# M I N U T E S

REGULAR MEETING
OF THE
BOARD OF WATER SUPPLY

June 29, 2018

At 1:59 PM on June 29, 2018 in the Board Room of the Public Service Building at 630 South Beretania Street, Honolulu, Hawaii, Board Chair Andaya called to order the Regular Meeting.

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| Present: | Bryan P. Andaya, Chair<br>Kapua Sproat, Vice Chair<br>Kay C. Matsui<br>Ray C. Soon<br>Ross S. Sasamura |
| Also Present: | Ernest Lau, Manager and Chief Engineer<br>Ellen Kitamura, Deputy Manager and Chief Engineer<br>Erwin Kawata<br>Barry Usagawa<br>Joe Cooper<br>Robert Morita<br>Jennifer Elflein<br>Teriann Akana<br>Mike Matsuo<br>Mike Fuke<br>Darwin Ching<br>Lloyd Tanaka |
| Others Present: | Jessica Wong, Deputy Corporation Counsel<br>Jeff Lau, Deputy Corporation Counsel<br>Joe Stewart, Kobayashi Sugita and Goda<br>Dave Ebersold, CDM Smith |
| Absent: | David C. Hulihee<br>Jade T. Butay |

| | |
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| APPROVAL OF MINUTES | Approval of the Minutes of the Public Hearing and Regular Meeting held on May 29, 2018. |
| MOTION TO APPROVE | Ross Sasamura and Kapua Sproat motioned and seconded, respectively, to approve the Minutes of the Public Hearing and Regular Session Meeting of May 29, 2018. The motion was unanimously carried. |

"June 29, 2018

ELECTION OF CHAIR AND VICE CHAIR

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Election of the Chair and Vice Chair of the Board of Water Supply Beginning July 1, 2018

The Bylaws of the Board of Water Supply provides that the Chair and Vice Chair of the Board shall be elected annually from among and by the appointed members of the Board at the first regular meeting in June.

Accordingly, election of the Chair and Vice Chair of the Board for the ensuing year commencing July 1, 2018, is now in order.

Respectfully submitted,

/s/ for ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer"

NOMINATION AND MOTION

Ross Sasamura nominated Bryan Andaya to continue as Board Chair. The motion was seconded by Ray Soon and unanimously carried. Ray Soon nominated Kapua Sproat to continue as Vice Chair. The motion was seconded by Ross Sasamura and unanimously carried.

| BRYAN ANDAYA ELECTED AS CHAIR AND KAPUA SPROAT ELECTED AS VICE CHAIR OF THE BOARD OF WATER SUPPLY, COMMENCING JULY 1, 2018, AT THE JUNE 29, 2018 BOARD MEETING | | | |
|---|---|---|---|
| | AYE | NO | COMMENT |
| BRYAN P. ANDAYA | X | | |
| KAPUA SPROAT | X | | |
| DAVID C. HULIHEE | | | ABSENT |
| KAY C. MATSUI | X | | |
| RAY C. SOON | X | | |
| ROSS S. SASAMURA | X | | |
| JADE T. BUTAY | | | ABSENT |

"June 29, 2018

AUTHORIZING A PUBLIC HEARING

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Authorizing a Public Hearing to Consider Revisions to the Schedule of Rates and Charges for the Furnishing of Water and Water Service for Fiscal Years 2019-2023

We recommend that the Board authorize a public hearing to be held at 2:00 p.m. on Monday, August 27, 2018, to consider a resolution to adopt proposed changes to the Schedule of Rates and Charges.

Attached is the draft of the "Notice of Public Hearing" to be published prior to the hearing date.

Respectfully submitted,

/s/ ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

Attachment"

NOTICE OF PUBLIC HEARING

NOTICE IS HEREBY GIVEN that the BOARD OF WATER SUPPLY, CITY AND COUNTY OF HONOLULU, will hold a PUBLIC HEARING in the Board Room, Public Service Building, 630 South Beretania Street, on MONDAY, AUGUST 27, 2018, at 2:00 p.m. or soon thereafter, where all interested persons shall be afforded the opportunity of being heard on the adoption of the Proposed Schedule of Rates and Charges of the Board of Water Supply for the Fiscal Years (FY) 2019 through 2023.

Information to be discussed at this public hearing is available at Room 201 of the Public Service Building, Board of Water Supply, 630 South Beretania Street. All comments on or suggested changes to the proposed FY 2019-2023 Schedule of Rates and Charges should be filed in writing before the date of the public hearing or presented in person at the time of the hearing. Persons wishing to speak are requested to register by 1:00 p.m. with Alison Kawata at 748-5100, by providing your name, phone number, and subject matter of testimony. Testimony is limited to three minutes and shall be presented by the registered speaker only. Any questions, please call 748-5100.

Any disabled person requiring special assistance who plans to attend the public hearing, may contact Alison Kawata at 748-5100, no later than August 20, 2018, so that appropriate accommodations can be provided.

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU

DISCUSSION: Manager Lau stated that the Board of Water Supply (BWS) is seeking authorization to hold a Public Hearing on the proposed water rates and charges on August 27, 2018, in the BWS Public Service Building Board Conference Room at 2:00 p.m. Mr. Lau explained that the BWS appeared before the Small Business Regulatory Review Board (SBRRB) and is required to provide at least 30 days notice for the Public Hearing. It is not possible to achieve a 30-day notice before the July 23rd Board meeting, so the Public Hearing is being proposed to be held in August. This also allows for more time to obtain additional input from the public, through outreach to Neighborhood Boards and others.

Board Member Soon asked if the Regular Meeting will follow the Public Hearing on August 27th. Mr. Lau explained that, much like the Public Hearing on the Budget, the Public Hearing on the proposed water rates and charges will be held first. Following the Public Hearing, the Regular meeting will be held and the proposed water rates and charges will be formally adopted, if the Board approves.

Mr. Soon asked if the Board Chair will be the Hearing Officer. Mr. Lau responded yes.

Mr. Lau stated that once the Board acts on the proposed rates and charges in August, the BWS will have to report back to the SBRRB and report what was adopted by the Board.

Mr. Soon expressed his discomfort of having to make a decision on the rates and charges right after hearing public testimony. Mr. Lau explained that it is normal procedure and reminded Mr. Soon that the BWS has already held four public outreach hearings on the proposed rates and charges. Mr. Andaya stated that it is on the agenda that an update on the four public hearings will be provided. Mr. Lau added that the meeting notes for the four meetings will be presented.

MOTION TO APPROVE A PUBLIC HEARING

Chair Andaya called for a motion to authorize a Public Hearing to Consider Revisions to the Schedule of Rates and Charges for the Furnishing of Water and Water Service for Fiscal Years 2019-2023. Ross Sasamura and Kapua Sproat motioned and seconded respectively, and the motion was unanimously carried.

| AUTHORIZING A PUBLIC HEARING TO CONSIDER REVISIONS TO THE SCHEDULE OF RATES AND CHARGES FOR THE FURNISHING OF WATER AND WATER SERVICE FOR FISCAL YEARS 2019-2023 WAS APPROVED ON JUNE 29, 2018 | | | |
|---|---|---|---|
| | AYE | NO | COMMENT |
| BRYAN P. ANDAYA | X | | |
| KAPUA SPROAT | X | | |
| DAVID C. HULIHEE | | | ABSENT |
| KAY C. MATSUI | X | | |
| RAY S. SOON | X | | |
| ROSS S. SASAMURA | X | | |
| JADE T. BUTAY | | | ABSENT |

SELECTION OF
AN ALTERNATIVE
FOR FEE
WAIVERS

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Selection of an Alternative for Fee Waivers for Affordable Housing, Homeless and Automatic Fire Sprinkler Retrofit Projects in the Proposed Schedule of Rates and Charges

At the January 5, 2018 Water Rates Workshop, the Board indicated that they were open to providing subsidies for affordable housing, homeless, and automatic fire sprinkler retrofit projects and requested that the Board of Water Supply (BWS) research the matter further and provide recommendations to the Board.

The BWS has completed the research and offers three (3) alternatives for consideration in the proposed Schedule of Rates and Charges. In all alternatives, the waiver will only be based on the actual number of affordable housing and homeless residential dwelling units to be developed in the project. No waivers will be allowed for other types of residential units and non-residential uses that may also be developed in each project. Waivers of the fees of the one-time costs associated with fire sprinkler meters would only apply to high-rise, multi-unit residential automatic fire sprinkler retrofit projects.

The alternatives are as follows:

Alternative 1:

- Annual waiver based on the Department of Planning and Permitting, Department of Community Service, Department of Land Management and Office of Housing annual projections for affordable housing dwelling units, homeless dwelling units, and high-rise, multi-unit residential fire sprinkler retrofit projects.
- For the affordable housing and homeless projects, the waiver would include both the meter costs and the water system facilities charges.
- For the high-rise, multi-unit residential fire sprinkler retrofit projects, the waiver would be only for one-time costs associated with the fire sprinkler meter.
- Estimated dwelling units: 960
- Estimated annual subsidy: $1,995,600.

Alternative 2:

- Limit the waiver for affordable housing and homeless residential dwelling units to 500 dwelling units each year. Once waivers for 500

dwelling units are reached for the year, no additional waivers will be granted until the next fiscal year.

- For the affordable housing and homeless projects, the waiver would include both the meter costs and the water system facilities charges.
- No limit on waivers due to the one-time costs associated with the fire sprinkler meter for high-rise, multi-unit residential automatic fire sprinkler retrofit projects.
- Estimated dwelling units: 500
- Estimated annual subsidy: $971,650.

Alternative 3:

- Annual waiver cap in dollars as determined by the Board.
- Waivers would apply only to affordable housing and homeless residential dwelling units developed in each project.
- For the affordable housing and homeless projects, the waiver would include both the meter costs and the water system facilities charges.
- Waivers would also apply for costs associated with the fire sprinkler meter for high-rise, multi-unit residential automatic fire sprinkler retrofit projects.

The BWS also recommends the following requirements for the fee waiver program:

1. To be eligible for the fee waivers, the developer must obtain a letter from the City certifying that the project is an affordable housing or homeless project.
2. Eligible fees will be waived when the building permits are submitted for review and approval.
3. Fee waivers will not be retroactive. Only projects submitting building permits on or after the effective date will be considered unless the project obtained prior approval from BWS for the fee waiver.
4. Fee waivers will apply only to fixture units associated with the affordable housing and homeless dwelling units.
5. Only costs associated with the one-time charge for the fire sprinkler meter will be waived for the residential fire sprinkler retrofit projects.
6. The BWS will report quarterly on the amount of dwelling units and all fee waivers approved by the BWS.
7. The effective date of the fee waiver program will be established when the Board adopts the new Schedule of Rates and Charges.
8. Unless extended by the Board, this fee waiver program will expire on June 30, 2023.

