more work. It would provide valuable information that would lead to saving water. For example, the Hawai'i Agricultural Foundation runs a 200-acre farm in Kunia. Immigrant farmers work on the farm and they water every day, which shows up in the water bills. The crops don't need water every day. The foundation is trying to educate the farmers, but if the farm managers had guidelines to go by, they could monitor better and, overall less water would be used. The University needs additional funding to complete this study.
- Community groups in east Honolulu are getting together and talking about watershed restoration in an undeveloped valley where there is agriculture. It would be good for the BWS to come out and learn about what they're doing. There could be a partnership opportunity.
- Do a pilot program for a whole community to see how much water can be saved in a year through conservation. The Mililani Town Association is the umbrella for schools and others within the area. Everyone would know how much water is used within the pilot area at the beginning of the program; we would then compare how much less water is used after a year of a water conservation effort. The pilot program could be taken to other areas, incorporating results and lessons learned.
- WaterSmart would be a great pilot.
- Micro-treat and reuse water for irrigation at parks and golf courses.
- Submeter retrofits for multi-family buildings would be a good pilot program.

- Smart Meters is existing technology that could be piloted in different areas.
- Pilot test something broader than rain barrels to reduce the use of water in landscaping and yards – possibly offer a tax credit for catching water in the yard and using it there.
- Educate people about and demonstrate different kinds of low-water-use vegetation that can be used in drier sides of the island. The vegetation should not be high water usage or high maintenance.
- Change the law to require developers to put in reservoirs instead of storm drains for their new developments near agricultural lands. Make that water available to the agricultural community instead of sending it out to the ocean.
- Use high-level modeling to show the optimum mix of incentives, disincentives and different types of rates related to water use and water conservation. Look at solar as an example. Incentives for solar installations are running out. Energy metering is out. Things that are happening with the solar energy industry may have some application to or lessons learned for water conservation.
- Get communities talking about conservation; not just water conservation. Get people to understand the concept of conservation across the public utility spectrum (water, energy, other).
- Conduct research and engineering studies on improving metering, leak detection, and technology advancements to help promote water use efficiencies.
- MCBH is mandated and encouraged to be the best managers of our resources like potable water. We have had centrally funded studies and reports on water management best practices, that have been implemented. The specifications for new construction include water efficiency measures. As the largest military customer of BWS, MCBH uses many of the same practices of local businesses and agriculture.

The fourth question discussed was:

How do you make business decisions to invest in water conservation – How are those decisions made? How does it vary by business size? Does it vary by industry?

Stakeholders contributed the following insights:

- It depends on the cost to a business relative to other costs. If it's a minor cost, it won't be something most businesses focus on. If a business provides an incentive, it will look for a financial payback and will build that into pricing. If

it's something a business can do to enhance its brand, it will consider doing something that is non-financial.

- The Hawai'i Tourism Authority is looking at the recurring visitor – someone who comes to the same place several times – and considering the potential for synergy with watershed restoration efforts. That visitor is connecting to that place. For example, in the development plan for a project in Mākaha Valley, land would be set aside for plants to be raised by people in the community. The recurring visitor would help with watershed restoration as part of their hikes and other experiences that connect them with the place to which they return. It is hard to set aside land, and it can be hard to pencil out, but there might be alignments where there are marketing benefits and actions that bring communities together.
- A problem with drip irrigation, which saves water, is that lines get cut sometimes during harvest. Having some kind of waste disposal, similar to a place where people take cans to recycle, would incentivize farmers to keep using drip irrigation in spite of the problem of cut lines.
- Food agriculture and nurseries are moving towards drip irrigation. Part of the savings is the cost of water, but there are other efficiencies. Nurseries using drip irrigation can use pots that are almost market-ready; less clean up is needed. It will take education for agriculture, more than everything else.
- Look at State and County practices, or lack of, for ideas of leading by example.
- Does the BWS offer grants for trying out new ideas, like putting in recycled water systems or converting green waste to gray water? It takes people a long time to write up grants. Perhaps the BWS could offer a simple grant process, with grants in the amounts of \$5-10K if they thought the idea was good. Make it easy to get small grants to try out good new ideas.
- It is important for industries like golf or parks to look at grass that is drought tolerant.
- California is going through a lot of changes to adapt to drought, such as types of plants that do well. There are lessons to be learned.