Respectfully submitted,

/s/ ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

Attachment”

DISCUSSION: Deputy Manager Ellen Kitamura provided the report. Ms. Kitamura presented Alternatives 1, 2, and 3 that proposed fee waivers for affordable housing, homeless and fire sprinkler retrofit projects. Alternative 1 estimated the annual subsidy for affordable housing and homeless dwelling units based on City housing projections. Alternative 2 sets an annual cap of 500 affordable housing and homeless dwelling units. Alternative 3 gives the Board more flexibility to set an annual waiver cap in dollars.

Ms. Kitamura indicated that all three alternatives contained estimated subsidies for existing apartments and high-rise buildings that choose to retrofit their buildings with automatic fire sprinkler systems. BWS estimated a range of 25 to 40 percent of the existing high-rise buildings, identified by the City, may request a waiver for meters for the automatic fire sprinkler system.

Mr. Andaya asked if the number of dwelling units per year in Alternative 1 and the allocation of the units in Alternative 2 are only estimates. Ms. Kitamura answered yes, and explained that the numbers are based on what the City is projecting and what has been approved so far. Mr. Andaya inquired if the number of single-family dwelling units came from the City's projections. Ms. Kitamura answered yes, and indicated that these were generally single-family homes in the Ewa Villages area.

Regarding Alternative 2, Mr. Andaya asked if even with a 500 dwelling unit cap, could the estimated annual amount of subsidy still vary? Ms. Kitamura answered yes. The estimated subsidy for a single-family dwelling unit is higher than the multi-dwelling unit. The amount of dwelling units for single-family and multi-unit dwelling units shown in Alternative 2 are estimates, so the amount of the subsidy can change. For example, it's possible that no single-family dwelling units come in for approval, only multi-unit dwelling units. It is also possible that a single development with 500 affordable dwelling units could be submitted. Ms. Kitamura also stated that the numbers only reflect the water system facilities charge (WSFC). The meter charge was not included, due to the difficulty in figuring out how many developments will come in for building permit approval in the fiscal year.

Mr. Lau stated that, under Alternative 2, once 500 affordable dwelling units are reached for the fiscal year, other projects that come in would have to wait until the next year. Mr. Lau indicated that the numbers are just estimates and that the waivers would be given at the time of building permit and submission of construction drawings.

Ms. Kitamura indicated that BWS recommends additional requirements to help with the administration of the proposed fee waiver program. The recommended requirements included having the developers obtain a letter from the City certifying that the development is an affordable or homeless project, the eligible fees would be waived when the building permit is submitted for approval, the fee waivers would not be retroactive unless prior approval was given by the BWS, and the fee waivers would only apply to fixture units associated with the affordable housing or homeless dwelling units.

Ms. Kitamura explained that if the affordable housing or homeless dwelling units are a percentage of the total number of dwelling units for the development, the

meter charge would be calculated as a percentage of the total meter charge, which would make it more difficult to track. Ms. Kitamura stated that the BWS would like the Board to consider whether both the WSFC and the meter charge be waived for affordable housing and homeless dwelling units. Mr. Lau stated that it is the BWS's recommendation to focus only on the WSFC, which is well documented in the construction plans and building permit application. He added that the WSFC is easier to calculate and is a larger incentive as a waiver.

Mr. Soon commented that in each of the alternatives presented, the waiver included both the water system facilities charge and the meter charge. Mr. Lau responded that in the Board letter, it does state that the waivers would include both the WSFC and meter charge. However, Mr. Lau explained that they are seeking whether the Board is open to consider just the WSFC.

Mr. Soon asked if the meter cost could be taken out. Mr. Lau answered yes. Ms. Kitamura explained that when they started drafting the alternatives, they were not fully clear as to what direction to take. Ms. Kitamura stated that direction is being sought by the Board today, and based on the Board's decisions, she can alter the alternatives.

Mr. Soon asked what the subsidies would drop to if the meter charge was left out. Ms. Kitamura referred to Slide 1, Alternative 1, and explained that it is difficult to calculate what the actual meter cost will be, especially when working with percentages. She pointed out that the meter charge shown on the chart is the full cost of the meter and is still small compared to the WSFC. Affordable housing projects may come in as mixed projects that could consist of 20 to 30 percent affordable units and the rest market value units. Homeless projects are generally 100 percent homeless dwelling units, so the cost shown is the full cost of the estimated meter charge.

Mr. Andaya asked what the meter charges that appear in Alternative 1 are based on. Ms. Kitamura explained that the estimates are based on the number of dwelling units and the meter size. Mr. Andaya asked if the difficulty in estimating these meter charges are due to some developments being mixed projects, with both affordable units and market value units. Ms. Kitamura responded yes, and added that the WSFC is much easier to work with because you know how many affordable dwelling units there are and how many fixtures are in each affordable dwelling unit. Mr. Lau added that waiving the WSFC is consistent with Bill 59 (2017), in which the impact fee for sewer charges is waived.

Mr. Soon expressed his concern with Alternative 1. He explained that there are many private projects that consist of 20 percent affordable units. Because they are not Department of Planning and Permitting projects or 201H projects, they will not qualify. Mr. Soon stated that he prefers Alternative 2, which is more flexible and caps at 500 units annually.

Mr. Soon suggested being more careful with the language in the alternatives. He explained that not all projects that come in will be affordable housing projects. They may just be a project with 20 percent affordable units in it. Instead of using the term "affordable housing projects", Mr. Soon suggests using "affordable housing units". Ms. Kitamura agreed with the language change from affordable housing projects to affordable housing dwelling units.

Mr. Soon commented that requiring certification for affordable housing units by the City is a great idea. However, there are several changes he would like to recommend and he is willing to go over his recommendations now, or after the meeting. Mr. Lau responded that they will be putting together a final draft version of the schedule of rates and charges, and he welcomes Mr. Soon's input between meetings to help craft the clarity of the language.

Mr. Lau stated that he agrees with Mr. Soon on "projects" being a broad term. However, a larger project could have affordable components and they should be afforded the opportunity for a waiver. Mr. Soon stated that he agrees, as long as the components are clearly defined as affordable units. Mr. Lau responded that if the Board is open to that, he is happy to receive input from the Board, and from the Permitted Interaction Group, after this meeting.

Mr. Soon commented that it would be good to be consistent with the City's approval date in Bill 59, with respect to retroactive approvals. Mr. Lau responded BWS would check with the City approval requirements in Bill 59.

Mr. Lau indicated that some homeless projects have already requested waivers, like the homeless project in the Sand Island area. They have been notified that the BWS is considering proposed rules for the fee waiver program and collection of the WSFC have been deferred, while the Board is deliberating the fee waiver program.

Mr. Lau also indicated that mainly homeless projects have been requesting waivers. Mr. Soon asked if the waivers are approved when the building permits are submitted. Mr. Lau responded yes. Mr. Soon commented that for most of these projects, the building permits would not be submitted for another year or two.

Mr. Soon asked what the BWS recommends for the Sand Island project. Mr. Lau responded that since it has already been offered as a deferral pending the Board's potential consideration, he is open to allowing them the waivers. However, this would only be on an exception basis. Mr. Lau stated that there are a few exceptions. Mr. Andaya commented that he believes the Department's concern is that they don't want all the projects coming in now for a refund of the fees. Ms. Sproat asked if there is a concern with even considering the few exceptions. Mr. Lau responded that he is fine with making one or two exceptions. It becomes a concern if more projects request retroactive waivers.

Mr. Andaya commented that BWS is recommending that the meter charges not be waived, due to the difficulty in estimating and budgeting for the amount to be waived, and asked if the Board members agree with the recommendation. Mr. Lau stated that although it is the BWS's recommendation to waive only the WSFC, it is ultimately the Board's decision as to whether both WFSC and meter charges should be waived.

Mr. Soon referred to Slide 2, Alternative 2, and asked if the $971,650 total subsidy includes estimated meter charges. Ms. Kitamura answered no, and added that if the meter charges were included, the annual housing subsidy would be a little higher.

Mr. Andaya commented that it seems that the consensus is to go with Alternative 2 and waiving both the WSFC and meter charges and capping it at 500 dwelling units for the year. The Board can reconsider adjusting the annual subsidy program in the future.

Ms. Sproat commented that the Alternatives were discussed in the Permitted Interaction Group meeting, and stated that Dave Ebersold helped her understand what the challenges are with determining which Alternative to go with.

Mr. Lau reminded the Board that the estimated subsidies provided in Alternative 2 could change. However, the numbers will be reported back to the Board quarterly. In subsequent years, the BWS will consider the amount of subsidies approved and plan the budget accordingly. The actual amount will depend on how many applicants come through.

Mr. Lau stated that the waivers will be available on a first come, first served basis for those projects that qualify. It is possible that a project comes in towards the end of the year and the amount of certified dwelling units exceeds the 500 dwelling units limit. This project may get a partial waiver of some of the charges to retain the 500 dwelling unit cap.

Mr. Andaya commented that the Board can provide direction, then BWS would draft the formal rules. Mr. Lau agreed and stated that he proposes that BWS take the Board direction from today's meeting and craft detailed language for the fee subsidy program. This will be presented to the Board at the July Board meeting as a final draft of the schedule of rates and charges. Mr. Lau expressed the importance of the July Board meeting, as a 30-day notice will be needed to hold the Public Hearing at the August Board meeting. That will also give the Board a chance to review the final draft of the proposed schedule of rates and charges.

Mr. Soon expressed that he would like the BWS staff to use their discretion to figure out how to reasonably handle a project that may exceed the annual 500 dwelling unit cap. Mr. Lau responded that he and staff will work on the language, and welcomes input from the Board.

MOTION TO APRROVE THE SELECTION OF AN ALTERNATIVE FOR FEE WAIVERS

Ray Soon and Ross Sasamura motioned and seconded, respectively, to select Alternative 2, with waiver of both water system facilities charge and meter charge. The motion was unanimously carried.

| SELECTION OF ALTERNATIVE 2: LIMIT TO 500 DWELLING UNITS ANNUALLY, WITH WAIVER OF BOTH WATER SYSTEM FACILITIES CHARGE AND METER CHARGE WAS APPROVED ON JUNE 29, 2018 | | | |
|---|---|---|---|
| | AYE | NO | COMMENT |
| BRYAN P. ANDAYA | X | | |
| KAPUA SPROAT | X | | |
| DAVID C. HULIHEE | | | ABSENT |
| KAY C. MATSUI | X | | |
| RAY C. SOON | X | | |
| ROSS S. SASAMURA | X | | |
| JADE T. BUTAY | | | ABSENT |

# Alternative 1: Estimated Annual Subsidy

## Based on City Housing Projections

| Description | du/yr * | Meter Charges/yr | WSFC/yr ** | Total Subsidy |
|---|---|---|---|---|
| DPP Affordable and Homeless Housing on City Properties<br>Single Family: 12 units<br>Multi-Unit: 703 units | 715 | $73,400 | $1,337,400 | $1,410,800 |
| City Council 201H Projects | 170 | $39,800 | $325,400 | $365,200 |
| Homeless Projects | 75 | $56,800 | $122,500 | $179,300 |
| ***TOTALS*** | ***960*** | ***$170,000*** | ***$1,785,300*** | ***$1,955,300*** |
| Fire Sprinklers Retrofit | NA | $40,300 | NA | $40,300 |
| ***ESTIMATED ANNUAL SUBSIDY*** | | | | ***$1,995,600*** |

du/yr = dwelling unit/ year
WSFC/yr = Water Systems Facilities Charges/year

# Alternative 2: Limit to 500 Dwelling Units Annually

| Description | fxtu/du | WSFC/du | Total du/yr | Total Subsidy |
|---|---|---|---|---|
| Single Family | 20 | $ 3,710 | 10 | $37,100 |
| Multi-Unit | 9 | $1,840 | 455 | $837,200 |
| Homeless | 8 | $ 1,630 | 35 | $57,050 |
| ***ESTIMATED ANNUAL HOUSING SUBSIDY*** | | | ***500*** | ***$931,350*** |
| Fire Sprinklers Retrofit | NA | NA | NA | $40,300 |
| ***ESTIMATED ANNUAL SUBSIDY*** | | | | ***$971,650*** |

fxtu/du = fixture unit/dwelling unit
WSFC/du = Water Systems Facilities Charges/dwelling unit
du/yr = dwelling unit/year

# Alternative 3: Annual Fee Waiver Cap

- Annual fee waiver cap as determined by the Board
- Waivers would apply only to affordable housing and homeless residential dwelling units developed for each project
- Waivers would also apply for one-time costs associated with the fire sprinkler meter for high-rise, multi-unit residential automatic fire sprinkler retrofit projects

# FEE WAIVERS – ADDITIONAL INFORMATION

- To be eligible for the fee waivers, the developer must obtain a letter from the City certifying that the project is an affordable housing or homeless project.
- Eligible fees will be waived when the building permits are submitted for review and approval.
- Fee waivers will not be retroactive. Only projects submitting building permits on or after the effective date will be considered unless the project obtained prior approval from BWS for the fee waiver.
- Fee waivers will apply only to fixture units associated with the affordable housing and homeless dwelling units.
- Only costs associated with the one-time charge for the fire sprinkler meter will be waived for the residential fire sprinkler retrofit projects.
- The BWS will report quarterly on the amount of dwelling units and all fee waivers approved by BWS.
- The effective date of the fee waiver program will be established when the Board adopts the new Schedule of Rates and Charges.
- Unless extended by the Board the fee waiver program will expire on June 30, 2023.

"June 29, 2018

ADOPTION OF RESOLUTION NO. 888, 2018

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii

Chair and Members:

Subject: Adoption of Resolution No. 888, 2018, Acceptance of Gift to the Board of Water Supply from Hawaiian Earth Recycling LLC, in Support of the 2018 Annual Halawa Xeriscape Garden Open House and Unthirsty Plant Sale

We recommend the adoption of the attached Resolution No. 888, 2018, that accepts the proposed gift to the Board of Water Supply (BWS), City and County of Honolulu, from Hawaiian Earth Recycling LLC, in support of our 2018 Annual Halawa Xeriscape Garden Open House and Unthirsty Plant Sale. The donor's total value of this gift is $925.00.

The BWS's Annual Halawa Xeriscape Garden Open House and Unthirsty Plant Sale continues to be a successful public outreach program that focuses on the importance of outdoor water efficiency. Studies show that more than 30 percent of residential water use occurs outdoors, so it makes sense for the BWS to promote ways to achieve water savings in this area, which in turn can reduce the customer's combined water and wastewater bill.

This donation from Hawaiian Earth Recycling LLC, will help the BWS provide free soil conditioner/compost to Plant Sale visitors and encourage them to incorporate into their own home gardens some of the techniques they learn at the event.

We deeply appreciate the continued support of this Board for this very valuable and worthwhile public outreach program. Plant Sale attendees are encouraged to use the information we provide at the event to become better stewards of our precious water resource.

Respectfully submitted,

/s/ ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

Attachment"

DISCUSSION: Kathleen Pahinui, Information Officer, gave the report. Mr. Andaya thanked Hawaiian Earth Recycling LLC for their generous donation.

| | |
|---|---|
| MOTION TO ADOPT RESOLUTION NO. 888, 2018 | Ray Soon motioned to adopt Resolution No. 888, 2018, Acceptance of of Gift to the Board of Water Supply from Hawaiian Earth Recycling LLC, in support of the 2018 Annual Halawa Xeriscape Garden Open House and Unthirsty Plant Sale. The motion was seconded by Kapua Sproat and unanimously carried. |

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU

RESOLUTION NO. 888, 2018

ACCEPTANCE OF GIFT TO THE BOARD OF WATER SUPPLY
FROM HAWAIIAN EARTH RECYCLING LLC,
IN SUPPORT OF THE
2018 ANNUAL HALAWA XERISCAPE GARDEN OPEN HOUSE
AND UNTHIRSTY PLANT SALE

WHEREAS, the Board of Water Supply's (BWS) Annual Halawa Xeriscape Garden Open House and Unthirsty Plant Sale is an annual public outreach activity that educates Oahu water users about incorporating drought tolerant plants, earth-friendly planting and maintenance techniques, and water conservation methods in their landscapes and gardens to promote efficient outdoor water use; and

WHEREAS, the BWS may accept gifts to the Department as long as it does not provide special consideration, treatment, advantage, privilege, or exemption for or coerces a potential donor; and

WHEREAS, Hawaiian Earth Recycling LLC, is offering a gift of 25 cubic yards of Soil Conditioner/Compost, totaling $925.00, for the BWS to distribute to the public at the 2018 Annual Halawa Xeriscape Garden Open House and Unthirsty Plant Sale; and

WHEREAS, the gift to the BWS is beneficial because using soil conditioner/ compost improves the soil's ability to retain water and reduces irrigation needs of landscapes or gardens that use it, further promoting outdoor water use efficiency; now, therefore

BE IT RESOLVED that the Board of Water Supply hereby accepts the gift valued at $925.00, and directs the Manager and Chief Engineer, or his delegate, to accept and thank the donor for this gift.

ADOPTED:

BRYAN P. ANDAYA
Chair

Honolulu, Hawaii
June 29, 2018

| RESOLUTION NO. 888, 2018, ACCEPTANCE OF GIFT TO THE BOARD OF WATER SUPPLY FROM HAWAIIAN EARTH RECYCLING LLC, IN SUPPORT OF THE 2018 ANNUAL HALAWA XERISCAPE GARDEN OPEN HOUSE AND UNTHIRSTY PLANT SALE WAS ADOPTED ON JUNE 29, 2018 | | | |
|---|---|---|---|
| | AYE | NO | COMMENT |
| BRYAN P. ANDAYA | X | | |
| KAPUA SPROAT | X | | |
| DAVID C. HULIHEE | | | ABSENT |
| KAY C. MATSUI | X | | |
| RAY C. SOON | X | | |
| ROSS S. SASAMURA | X | | |
| JADE T. BUTAY | | | ABSENT |

ITEM FOR INFORMATION NO. 1

"June 29, 2018

WATER RATE AND PUBLIC HEARINGS UPDATE

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Update on the Water Rate Study and Public Hearings Held on April 26, May 14, May 15, and May 24, 2018

Kathleen M. Pahinui will present an update of our Water Rate Study and the public outreach since our May 29 board meeting. Attached are also the minutes of the four public hearings.

Respectfully submitted,

/s/ ERNEST Y. W. LAU, P.E
Manager and Chief Engineer

Attachments"

The foregoing was for information only.

DISCUSSION: Kathleen Pahinui, Information Officer, and Ernest Lau, Manager and Chief Engineer, gave the report. Ms. Pahinui gave an overview on the public outreach efforts made by BWS.

Mr. Lau stated that when there are proposed rules that could impact small businesses, the State law requires going before the Small Business Regulatory Review Board (SBRRB). On June 20, 2018, BWS met with the SBRRB and gave a presentation on the proposed rates. Mr. Lau stated that the SBRRB was very complimentary and even mentioned that the BWS was one of the first Honolulu City and County agencies to appear before them. The SBRRB voted unanimously to support the BWS rules onto a public hearing to address its rate proposal.

Mr. Lau stated that the water departments of Hawaii County and Maui County have reached out to the SBRRB and appeared before them on changes to their rates and charges, as well as their impact fees. Should the BWS act to update its WSFC, Mr. Lau will be sure to factor in the SBRRB review.

Mr. Lau explained that due to the 30-day notice for a public hearing, the public hearing for the proposed rates will be held at the August 27 Board meeting instead of the July 23 Board meeting. Following the August public hearing, BWS will again meet with the SBRRB to report the results, as required.

Mr. Andaya thanked BWS staff involved in the public outreach process. He also thanked the public who showed an interest and took the time to attend the public hearings and thanked those who testified.