Barry said that the BWS is trying out water and energy audits to learn more about their potential to promote conservation. For example, the BWS and HECO participated in a joint water/energy audit of a hotel in Waikiki. The consulting auditor prepared a business case for savings and payback of changing out certain equipment. Some changes are easy, but others are more expensive. There is often a gap between what a piece of water conserving equipment costs and what a business is capable and willing to pay. A potential incentive could be to close that gap (financially) so that the large water user could afford to invest in that more expensive equipment.

With respect to research, weather stations and air coolers have new technology that could use further testing. Weather stations under \$1000 can control when to turn on

irrigation systems based upon recent rainfall. Pilot testing could include installing these weather stations at different types of uses and collecting data to help determine if the investment would be a good decision.

Cooling towers dump about 10,000 gallons of water per day. There are systems that can extend that to dumping only once every 30-40 days. Water/energy audits can identify tailored savings and paybacks to hotels and others that would benefit from converting to the extended use cooling towers. The audits could lead to incentives that would help those large water users invest in the water conserving systems.

Barry introduced his conservation staff: Marc Chun, Lorna Heller, and Brittney Higuchi. Dave said that Shawn Nakamoto got a great opportunity at UH and is no longer with the BWS. He acknowledged Keoni Mattos of the BWS Communications Office and Tracy Burgo, Acting Information Officer.

OVERVIEW OF THE HAWAI'I FRESH WATER INITIATIVE

Josh Stanbro, Hawai'i Community Foundation (HCF), talked to the Stakeholder Advisory Group about the Hawai'i Fresh Water Initiative. He said HCF asked experts in water to join the Fresh Water Council and help develop an initiative that became the Blueprint for Action: Water Security for an Uncertain Future, published earlier this year. He recognized Ernest Lau, Barry Usagawa, and Mark Fox as fellow members of the Fresh Water Council and thanked them for bringing their expertise to help identify issues essential for Hawai'i's water security and what the HCF could do.

Josh said that it all gets back to climate change and rising temperatures. We have fewer trade wind days. The water balance in our "bank account" is changing and not for the better.

The Fresh Water Council was formed of people who have a deep knowledge of water, and who represented different areas, like agriculture, agencies, research, and others. They all brought their own perspectives on what could be done in the next 10-15 years to protect Hawai'i's water supply.

The Fresh Water Council agreed that a "no net loss" goal was necessary to be sure Hawaii has enough water in the future. To achieve no net loss in 2030, 100 million gallons per day needed to be identified and added to the water supply. He noted that figure is conservative. For example: Dean Okimoto's insights that farms may need to switch to using potable water were not known and not factored into the 100 million gallons per day.

The Fresh Water Council recommends that the 100 million gallons come from three easy to understand pieces – conservation, recharge, and reuse. "Conservation" is

decreasing demand, using less. “Recharge” means getting every drop into the aquifer rather than having it run off into the ocean. “Reuse” means treating and reusing water.

The Blueprint specifically recommended:

- Conservation – Improve water use efficiency by 8% by 2030.
- Recharge – Double the amount of protected watershed areas and develop stormwater utilities to capture stormwater.
- Reuse – Double the amount of recycled water currently produced to 50 million gallons per day.

Several conservation strategies were discussed in the Blueprint, including:

- Conservation can be improved by reducing the amount of potable water used to irrigate landscaped areas. Could we give a tax credit to incentivize every house to catch rainwater and use it instead of drinking water for irrigation?
- Encourage Boards of Water Supply in Hawai‘i to minimize water losses from leakage in their systems.
- Improve agriculture water efficiency.