WATER FOR LIFE

*Safe, dependable, and affordable water now and into the future*

Board of Water Supply
City and County of Honolulu

# Board Update
# Water Rate Study and Public Hearings

**Kathleen Pahinui, Information Officer**

**BWS Water Rates Public Input Update**

**June 29, 2018**

# Public Outreach

- 4 Public Hearings
  - 65 attendees total
  - All 4 meetings will be televised on Olelo at least 3 times and the video is being posted to the BWS website
  - Testimony: 4 speakers opposing changes to residential rates
- Mailed special *Water Matters* newsletter to all account holders
- 27 comments (letters, email, web, phone)
  - Support proposed rates: 2
  - Oppose proposed rates: 14
  - Requested clarification on proposal specifics: 3
  - Other comments not related to rates: 8

# Public Outreach

- 11 Neighborhood Board presentations as of 6/20/18
  - Approximately 401 attendees
  - 2 more scheduled or to be scheduled
- 10 Special Interest Group presentations
  - Honolulu Board of Realtors
  - Hawaii Chamber of Commerce Infrastructure Committee
  - 2 AARP Committees
  - Fresh Water Council
  - Developers: MW Group, DR Horton, Stanford Carr, BIA
  - 2 meetings with Farmers including the Farm Bureau
  - Letters to be sent to hotels by SAG member Matt Bailey
  - Golf Course Managers
  - Meeting with HECO
  - American Council of Engineering Companies of Hawaii

# Public Outreach

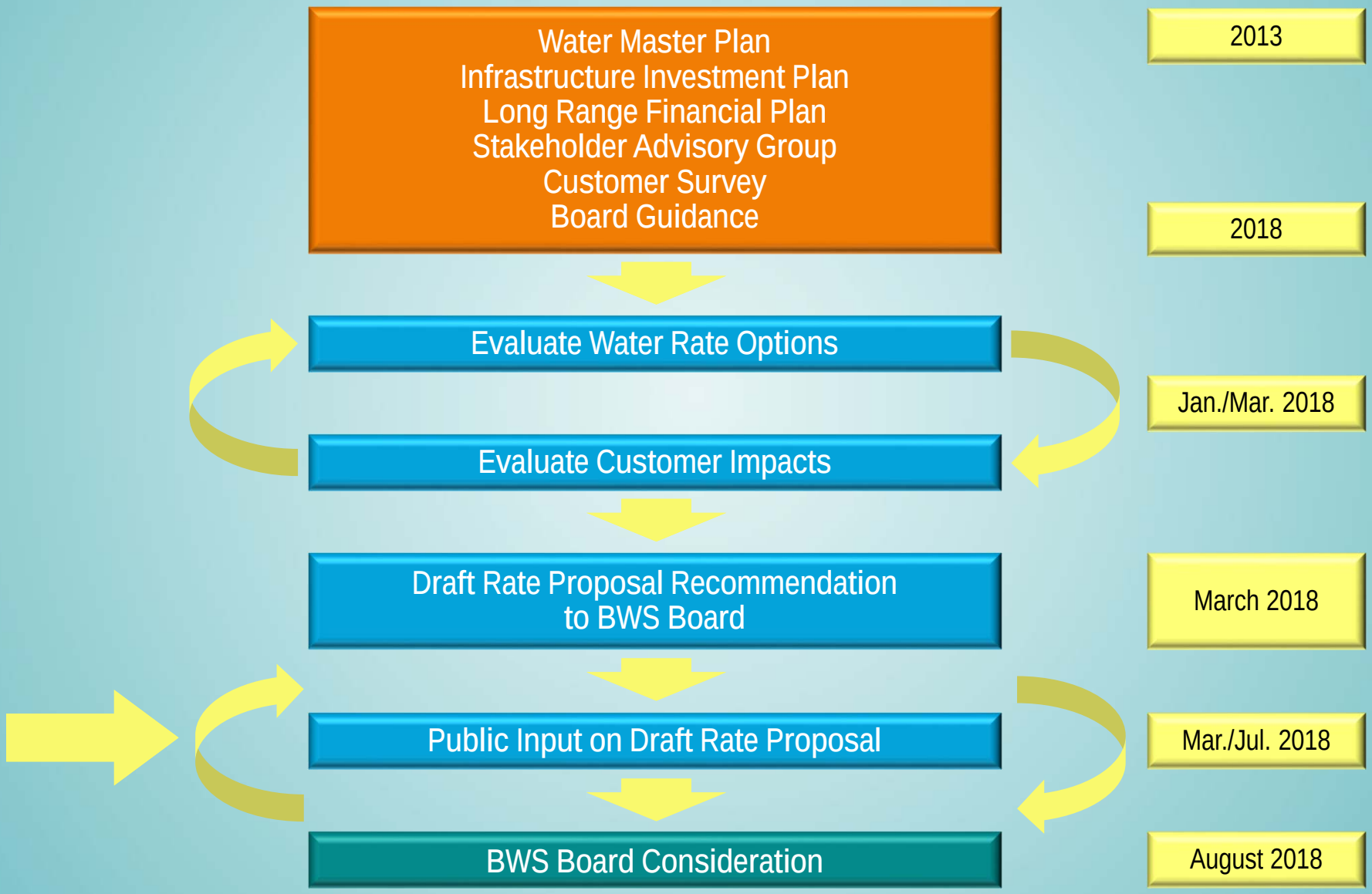
- 6 City Council Member briefings
- Small Business Regulatory Review Board
- Briefing to City Cabinet on June 19, 2018
- 13 Radio Interviews
- Broad media coverage
  - 3 articles in the Star Advertiser
  - KHON Morning Show / KHON Living 808
  - League of Women Voters Show on Olelo
- Website visits (as of June 19, 2018)
  - 943 page views of rates
  - 727 unique visits

# Rulemaking and Small Business Regulatory Review Board Process Summary

- Prepare Small Business Impact Statement and submit to SBRRB before the public hearing
- SBRRB Review (June 20)
- Provide at least 30-days notice of public hearing
- Hold public hearing and fully consider all written and oral submissions (August 27)
- Submit post-hearing Small Business Impact Statement
- Rule becomes effective 10 days after filing with City Clerk, or later as specified in the rule

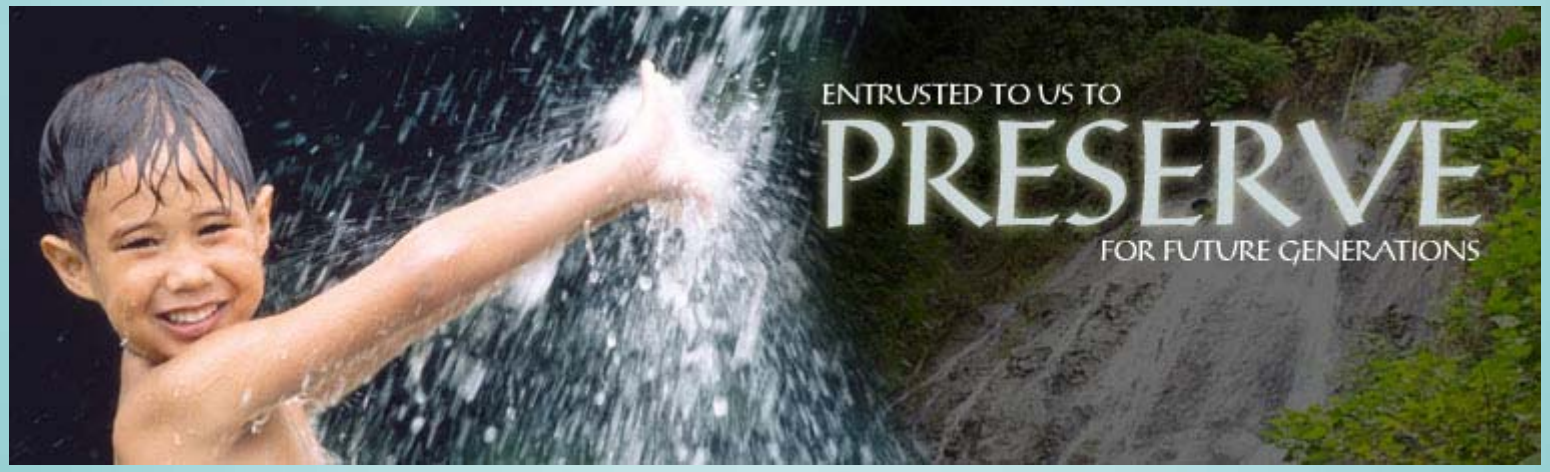
HRS 91 and 201M

# Process Overview



## Mahalo!

## Questions & Answers



Update on the Public Hearing #1 Held on April 26, 2018

At 6:40 p.m. on April 26, 2018, in the Auditorium of the Mission Memorial Building at 5500 South Beretania Street, Honolulu, Hawaii, the Public Hearing commenced to discuss the Five Year Water Rate Proposal.

PRESENTATION

Dave Ebersold: Welcome, everybody.

My name is Dave Ebersold. I'm going to be facilitating our meeting tonight. I have a couple important things to mention. My role is to make sure that we get through the presentation materials, and that you have the opportunity to ask questions and get answers to those questions. Then we will be taking public testimony.

Our meeting is going to be divided into three parts. The first will be the presentation. After the presentation, you will have the opportunity to ask questions about anything that you saw in it. We'll have microphones going around so that you can ask those questions.

Then, after that, you will have the opportunity for public testimony. We'll be using these microphones up front for public testimony. When you signed in, you had the opportunity to indicate if you wanted to give public testimony. We'll begin with that list. If anyone didn't have the chance to check that box, we'll still be able to take your testimony.

In the back of the room where you came in, there are exits on each side. Restrooms are right across the hallway if you need. Make sure your cellphones are silenced. Still plenty of food outside, but no food is allowed in the auditorium.

I would like to kick us off and introduce you to Bryan Andaya, the Board Chair of the Honolulu Board of Water Supply.

Bryan Andaya: Aloha, everybody.

My name is Bryan Andaya. I'm the Chair of the Board of Water Supply. I thought it was really important to personally be here to represent the Board and to listen to what you all had to say. And really, tonight, we think about providing water for life.

To make it for life, we have to think about the future. Tonight you're going to hear a lot of numbers and percentages and water rates, but really, this hearing is about the investment for the future. It's about paying it forward, so that we have water for life.

And not just water for our lifetime, but for the lifetime of our kids and future generations. So without further ado, I'd like to introduce our Manager and Chief Engineer, who will begin the presentation tonight.

Ernie Lau is our Manager and Chief Engineer. He is a former Manager of the Kauai Board of Water Supply and he was also former Deputy Director of the Commission on Water Resource Management. He brings an entire career of experience and we're very, very fortunate to have Ernie as our Manager.

Ernie Lau: Aloha. Good evening, everybody. And thank you. I'm Ernie. I'm the Managing Chief Engineer for the Honolulu Board of Water Supply and Bryan Andaya is our Board chair. Thank you, Bryan, for that great introduction.

I have been working in the water business for quite a while, both here in Honolulu and also in the county of Kauai for the water department, and at the state level and the water commission.

We're here to talk about water today and what we need to do to keep the water available for our community. All life depends on water.

The Board of Water Supply was created in 1929 – 89 years old. It is a utility for our community. Our mission is to provide safe, dependable and affordable water for our community, so when you open your faucet, you can expect that water to be coming out anytime day or night, and that it is going to be safe to drink right out of the faucet.

It takes a lot of effort to get the water from our underground aquifers to our customers. Water is in underground aquifers in the lava rock and also in the mountains trapped behind some very dense lava rock. Every day we serve 145 million gallons of high quality drinking water to about a million people across Oahu.

It does take a lot of effort. Water originates from our sources, a lot of which are in the mauka lands. When the ua (the rain) falls in the mountains on our watersheds, that is really our source of supply. It is really important that we care for the watersheds.

We have 13 tunnels drilled into the hillsides into the mountains. When they hit water, it flows freely by gravity from those tunnels, so, we do not have to pump it. Our largest source is probably our Waihee tunnel on the windward side.

We also have five shafts. Our largest is our Halawa shaft built in the 1940s in the Halawa valley. That shaft can produce over 10 million gallons of water a day.