Recharge strategies include:

- Developing stormwater utilities. We don’t have these on the islands, but there are about 1,400 of them on the mainland. A stormwater utility is like a Board of Water Supply, but it is dedicated to catching every drop of stormwater and making sure it is put back into aquifers or is reused.
- Enhancing and increasing the capacity of reservoirs around the State that are legacies of plantations and in disrepair.
- Strengthening and expanding watershed protection partnerships.

Reuse strategies include:

- Revising water reuse guidelines. HCF funded an update of these guidelines; they are expected to be released very soon.
- Revising gray water guidelines. This includes updating plumbing codes.
- Increasing water reused in large landscaped areas. Decentralizing water treatment allows us to capture high-grade water in neighborhoods and using it locally for irrigation.

Josh said that HCF did some polling and asked: “Would you be willing to pay more (\$1 - \$5 / month) ... to accomplish certain things around water security?” The results of the poll were very positive and were used in the development of the Blueprint. The poll also found that people trust scientists, farmers, the University of Hawai‘i and the BWS to communicate water issues honestly and accurately.

Josh said that the BWS is asking the Stakeholder Advisory Group to advise them about water priorities of the community, and how best can they build into their rate structure things that affect those priorities. Investing in the source -- watershed protection -- must be done for long-term water security. Expanding reuse opportunities is needed to give water a second life. Auditing our system helps make sure we know how much water we're using and losing to leakage and transport.

The BWS won't be a stormwater utility; it is a separate autonomous entity, but the potential for the BWS and a new stormwater entity to work well together is great. Decentralization is happening already. Water is where "energy" was 15 years ago. Hawai'i's energy supply will be 100% renewable by 2045. The movement we've seen with energy resiliency will probably happen with water as well.

Josh asked the BWS Stakeholder Advisory Group, when it looks at long-term water security, to consider what are the associated costs and how to help the BWS gather the funds necessary for what we know will be important down the road.

HCF is starting a Fresh Water Security fund. The Foundation hopes to help provide synergy to others -- like the State, County, private entities and others -- to leverage their respective funds to secure Hawai'i's water future.

QUESTIONS AND ANSWERS

Q. What is a stormwater utility? What would it look like?

A. It would usually be a department of a city or county government office, or a semi-autonomous department like the BWS. Operating funds would be generated by assessing parcels in an area. The assessment would be based upon how much has been paved (and thus increasing runoff).

Dave asked the group:

What should BWS's role be in implementing the strategies that Josh just discussed?

Stakeholders contributed the following insights:

- Take a look at all recycled water plants and determine what can be done similar to Honouliuli and the amount of water that can be saved.
- Support education and *all* agriculture. Large Ag uses the biggest amount of water. That water goes back into aquifers after irrigation. Require reservoirs instead of storm drains in new developments.
- More people are concreting over their yards. They don't realize what they're doing.
- People need direct financial support. Even though many people are aware of ideas, they don't have disposable income to try them out. Provide low cost

loans. Think on a small level, like individual restaurants and apartment buildings.

- On water conservation, the BWS should be out-front and bring along other partners. For example, take the bull by the horns on water/energy audits.
- On recharge and reuse, the BWS may not be leading but should be working proactively to expand areas that they're thinking about. The BWS understands partnerships. The Kaua'i Watershed Alliance exists largely because of Ernest's efforts.
- Have a conversation with the Maui County Department of Water Supply and learn how the BWS might incrementally ramp up funding to level of Maui's investment in watershed protection and partnerships. Find out how it is benefiting Maui to go up to such a high level of investment in watershed protection.
- The BWS has helped Dept. of Health to push along water reuse guidelines. What's the next level to support DOH in these efforts?
- The BWS should lead on conservation efforts; support on reuse and recharge.
- The BWS should be more aggressive in water conservation.
- Work with the technology sector to find ways to determine leaks in pipelines underground. To find a leak on a 16-acre farm takes a lot of time. We should be able to develop some kind of technology to attach to the meter and detect where a leak is. There are a lot of areas that could use help in leak detection.
- The BWS is one of the more trusted agencies in City, County, and State government. Where it is to BWS's advantage, the BWS should lead with its good reputation and make sure people are listening.
- Boards of Water Supply around the state have to work with each other. County Water Plans become part of State Water Plans. Maybe the strategies of the Fresh Water Blueprint should be tied into the State Commission of Water Resource Management where the planning efforts of counties and Departments of Health, Land and Natural Resources, and Agriculture all come together in the Hawai'i Water Plan.
- We want to be careful about ramifications for the BWS. We ask the BWS to lead on conservation, as it should. But keep in mind that every gallon that the BWS doesn't sell means less revenue. If our goal is to think about the larger public good, we need to consider pricing models. Everybody should pick up a little bit when they pay their bills so that the costs to pay for conservation, recharge, and reuse don't come out of other BWS budgets, for maintenance for example. It's important to figure out how to pay for these programs.
- There's only so much that the BWS can do about health standards with respect to water. The BWS can't take the lead on health regulations, as it