We have well stations all over the island. We have 194 groundwater wells and pumps around Oahu to provide this 145 million gallons a day. Some of it has to go through treatment systems, especially in Central Oahu where there used to be a lot of pineapple and sugarcane farming. We are still dealing with some of the chemicals that they used, especially to grow the pineapple. For the last 30 years, we have been treating the water with carbon. Some of you may have a carbon filter at home on your faucet. Ours is just a bigger version. Just imagine that one tank holds 20 to 30 thousand pounds of carbon. We use about one million pounds of carbon per year to treat the water to make it safe.

We send the water to our tanks up on the hills. These are concrete tanks with roofs on them, and we have 171 of them.

We also have to boost water to higher elevations on our island because you have people that live in the back of the valleys or at higher elevations on the ridges. The water may originate at lower elevations, so we have to pump it up to get to those homes.

From there, it flows through 2,100 miles of pipeline in our system. If you stretch the pipes end-to-end, you could almost reach San Francisco from Honolulu.

We have 21,000 fire hydrants that provide for public safety for our community, for the fire department to fight fires.

That water goes to 170,000 customers in our system all over the island, the vast majority being our residential customers. So, that's what it takes to provide water every day, every hour, every minute to our community.

Like Bryan said, the big challenge is not only about taking care of water for today but it is also about taking care of the future because our life depends on water. We really cannot stop working toward this effort of providing safe, dependable, and affordable water to our community.

And the question is: How do we do that? Over the last four years, we developed a 30-year water master plan. It is a long-term plan that is a roadmap looking forward for the next 30 years. We looked at every part of our water system from tanks to pumps to pipelines to the source itself in the watersheds.

We also identified necessary improvements, and there is a summary about our 30-year infrastructure investment plan. We identified projects we need to do for the next 30 years to make sure that our community has safe and dependable water at all times.

All of these take money and investments. Because Board of Water Supply doesn't get any property tax revenue from the city, we have to pay

for the operation and maintenance of this large complex infrastructure through our water rates.

Everybody paying water bills helps to ensure that our water system can operate. We have to balance the effort of investment with the costs that customers have to bear. We are very aware of the affordability issues.

One of the findings of the water master plan is that we need more drinking more water supplies, particularly in the Ewa, Waianae and Honolulu areas. This picture is what you would see if you go down into Halawa shaft. You can go underground about 145 feet and you will be able to see the top of the water aquifer. You are all welcome to visit, just let us know.

Pumps are the heart of the system. We have tunnels sources that don't need pumps, but they're not providing a lot of water to our community. We deliver 145 million gallons a day on average. A lot of that water is pumped. We move water from the underground aquifers into our pipes or up the hills to serve those customers on the hillsides. So, pumps are very important. One of the findings of the water master plan was that we need to put in additional pumping units in different locations to provide redundancy and reliability to our water system.

Unfortunately, with the 2,100 miles of pipelines, the reality is we have main breaks periodically. With 2,100 miles of pipeline, there are going to be breaks periodically. Right now, we have more than 300 breaks a year. Last year there were about 350 breaks. The pipes are underground and they suffer from issues of corrosion, poor soil conditions, pressure, and groundwater that in some cases causes corrosion to accelerate.

I want to thank you all for all your hard work for these many years in trying to save water because this is an amazing story. Since the 1990s, Oahu water use has been cut by 30 gallons per person each day. That's saving over 12 million gallons a day. That's a great story, but we still need to do more for our community.

Why? We are facing climate change. That is one of the biggest challenges for us because we are an island in the middle of the ocean. We depend on rainfall for our fresh water supply. But also, we're going to have the effects of climate change on that rainfall, and rising sea level issues. We can expect more intense storms to become more frequent. And you just saw the amazing flooding that occurred on Kauai on the north shore, especially. They think of it as a tsunami from the mountains instead of from the ocean – there was so much water that came down in such a short period of time. East Honolulu and Waimanalo really took a hard hit too. So, we need to diversify our water supply to adapt and prepare for climate change.

I talked about watersheds, our sources of supply. They are extremely important. The water master plan recommends that we need to spend

more effort and money taking care of the watersheds, and encouraging conservation among our customers.

We've identified 800 projects that we need to do over the next 30 years to improve the water system. That will cost about 5.3 billion dollars.

Over the next 10 years, these are some examples of some of the planned investments. For reliability and resiliency, we will invest almost a half a billion dollars. For projects to reduce the number of main breaks, we're looking at investing over 800 million dollars in next 10 years.

Right now, we replace about six to seven miles a year. That needs to increase. Through the master planning effort, we have identified that we need to bring that up to replace at least 21 miles a year. Our system has 2,100 miles of pipelines. One percent of 2,100 miles is 21 miles. We need to get to that place so we can bring the number of water main breaks down over time.

In this diagram, the yellow diamonds are the actual numbers of main breaks each year since 2010. They were up around 400 breaks a year. Right now, that number of breaks is around 350. If we only do the status quo with our capital improvement program and replace 6 to 7 miles a year, you can see what happens: The number of main breaks will increase over time.

But if we ramp up to replace 21 miles a year in the next 10 years, you can see that these main breaks will continue to be a little high right now. But over time, by diligently replacing 21 miles a year, that number will come down. And that's where we want to try to sustain it. It is really vitally important that we actually start now on this effort.

That is a little bit of background. You came here to talk about water rates. I will turn it over back to Dave Ebersold, who is our consultant from CDM Smith. They have been working hard for the last 4 years on the master planning effort and the water rates.

Dave Ebersold: Thanks very much, Ernie.

So, let us talk about water rates. As Ernie mentioned, this is the way that the Board of Water Supply pays for everything that it accomplishes from operations to the system to building new projects, and taking care of all of those items that Ernie talked about.

We are talking about water rates tonight and I want to draw a differentiation: We are not talking about sewer rates. Who in the audience gets a water bill? For most of you, it is a combined water and sewer bill. The reason it is that way is that the Board of Water Supply serves as a billing service for the Department of Environmental Services or ENV. That is why you see it on a combined bill. But they don't have

control over those sewer rates. Rather, the only thing the Board of Water Supply controls is your water rates. So, that's what we're talking about tonight.

Water rates are being proposed for a five-year period beginning in July of 2018 and extending through July of 2022. There would be no increases in rates until July of 2019, a little more than a year from now. The increases that we are going to be going over tonight are expected to generate an additional 60 million dollars over that time period.

So, what is the Board of Water Supply committed to doing with these new rates? To raise rates gradually; to provide a low-cost essential needs tier; to encourage conservation by the Board of Water Supply's highest water users; to address a current subsidy that single family residential customers get and in large part, is paid for by multi-unit residential customers; and to have it so that everybody pays their fair share.

Let us talk about the essential needs tier. The idea is that, for the first 2,000 gallons per month of water usage, you would pay a below-cost rate to cover essential indoor water use needs. All residential customers would get that first 2,000 gallons of water at that reduced rate. About 10 percent of the Board of Water Supply's residential customers never use more than 2,000 gallons per month.

There was a web-based survey that the Board of Water Supply did towards the end of last year. There were over a thousand respondents to that survey and one of the questions asked was whether customers would support a new tier with a very low rate to ensure affordability and reward conservation. About 53 percent of the people, over half of the people who responded to that survey, said yes, they would strongly support this.

I will talk a little bit about higher water users. Right now, the Board of Water Supply has a tiered water rate. The more water you use, the more you pay. The idea with this could be to shift the tiers a little bit to more strongly encourage conservation by the Board of Water Supply's highest water users. We will show you what these tiered rates look like in just a moment.

If you get a water bill, part of it is a monthly billing charge. Currently, it is nine dollars and 26 cents per bill. Every Board of Water Supply customer pays that same nine dollars and 26 cents billing charge every month regardless of how big your water meter is. If you are in a single family home, you have a 5/8 or 3/4 inch meter, and you pay nine dollars and 26 cents. If you are a hotel with an eight-inch water meter, which is pretty big, you pay the same nine dollars and 26 cents per month.

The reality is that those bigger water meters cost more to service. They cost more to replace. They cost more to maintain. So what's being

proposed is to move to a monthly customer charge that varies by meter size. The larger the meter, the more you pay.

If you are in a single-family residence, this is really a benefit to you because until this point, you have been subsidizing the cost of those larger meters. This change will keep that cost pretty low for you each month. You can see from the current level of nine dollars and 26 cents per month, it's proposed to gradually increase that to 12 dollars and nine cents per month in July of 2022.

Let us talk about what the proposed water rates look like.

The current rates structure is shown in the blue column. It has three tiers. The first tier is for water usage from zero to 13,000 gallons per month and that water is charged at four dollars and 42 cents per thousand gallons.

The next tier is for water usage from 13,001 gallons up to 30,000 gallons per month. People who use that increment of water are paying five dollars and 33 cents per thousand gallons per month.

Then for the three percent of BWS customers who use more than 30,000 gallons of water per month, they are paying seven dollars and 94 cents per thousand gallons.

So, what is the proposed change? The proposed change is first to have the essential needs tier for zero to 2,000 gallons a month and to have a pretty low rate for that water: three dollars and 79 cents per thousand gallons, gradually rising over the period to four dollars and 46 cents per thousand gallons.

The next tier would be for water usage from 2,001 gallons per month to 6,000 gallons per month. Why 6,000 gallons per month? Half of the Board of Water Supply's customers use 6,000 gallons per month or less per month. It seemed the logical place to make that tier. The cost for water in that tier would be four dollars and 46 cents per thousand, gradually rising to five dollars and 25 cents per thousand gallons per month.

The next tier goes from 6,001 gallons up to 30,000 gallons per month. The costs in this tier are a little higher, starting at five dollars and six cents per thousand gallons and rising up to five dollars and 85 cents. These are pretty modest increases over the period of time.

As I mentioned, the purpose is to send a financial signal to the highest water users to try and encourage them to conserve a little bit more. The top three percent of water users, those using over 30,000 thousand gallons a month, would start off paying eight dollars and 46 cents per thousand. And that would gradually rise to nine dollars and 25 cents per thousand gallons.

So, you are saying: That all looks great, but I do not know what that means in terms of my water bills. So, let us talk about that.

If you are a single-family residential customer and you are using 2,000 gallons of water a month, you would be in that essential needs tier. Your current water bill is 18 dollars and 10 cents per month. In July of 2019, that would drop by a dime to 18 dollars even. And then it would gradually rise to over the next years to just over 21 dollars per month.

If you are in the half of the Board of Water Supply's customers who are using 6,000 gallons per month or below that, you currently pay 35 dollars and 78 cents per month for your water bill. That would go up just ever so slightly in July of 2019 to 35 dollars and 84 cents, and then gradually rise over the next few years to 42 dollars and one cent per month.

If you are the average customer who uses about 9,000 gallons per month, you are currently paying 49 dollars per month for your water. That would gradually increase over the period to just under 60 dollars per month.

And for the highest water users, this is an example bill for someone using 35,000 gallons a month. Your current bill is just under 200 dollars a month and that would rise over the next few years to just under 229 dollars per month.

Multi-unit residential are complexes that have three or more dwelling units in them – apartments, condominiums, town homes. The rate structure is very similar. It has an essential needs tier for water usage in the zero to 2,000-gallon range.

But you'll see that the locations of the tiers aren't exactly the same as they are in single family residential. The reason for that is multi-unit residential doesn't use nearly as much water outdoors as single family residential does, so, the tiers are shifted downwards. It is the same type of inclining block structure. The more water you use, the more you pay for that increment of water.

So, the first 2,000 gallons are the essential needs tier. It starts at three dollars and 70 cents per thousand gallons, and gradually rises by seven cents over the next four years. The top tier starts at five dollars and 90 cents per thousand gallons and rises by about eight cents over the next four years.

One of the things to notice here is that these increases seem like they are a lot less than the increases that you just saw for single-family residential customers in those rates. Why is that? Currently, single-family residential customers do not pay the full cost to serve them. They're actually being subsidized by other ratepayers and in particular, by multi-unit residential customers.

The rates for multi-unit residential customers are a little higher. They have been paying more than it costs to serve them and that difference is, in effect, a subsidy to single-family residential customers. So, with these changes in rates, the Board is trying to gradually whittle away at that. Single-family residential customers currently pay about 88 percent of the cost to serve them. With these rates, we are trying to move that, not to a 100 percent, but to about 95 percent of the cost to serve them. They are still getting a little bit of subsidy, but the Board is trying to gradually whittle away at that. That is why these changes are different for single-family versus multi-unit residential.

Non-residential customers are businesses, restaurants, hotels, government institutions, shopping centers, hospitals, and things like that. They currently pay at the same rate, four dollars and 96 cents per thousand gallons regardless of how much water they use, and that basic structure will stay the same. Their rates will gradually increase over the next few years to five dollars and 27 cents per thousand gallons.

There are subsidies to other types of customers. For example, agricultural customers do not pay the full cost to serve them. The reason for that is to encourage local agriculture so that we all have access to fresh fruits and vegetables here. Agricultural customers get about a 40 percent subsidy and the intent is to continue their rates at that same level of subsidy.

Recycled water customers are customers who take recycled wastewater and use it for irrigation and industrial purposes. They pay a lower rate for their water and the reason for that is that we all benefit from them using recycled water. It preserves the drinking water supplies for our use in our homes and businesses and residences. That is something that we all benefit from; that is why they pay that lower rate.

The Board of Water Supply is also considering new fee waivers on some charges and various fees to reflect community values like supporting the construction of new affordable housing, supporting the construction of new homeless housing, and to make it financially feasible for people to be able to retrofit their buildings with fire sprinklers.

There are a number of other BWS charges in existence. Most of you never see these. If you have a private fire sprinklers system – let us say you live in an apartment building or a condominium complex that has a fire sprinklers system – the idea here is to institute a monthly fire meter standby charge. There is more detailed information about it in the rate handouts that are available in the back of the room. Hopefully you all got copies of those. If you are on a water system adjacent to the Board of Water Supply system and you have an emergency interconnection to the Board's system, you would also pay a standby charge.

The first time you connect to the Board of Water Supply's system, there's something called a Water System Facilities Charge and it pays for your

capacity in the water system. Assuming all of you are existing customers, this is something that probably does not affect you.

There is also an environmental regulation compliance cost adjustment and a power cost adjustment. These are rarely used but in the event that the costs for environmental compliance or power rise rapidly, the Board can adjust its usage rates by a penny per thousand gallons to help make up for that. I do not think either of those has been used in the recent past.

This is the process that we have been going through. This development of the Water Master Plan, the infrastructure investment plan, and the Long Range Financial Plan have been going on for about the past four years. Summaries of all those documents are available here tonight. Information is also available on the BWS's website. I encourage you to go look at all of that information.

Each of those plans, and in fact this whole process, has been developed with the advisement and input of a stakeholder advisory group that the Board has been working with. These are members of the community from all across the island, different interests, be it commercial, hotel, residential. In fact there are a couple of our stakeholder advisory group members here that I wanted to recognize. Cruz Vina, thank you for being here. Mark Fox, thank you for being here. They have volunteered their time and effort over about the past three years in meetings either monthly or every other month to help provide input to this process.

For the past four months or so, we have been going through a series of different options for changes to the water rates and looking at what impacts they would have on customers' water bills. Then in March, the staff went to its Board, which Bryan Andaya chairs, with proposed rates and asked for the go-ahead to get public input on them. The Board agreed.

That is why we are all here tonight. It is to get your input on these proposed changes and see if there are any other adjustments that are necessary. Then under the current schedule, a final proposal would go to BWS's Board for consideration in July of 2018.

As I said, this is the first of the four public hearings being held on these. The other locations are shown here. Staff has also offered to give presentations at all of the Neighborhood Boards. About 12 of those meetings scheduled and there is additional outreach efforts happening across the island over the next couple of months, seeking broad input to this process.

So, ask your questions tonight. Also, provide public testimony if you wish. If you do not want to do that tonight, you can send it by mail. You can put a card in these boxes here tonight. Or you can email or make a phone call. There are lots of way you can provide public input.

What I would like to do right now is open it up for questions and answers. If you have a question about anything you saw that's being proposed, we'll have microphones come around and you can ask your question. Ernie is here to answer. Bryan is here to answer. And a number of Board of Water Supply staff are here to help answer questions on anything you saw on the presentation.

Following questions and answers, you will have the opportunity to give public testimony. When we get to public testimonial, I will invite you to come up and use the microphone here.

We will begin questions and answers now. All you need to do is raise your hand and we will bring a microphone to you.

QUESTIONS AND ANSWERS

Speaker #1: You are just working on the changes in the water rates. What about billing? Are there going to be any changes in the way that you bill? Like now, you could call the Board of Water Supply customer service, and pay your bill over the phone without a charge. Are you considering adjusting that sometime down the line too?

Ernest Lau: Thank you. Good question. In terms of the billing over the phone, we are continuing that service so you can pay over the phone. We are also looking at a system where you can actually interact with the phone and make your payment. You would not have to hold for somebody to answer and take your credit card information and register the payment. We sometimes get over 1,000 calls in a day. My head of customer service is here, Jenn Elflein.

Currently you can also pay online through our website. At this point, we are not charging our customers. Typically, when you make a credit card payment, you might have a two percent service fee. But because we're a utility, the credit card companies give us a very good deal.

My IT division head is here, Henderson Nuuhiwa. The charge used to be about $1.55 per transaction. We thought it's good customer service for us to absorb that cost, and it's actually good that people can make the payments themselves online. However, in the future, if the credit card companies say they are losing money on that deal, we might have to move to a fee-based system. But we'll let you know before we do that. Thank you.

Dave Ebersold: Other questions?

Speaker #2: How did you change the first tier of water usage from 13,000 down to 2,000 gallons? That is drastic.

Ernie Lau: One of the things I heard the last time we increased water rates back in 2011 is that some customers said they are on fixed incomes. They are struggling with paying their bills, including the water bill even though the water bill is not very large.

We wanted to provide some assistance to people by making that first 2,000 gallons at below cost, to make it affordable to our customers. Ten percent of the 150,000 households we serve use only about 2,000 gallons or less. We wanted to make that amount very affordable.

We also wanted to create a positive incentive for people who try to save water by using less.

Our next higher tier is for water usage between 2,001 to 6,000 gallons per month. 6,000 gallons was selected as a breakpoint because half of our customers use 6,000 gallons or less, and half use more than 6,000 gallons.

I hope I answered your question, ma'am. It is a big difference from the current structure, which is from zero to 13,000 gallons. What we wanted to do was adjust the tiers to help people that are struggling, but to offer that fairly to all our residential customers, and to encourage water conservation.

Dave Ebersold: Other questions?

Speaker #3: I have a question about development at Kaka'ako and Ala Moana. This high-rise is going up and at really high density. Is it presenting a challenge to the Board of Water Supply?

Ernie Lau: Right now, we have the capacity to provide the needs of Kaka'ako. At one time, our very old Water Master Plan prepared by the HCDA (Hawaii Community Development Authority) estimated water demand around 10 million gallons a day on average for Kaka'ako. We have enough capacity to handle it.

We are monitoring the pace of growth. One of our current Water Master Plan findings was that we need to develop more sources. The master plan looked at population growth all the way up to 2040. From the present to 2040, we see that, at some point, we need to develop and drill more wells, to develop more capacity, and keep in pace with demand.

Good question. Thank you.

Dave Ebersold: Other questions?

Speaker #4: Good evening. My question is: You have rates for single family residential and multi-family residential. Where would the condominium high-rises fall in rates?

Ernie Lau: Anything more than two units would be considered multi-family (multi-unit) residential. That includes the low-rise townhouse type of developments or small walk-up apartment buildings. But it also includes the high-rise condominiums like Marco Polo or some of the new ones in Kaka'ako.

They would be considered multi-unit residential. It is a little confusing because these rates are on a per dwelling unit basis. Those large condominiums or even those townhouse complexes usually have one big meter.

To calculate the “per dwelling unit usage”, divide the total water usage from that one big meter by the number of dwelling units being served by that meter. Then you can apply these water rates to that per unit basis. Hopefully that answered your question.

Dave Ebersold: Other questions?

Speaker #5: Hi. I just had a question on the rates for the hotels and the shopping centers. That looks like they have this flat rate that's pretty low. And I'm wondering why it's like that and why they're not having that higher rate? I kind of understand the government and having flat fees but I don't understand the hotels and restaurants and the shopping centers. Can you explain that?

Ernie Lau: Very good question, ma'am.

I want to stress the rates are draft and we are seeking your input. We first determined the costs we incurred to provide this service for the different customer classes or types of customers that we serve. These are single-family, multi-family or multi-unit, non-residential, agriculture, recycle non-potable water customers.

What we found is, for the non-residential customers, they are actually paying more than their cost to provide the service to them. They are paying about 120 percent of what we call “cost of service”.

They are helping to subsidize other customers including, to a large extent, the single family customers, the recycled water and agricultural non-potable water customers. So, what we wanted to do was actually bring them from 120 percent of cost of service down to about 117 percent at the end of five years.

We recommend keeping the flat rate structure in this draft proposal because this non-residential category is really a mixed bag of different types of customers from schools, government buildings, commercial offices, hotels, shopping centers, fast food restaurants and industrial customers.