doesn't have the authority. But BWS's trusted reputation can be positive if supporting another agency's efforts -- such as redoing water reuse standards.

- The BWS should have a regular monthly column in the newspaper. Create something like "Water Hero of the Month". Find a really popular columnist to help make the column fun and push education at the same time.
- The HCF poll that showed what people are willing to pay for contains part of the answer to this question. Through partnering the BWS with non-profits and others, we can come to some agreement on what to budget for.
- MCBH appreciates the BWS's role in water conservation policies recommended by the Fresh Water Council, and understands that implementation is contingent upon having sufficient resources. It is generally recognized that the need for replacement in the BWS's aging infrastructure is critical, and more resources are needed to implement more quickly.

WATER MASTER PLAN OBJECTIVES

Dave introduced the discussion of Water Master Plan objectives and reviewed what has been done to date. He said that in the first meeting of the BWS Stakeholder Advisory Group, stakeholders identified their top priorities relative to the Water Master Plan. Those priorities indicated that an infrastructure-only Water Master Plan would not be enough to reflect the values of the people of the island. That led to the expansion of the Water Master Plan to address *Sustainable Water Management and Implementation*, which are directly related to the top priorities of the group.

In line with these additions, Dave said the next discussion helps frame objectives, which will guide tough choices among desired initiatives for things like sustainable water management and program implementation over the coming years. The Water Master Plan occupies a unique place in that it ties together the Watershed Management Plan and Water Conservation Plan. It is the basis for short- and long-range Capital Improvement Plans, and it sets priorities for how funds will be spent based on a risk analysis where the likelihood of failure is combined with negative of impact of risk.

The objectives for the Water Master Plan discussed at Meeting 2, July 21, 2015, included:

- Water Quality, Health and Safety
- System Reliability and Adequacy
- Cost and Affordability
- Conservation and Efficiency
- Water Resource Sustainability

Dave said that, as was done in Meeting 2, the details of the objectives would be live edited to incorporate stakeholders’ input on-screen. The following is the resulting text for the objectives and a summary of related discussion.

Water Quality, Health and Safety	
Draft text carried forward from Meeting 2	Final text incorporating Stakeholder Advisory Group edits (No changes)
<ul style="list-style-type: none"> • Potable water is consistently safe to drink. • Water served meets or is better than regulatory standards and also is suitable for the intended water use, including recycled water. • Water system facilities are secure as well as structurally and operationally sound, protecting the public, employees and the community. • The exceptional natural quality of O’ahu’s source water is sustained. 	<ul style="list-style-type: none"> • Potable water is consistently safe to drink. • Water served meets or is better than regulatory standards and also is suitable for the intended water use, including recycled water. • Water system facilities are secure as well as structurally and operationally sound, protecting the public, employees and the community. • The exceptional natural quality of O’ahu’s source water is sustained.

The group reached consensus to include this objective in WMP.