Rather than creating a very complicated rate system we thought: let us try to keep it simple, because they are paying more than the cost of service. I hope I answered your question ma'am. Thank you.

Dave Ebersold: Other questions?

Speaker #6: I was wondering about the fresh water aquifer. I understand it is going down and are there any plans to recharge them? Is there a danger that it goes down so far that we will get a salting problem?

Ernie Lau: Good question.

We are watching it very closely. We check on what we call the chloride levels or the saltiness of the water. If it starts to show that we're getting salty, we back off on how much we pump out to that location.

We also have some monitoring wells (not pumping wells that serve water to our community) that go all the way down to the salt water. We are very blessed with what we have on Oahu. The fresh water, when it falls on the mountains, soaks down through the lava rock but it actually floats on the salt water that is under the island.

This is not a pool or lake of salt water or fresh water. It is really in the cracks and crevices of the lava rock like a sponge. Fresh water, being lighter than salt water, floats on top. With our monitoring wells, we test to check on the location of that transition between the salt water and the fresh water. If we see it moving up, then we know the lens is perhaps shrinking in that area.

One of the things we're very concerned about is with climate change that changes the rainfall, and how that might affect what we call the sustainable yield or how much water can be pumped reliably fresh water without endangering the fresh water resource or the aquifer.

We are looking at recharge projects especially in Nuuanu. We already have a large reservoir, Nuuanu Reservoir No. 4, which used to have catfish fishing. Remember now that East Honolulu storm dropped a lot of water for a short duration, but it went all into the ocean. We're trying to capture rainfall behind the Nuuanu dam and then have it flow down to an area where we can actually treat the water and inject it back into the fresh water aquifer to save that water. The intent is to capture it, what they call storm water capture, then re-inject later down into the aquifer.

Good question.

Speaker #6: I noticed there was going be a salt water well done in Kalaeloa. What is the difference in cost between doing this recharge thing versus a well like that?

Ernie Lau: Seawater desalination?

Speaker #6: Yes. Desal.

Ernie Lau: Okay. I am going ask my head of my Water Resources Division,

Mr. Barry Usagawa, to help me with that question. It is a very good question.

Barry Usagawa: It definitely costs more because we have to pump seawater to a higher pressure to get it filtered through reverse osmosis treatment. That is why we are proposing to do a small plant, one to two million gallons, to make the system more resilient.

Desal is in the range of about 10 to 12 dollars per gallon to develop where a groundwater well is about half of that. But having desalination makes the system more resilient. Climate change projections to 2100 indicate the west side is going to get much drier. So we need to supplement and diversify our water system so we can always provide fresh water. It also allows us to cut back on some of the wells post-droughts so that they can recover and build back up.

Dave Ebersold: Great questions. Who else has questions tonight?

Speaker #6: Hey, Barry. Before you go, I just wanted to make sure I understand what you said. To develop a desal system versus developing a new well source, it costs 10 to 12 dollars a gallon to develop a desal plant versus half that to drill any well?

Did I understand that correctly?

Barry Usagawa: Yes. What is bringing down the cost of new connections is conservation. There was a question earlier about Kaka'ako and do we have enough water for that. Conservation actually reduced the amount of water demand in Honolulu by about 15 million gallons per day. We've gotten 15 million gallons more efficient in town. Those sources are still available as long as the rain does not decrease. So, to buy into that freed up capacity, it is much less costly than building a new source. That is one of the main reasons why.

Dave Ebersold: Are there other questions over here?

Speaker #7: Hi. So, the (tier) brackets – How are you guys planning to change them to different amounts of thousands of gallons? It seems like they are just a way to justify the drastic price changes. So how do the price changes for these next couple of years compare to the change in rates from the past years? Is it proportional?

Ernie Lau: Back in 2011, the annual increase passed for about a five-year period was about 9.65 percent. What we are projecting here is much smaller than that, and, for the five-year period, it only kicks in on the second year. So, it really is four years of increases.

For the average water customer using about nine thousand gallons a day, over the five-year period of increases, the cumulative increase is about 21 percent or so. This works out to annual increases of about four to five percent a year from year-two to year-five.

That is a good question. What happened back in 2011 was a result of years of deferred rate increases. I have been Manager now since 2012. It would be much easier if I did not have to come to our community to let them know that we need to increase water rates because we need additional money to invest into our water system infrastructure and cover the cost of operations.

But I feel so strongly about this because I look at my family and know we need to do what is right for our community. And that requires us to continue to invest at a certain amount into our water system infrastructure. We can't just say: Let's not increase water rates because we're going to have too many people unhappy with us". It is important that we keep on investing because, the moment we stop doing that, the problem does not go away. The infrastructure continues to deteriorate. So, we are going to have to catch up. I saw in 2011 that catch up is painful for our community. So, it's better to do smaller incremental increases over time.

If we can sustain that and get into the discipline of keeping investing, then we can try to bring main breaks down and we can protect and develop new water resources for our community. We can become more resilient to the effects of climate change, which is very important for us.

So, good question. Thank you.

Dave Ebersold: I see hands over here and we will get back to you sir.

Speaker #8: I just have a quick question in regards to what we are talking about: working on our infrastructure. And so in this inquiry, since how we can consider the cost of fuels going up and products and supplies getting to us so that increases are matching the cost of supplies increase?

Ernie Lau: That is a very good point because to operate the water system, it takes people, and some of those people are here tonight. But it also takes electricity. We have to get fuel for our fleet of trucks that go out and repair main breaks, that go out and investigate leaks, and that inspect the construction projects.

The long-term financial plan assumed an inflation rate of around three percent a year over time. So the plan accounted for increasing costs of operations. Good question, ma'am.

Speaker #9: Do you have anything in place where you monitor the water pipes and you can tell which ones are leaking since they are old? Can you tell before they break that they are leaking?

Ernie Lau: We actually have what we call the Leak Detection Team in our Field Operations. The head of our Field Operations is Mr. Mike Fuke. He is responsible for repairs of the main breaks. This Leak Detection Team goes out every day to look for leaks in the system because leaks, main breaks, do not always start with a large leak. Sometimes we can detect a small leak. Using sophisticated equipment, we can hear the sound of the leak and be able to correlate its location along the pipe. We have been able to dig up and repair leaks before they became main breaks. This is an ongoing program.

The Water Master Plan targets surveying the entire water system in a three-year cycle.

Dave Ebersold: I just assumed you still have your question.

Speaker #6: I was looking at that busted pipe and I was thinking, is there a new material or new technology that makes better pipes and what's cracking all the time?

Ernie Lau: I wish there was a perfect pipe that did not break and lasts forever. A lot of our pipes in the system is metallic. With a metal pipe like this, there are problems with corrosion.

This is an actual piece of 36-inch diameter transmission pipeline from a tunnel between Kalama valley and Hawaii Kai. It failed recently and this is a section that Mike and his crews cut out where it blew out.

In this metal pipe, you can see corrosion. It is a problem with metal pipe. So, we've also explored other materials like plastic. Plastic pipe does not have problems with rust like this but it is a very delicate material. If it is not installed carefully and handled very carefully, it can fail, sometimes catastrophically, where it will crack for 20 feet. We have to dig a big hole to take it out of the ground. We have had problems with these.

We need to work on looking at different materials. There are new types of plastic pipe being developed, which we are going to explore. Maybe someday, there'll be a perfect pipe that doesn't break. Then we can put them in ground.

There is something called high-density polyethylene (HDPE). It is black and very thick-walled. It is not a perfect material either. We have used

some of it in our system, and from what we have seen, it also needs careful design and careful installation. It has its own shortcomings.

Thank you, sir.

Dave Ebersold: Any other questions?

Speaker #10: Thank you. My question is, since we do see the water rates on our current bill, which used to be quarterly then monthly, can you ask the environmental department to provide rates for the sewage also so we could give you guys some relief and bug them?

Ernie Lau: About 80 plus percent of our customers have the BWS water bill and the ENV's sewer bill on the same bill. Sewer charges are clearly marked that they are from a different department. But people have trouble distinguishing that. Usually, if your water bill is like mine, your water charges are going to be about one-third of the sewer portion of the bill.

So, yeah. Good point. I will pass it along to the director of ENV. Thank you.

Dave Ebersold: Let me take a survey in the room. Besides you sir, who else has additional questions?

Speaker #11: Hi. My question is with regards to water conservation. With the rates that you proposed, if we are effective in our water conservation, does that affect the revenue that you bring in by changing the rates?

Ernie Lau: Yes, it does. This is Joe Cooper. He is our Water Works Controller. He is an accountant, a CPA, and for him, the less water people use, that means lower revenues for us. So, conservation does affect revenues because our primary revenue is people paying for water they're using. So it's little tug-of-war that goes on.

We are trying to push conservation. At the Board of Water Supply, we are all committed to do that because we have a finite fresh water resource that might be diminishing over time because of rainfall changes. And yet, it causes us to have lower revenues.

So, we want to do a couple of things. We want to continue to try to become more efficient in our operations so we can try to operate with less and do the same job with less. We are always looking for efficiencies in all the work or divisions.

But also, there are times where we're going to have to increase water rates to make sure we have enough to operate and continue to invest at the appropriate rate into our water system infrastructure. So, good point.

Water conservation does create less revenue but we feel that we want to empower our customers – that is you folks – with the ability to have more control over your water bill. Not the sewer portion but the water portion through conservation because ultimately, we have to try to live within the water resource capacities that we have on this island to support a growing community over time.

And like Barry said, conservation helps us defer expensive new wells in the system. It is actually a very cost-effective thing to do. And it's the right thing for our community. Thank you.

Dave Ebersold: To you, sir, and then we will come to you in the back.

Speaker #6: I remember there was a lot of money spent for a study about the Stairways to Heaven property. Some of you are saying you don't really need that parcel. Why don't you just get rid of it?

Ernie Lau: I know we are talking about water rates, but I can answer a quick question about Haiku Stairs. I think you're referring to Haiku Stairs, the "Stairway to Heaven" that has almost four thousand steps up to the top of the ridge.

Unfortunately, it ends up on our parcel. I have, for a number of years now, attempted to transfer that parcel with the stairs to another agency. We are going through an EIS (Environmental Impact Statement) process because managing and maintaining stairs is not our core mission of providing drinking water to our community and it drains our resources.

The proposed action in the EIS is actually for the removal of the stairs. But we are looking at different alternatives and hopefully as we go through this EIS process, someone or some agency will step forward to take the stairs off our hands because we want to focus on our core mission of providing drinking water for our community.

Has anybody here been up the Stairway to Heaven? How was it?

Speaker: Steep.

Ernie Lau: It is steep and it is dangerous and I want to stress, it is closed. It is illegal to go up or come down the Stairway to Heaven.