System Reliability and Adequacy	
Draft text carried forward from Meeting 2	Final text incorporating Stakeholder Advisory Group edits
<ul style="list-style-type: none"> • Water service is uninterrupted and at proper pressures, when and where it’s needed. • Water system is designed, constructed and maintained to consistently support vital emergency services, such as hospitals and fire protection. • System protections support basic functions during natural disasters. 	<ul style="list-style-type: none"> • Water service is uninterrupted and at proper pressures, when and where it’s needed. • Water system is designed, constructed and maintained to consistently support vital emergency services, such as hospitals and fire protection, and withstand long-term impacts of climate change. • System protections support basic functions during natural disasters.

The Stakeholders discussed these observations, ideas, and edits:

Comment: Given what is happening with Red Hill, the objective should say something about proactive measures being taken to protect the long-term adequacy of the water source.

Response: This is addressed in the Water Quality, Health and Safety objective.

Question: Where is the implementation of actions to respond to climate change addressed? For example, a certain amount of water is set aside for fire protection (see second bullet). Especially with climate change, we may need to consider the protection level needed for 2030.

Comment: This objective addresses services like hospitals and fire protection. Climate change is more appropriate to address under conservation.

Comment: In HCF’s polling, the third most supported benefit that people were willing to pay more for was related to water system resiliency during natural disaster.

Comment: A suggestion is to say that the water system is designed and built to be resilient to climate change and natural disasters.

Comment: This addresses the issue in part. If there is a natural disaster on the drier side of the island, the main water pipelines that are close to the ocean and vulnerable are at risk. We want to make sure that climate change projections are taken into account early so that we don’t wait until it is too late to do something. We need to remind ourselves that we can’t just look at today’s resources and population projections. We need to prepare for climate change and what is projected to happen. That should be reflected in future design, so we will be able to respond and recover quickly.

Question: Where does the importance of water for sustaining food security come in?

Response: The BWS considers all uses of the water supply to be equally important. Barry said that narrative in the WMP will address this so the point will not be lost.

The group reached consensus to include is objective in the WMP.

Cost and Affordability	
Draft text carried forward from Meeting 2	Final text incorporating Stakeholder Advisory Group edits
<ul style="list-style-type: none">• Infrastructure project expenditures balance system needs, community values, and affordability for current and future ratepayers.• Water system is designed and operated to deliver water at the most responsible	<ul style="list-style-type: none">• Infrastructure project expenditures balance system needs, community values, and affordability for current and future ratepayers.• Water system is designed and operated to deliver water at the most responsible

<p>(or reasonable) cost to the customer.</p> <ul style="list-style-type: none"> The price of water reflects the whole cost of providing water to (present and) future generations (e.g., protecting watersheds, investing in infrastructure maintenance, and land management). 	<p>cost to the customer.</p> <ul style="list-style-type: none"> The price of water is transparent and reflects the whole cost of providing water to present and future generations (e.g., protecting watersheds, investing in infrastructure maintenance, and land management). Achieve water and energy efficiency via infrastructure design and construction, system operations and maintenance, and consideration of renewable energy options.
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Dave said that, in Meeting 2, a lot of discussion focused on the words “reasonable” and “responsible”. He shared these definitions:

Responsible: Marked by or involving responsibility.

Responsibility: Moral, legal, or mental accountability; reliability and trustworthiness.

Reasonable: Being in accordance with reason, not extreme or excessive, moderate and fair, inexpensive.

Since the definitions include traits that seem to be important to stakeholders, Dave asked if they wanted to use both words (reasonable and responsible)?

The Stakeholders discussed this question as well as the entire draft definition of this objective. Discussion included these observations, ideas, and edits:

Comment: Prefer “responsible and reasonable.”

Comment: Prefer “responsible.” The BWS’s mandate is to be responsible for our water supply. “Responsible” has a set definition; “reasonable” is open to interpretation.

Comment: Agrees with “responsible.” The BWS is responsible for keeping costs sustainable

Comment: Include both “responsible” and “reasonable.” Being reasonable means that the BWS will show how the cost is calculated and be transparent. Being reasonable expresses the expectation that the BWS will explain how billing charges are being used to cover the costs of running the system. Both words have important meanings.

Comment: Delete “to the customer” ...

- Water system is designed and operated to deliver water at the most responsible (or reasonable) cost ~~to the customer.~~

Comment: Leaving the word “reasonable” in the language of the objective could open the door for political decision-makers (e.g. City Council) to ask the BWS to shave budgets for programs (like watershed protection) in the name of being reasonable. It might empower others who don’t see responsibility or reason the same as others.

Comment: “Responsible” is a definite. “Reasonable” we could go without.

Comment: How about “reasonable and practicable”? “Practicable” means “Able to be done or put into practice successfully”. “Responsible” is moral.

Dave asked, and the group agreed, that the word “responsible” should be included.

Comment: There is a perception that a cost increase will be passed on to a consumer, however, government will always try to find a way to be more efficient. The Council has to make choices to work with its current resources. There is an argument for “reasonable”.

Comment: The Hawai’i Business magazine article on water says that the cost of our water was reasonable but they were too low until there was a 70% rise in potable water rates. It goes back to the definition. The BWS had a responsibility to expand and maintain the system. The word “reasonable” should be taken out of the objective.

Question: Has the State ever allocated any funding to the County for infrastructure?

Response: Ernest Lau said that on Kaua’i, he used to advocate for State bond funds. At BWS, we haven’t gone to State legislature to request funds for any infrastructure. There may be an opportunity, especially in the area of agriculture, to request help.

Barry said that the State has paid for a number of exploratory wells primarily to serve State-funded projects (urban or Ag subdivisions), but not to supplement BWS funds for infrastructure. When developers come in, the BWS requests them to put in infrastructure dedicated to the BWS system.

Comment: There are sources of capital available outside of the BWS that should take on some of the kuleana to making the cost of water reasonable. There is a benefit to the whole system and water is a statewide resource. Don’t just assume that costs are solely within the BWS jurisdiction. Be open to how some of the infrastructure projects can be funded.

Comment: State Revolving Funds (SRF) are available to any of the Boards of Water Supply throughout the State.

Response: Ernest Lau said that the BWS does and plans to continue to leverage SRF to the maximum extent.

Comment: Instead of “reasonable”, use “affordable.”

Response: “Affordable” is in the BWS’s Mission Statement.

Comment: What if the project is really necessary but not affordable? At the end of the day, the BWS is responsible for making everything sustainable.

Comment: Instead of “reasonable”, use “transparent.”

Comment: Instead of “reasonable”, use “calculable” (or “calculated”) which means the BWS can demonstrate where all of the costs came from.

Comment: Instead of “reasonable”, use “prudent.”

Comment: What about “demonstrable” so the BWS can demonstrate where all of the costs came from?

Comment: What about “appropriate”?

Comment: If we want to just use “responsible”, we need to recognize that people will ask the BWS to show how they arrived at their calculations and costs. Show me the numbers.

Question: Could we vote?

Response: Our process is to reach consensus instead of voting.

After additional discussion, the group reached consensus agreed upon the following language that addresses the use of “responsible” and “reasonable.”

- *Water system is designed and operated to deliver water at the most responsible cost to the customer.*
- *The price of water is transparent and reflects the whole cost of providing water to present and future generations (e.g., protecting watersheds, investing in infrastructure maintenance, and land management).*

With this editing, the group reached consensus to this objective in the WMP.

The time was 6:35 p.m. so Dave brought the discussion of objectives to an end until the next meeting.

SUMMARY AND NEXT STEPS

Dave apologized that time ran out for the BWS Manager and Chief Engineer Ernest Lau to give an update on recent activities. Ernest thanked Micah Kāne for hosting the Stakeholder Advisory Group at the beautiful Royal Hawaiian Golf Club. He also thanked all stakeholders for their exceptional comments and insights. He said this was an invaluable discussion.

Dave reminded stakeholders that the next meeting will be January 12, 2016 at the Hawaiian Electric training rooms at the Honolulu Club. He said that Ernest would be around to talk more after this meeting and thanked everyone for terrific input. On behalf of the whole team, Dave wished the Stakeholder Advisory Group happy and healthy holidays.