The Coastguard used to manage that facility part of the Omega station. You folks must have been in great shape because you have to go up 4,000 steps over 2,700 feet of elevation to climb to the top.

Again, illegal. Closed. And it'll be trespassing if you go up and you're caught. Thank you. And thank you for your service, sir.

Dave Ebersold: Question in the back.

Speaker #12: How do you arrive at the numbers you project for future rainfall?

Ernie Lau: I will let Mr. Usagawa again come up and help with that question. That is a very good question.

Barry Usagawa: There are two ways to forecast rainfall. One is to look at historical trends. From 1990 to 2010, Oahu experienced about a 10 percent reduction in rainfall but that is just over a short period. If you go back a century, rainfall has been decreasing slightly.

But because of climate change, you cannot really rely on past trends; future conditions would change as the atmosphere temperature rises because of greenhouse gas emissions. It will get the ocean warmer and that would change the climate patterns in the future.

We engaged the University of Hawaii to do some modeling for us to 2050, 2080 and 2100, to see what would be the range of possibilities of rainfall. They have actually taken these supercomputer type global climate models and scaled them down to watershed level.

Depending on the model they used, what they found was a range of as much as 70 percent less rainfall in the Waianae areas. The Leeward areas will be drier in that future and it will be drier overall on the island. If that is the future, we expect to have lower sustainable yields in our aquifers and lower water levels and it'll be a challenge to actually maintain current water use.

We are evaluating that now. Research is continuing to advance but that's the most conservative view.

In the other modeling future, they see certain areas like Windward and upper Honolulu getting wetter. Leeward would be drier but not as dry. And so, how is that? In a warmer climate, you get increased evaporation. In a warmer atmosphere, you can retain more moisture.

So to me, it simply is whatever goes up has got to come down. And when it comes down, you'll have droughts in the future and less rainfall. But when it comes down, it's going to come down in buckets. So that is why, in the future, they expect more severe droughts and more severe floods.

How do we actually fold those projections into the resources and into the infrastructure that we use to provide safe drinking water today? It is a challenge. That is why a diversified system that includes recycled water, some desalination and groundwater sources is necessary.

Groundwater is the most plentiful. We use 100 percent groundwater in our system. It is naturally filtered and high quality.

But if in the event that starts to deplete, it actually points more to the importance of conservation. So, we need to get more efficient so that we can ride out those periods of drought in the future and capture the storm water that does fall and find a way to naturally recharge the aquifers.

It is a complex problem but the solution is a number of different strategies. And together, we can try to sustain ourselves in that future.

Dave Ebersold: Any other questions? You'll ask the final question for the evening and then we'll move on to public comment.

Speaker #6: I noticed you got bonds proposed to fund half of the costs. How to these bonds seem to affect the overall rates and things? How do you pay back the bonds?

Ernie Lau: We will be paying back the bonds from revenue collected from our water customers. That will pay for the debt service. But bonds basically help spread the cost over time. We have to pay interest but it spreads the cost over time. If we were to just use revenue from customers to pay for things, it will be very expensive to afford the capital program.

Investing in the water system is not a steady line. Costs go up and down depending on the types of projects we have to do. So, to smooth it out, we're going to float revenue bonds. We're also going to use State Revolving Loan funds, or drinking water SRF funds, which have very low interest rates.

This year, for repairs of two of our dams, we went to the state legislature for what they call Special Purpose Revenue Bonds. These are issued by the State, hopefully at a cheaper interest rate than if we were to sell the bonds ourselves.

Thank you.

Dave Ebersold: Great questions.

PUBLIC TESTIMONY

Dave Ebersold: Now we're going to move in to the period for public comments. This is different from what we did with questions and answers. We're going to be taking testimony, recording it, compiling it with other testimony we get from the other public hearings. We will then respond to the testimony more formally on the Board's website. This will be done in a very public fashion that's shared with everybody.

If you would like to provide testimony at this point, now is the time to do it. I will remind, you can also do so in writing or on the website. I understand that Speaker #13 would like to provide some testimony.

Speaker #13: No. I will submit mine in writing.

Dave Ebersold: Okay. Thank you.

Speaker #14, if I could ask you to limit your time to about three minutes.

Speaker #14: First of all, I got no bone to pick with the water service. They have been providing me with water, a good quality drinking water for a long time. I do object to the 20 percent rate increase over four years. I think it is excessive, unwarranted and then unfair.

I also object to single-family homes being charged a higher rate or higher increase than others. I think single-family homes, as evidenced by the chart in the back, which is all the yellow dots all around the island, single-family homes are more efficient users of our water supply. They are very conscientious and eager to conserve water. We do at our home and many of my neighbors do too.

I think Mr. Ebersold was referring to the rate increase to being modest – there was 20 percent. Then here we have had much less than three percent inflation over the last 10 years. 20 percent is excessive. Any increase in the cost of living in the Hawaii, whether it is a rate increase or tax increase, is very difficult for the people.

We also already have a lot of homeless people because they can't afford to live here. This just exacerbates the situation. So, I'm opposed to the rate increase. I'm also opposed to the changing the 13,000 level down to the 2,000 and 6,000 and it gets too sharpened decrease. I think something like a 3,000, 10,000 will be more reasonable. Thank you.

Dave Ebersold: Great. Thank you for your comments.

Anyone else that would like to take the opportunity for public testimony?

With that, this closes the formal part of our meeting. We are going to be around for a little while longer. I encourage you to take the opportunity to look at the Board's additional information. Ask questions, our staff will be here for a little while.

I especially want to thank you all for taking the time out of your evening to come out to join us to learn what's going on and to provide your input and ask your questions.

Thank you all very much.

Update on the Public Hearing #2 Held on May 14, 2018

At about 6:30 p.m. on May 14, 2018, in the Kapolei Hale Ground Floor Conference Room at 1000 Uluohia Street, Kapolei, Hawaii, the Public Hearing commenced to discuss the Five Year Water Rate Proposal.

NOTE: Presentation of Proposed Water Rates is the same as shown at the April 26, 2018 Public Hearing #1. Please refer to these minutes for an overview of the presentation or view the video on our website at www.boardofwatersupply.com. Minutes for the May 14, 2018 Public Hearing #2 will focus on questions, responses and testimony from the audience.

QUESTIONS AND ANSWERS

Speaker #1: Please explain the variables that indicate single-family residential customers pay less than their fair share (less than the cost to serve them).

David Ebersold: "Cost of service" of any class of customers looks at all the costs for the Board of Water Supply to operate and maintain the water system, plus the costs of capital improvements. We determine how much of those costs are associated with each different customer class (e.g., single-family residential, multi-unit residential, non-residential, agricultural, and non-potable/recycled water customers). It is a complicated process, but it is documented in the rate study that will be available around July.

Then we look at the revenue that comes in from that same group of customers. We compare the revenue collected from that customer class to the cost to serve them. We determine whether those customers pay more than the cost of service, or if they pay less. The result of that analysis is that single-family residential customers, for example, currently pay about 88 percent of the cost to serve them.

Speaker #1: I still don't understand why residential are not paying as much as apartment buildings.

David Ebersold: It is an artifact of a rate structure that was set many years ago, and over time water use patterns change. There is also better data available now to do a more comprehensive analysis and better analyze the actual costs associated with those different customer classes. It is a factor of a couple of different things working together.

Single-family uses more than multi-unit on a per unit basis. The impact on usage of water each day is much greater for a household as opposed to a dwelling unit in a townhouse complex or an apartment building, especially in the high-rise condominiums. Multi-unit developments typically have a landscaped area that is a smaller footprint. The effect of multi-unit residential on system capacity in terms of peak demand is less than single-family residential.

There are also differences with non-residential customers too. The single-family residential customer pays about 88 percent of the cost to provide services. Non-residential customers are actually paying about 120 percent of the cost of service, so they are providing a subsidy to other customer classes in the system.

Speaker #2: I am here to ask questions. I work for the Board of Water Supply. I am a meter reader. I am here because I believe that they (BWS) have been using the employees to save money, because they don't hire enough employees, so the employees that are there have to work harder. That is how the Board of Water Supply saves money. When you get the senior employees to leave, you save much more money because they are paid more. So they (BWS) bring in contract workers, they threaten them. You are trying to do your job, and the contract worker is afraid to speak up, because of retribution. You people can tell anybody anything, but you know when it comes out in the wash, we'll see who's telling the truth, because that's what I've been watching. I have been watching a lot of our co-workers going out with less people than they should be.

Now, all of a sudden, you see them hiring all new people. Why? Is it because the investigation is coming through? Yeah, we are being investigated, because of things that happen at the Board of Water Supply. I am not at liberty to give all this information, when the investigation comes out please read and watch. Because it is not all hunky dory at Board of Water Supply.

We have T-shirts that are green, and they have a water drop (logo). Then all of a sudden, they decide to put BWS and another water drop on the back because of branding. Now I ask all the customers that walk by, "Do you notice our new T-shirts?" They said, "No, what's the difference?" Because the shirt looks the same thing. The only thing that is missing is the pocket. On top of that, they tell us, "Oh, we forgot to put the pocket on it." To this day, the pocket has never returned. We have to put our writing utensils somewhere. They want us to wear this plastic thing so we can stick all our pencils inside there. You know what, that's [expletive].

Dave Ebersold: We are talking about water rates tonight.

Speaker #2: Well, if you take all the money that you have been saving on the workers; you're getting a lot of money from them.

Also, when they (BWS) bought this (automatic meter reading) system, they never put it out to bid. Why? They cannot tell me I was not there, because I was there. They bought a system. The first day we read 4,500 meters; 1,500 did not read. That is one third. And we were warned by the guys who were putting it in. These things suck.

Dave Ebersold: I am going to ask you to wrap up your comments now.

Speaker #2: Okay, so that's millions of dollars they wasted. I don't think they should be in charge of more money so they can waste some more.

Speaker #3: How does what you are proposing here dovetail into the presentation you made about three or four years ago relating to water rates? There was a proposal at that time. The reason I came here tonight was to listen to what presentation you were going to make and what kind of rationale was going to be used to support the water rates. I want to know, how do these water rates that you are proposing dovetail into the water rates that have been in use for the past couple of years? I think all of you realize that there have been steady increases in the water rates over the past three or four years.

Ernie Lau: Thank you sir. It would be great if I could remember exactly what presentation it was.

Speaker #3: It was at a Neighborhood Board meeting in Waipahu. As part of your presentation, you mentioned that the reason for BWS having to increase the rates was to pay for deferred maintenance by your predecessors. My statement to you at that time was, "I hope that my granddaughters are not present at another presentation that they go to, and your successor is making the same kinds of arguments."

Ernie Lau: The current water rates were adopted by the BWS Board in 2011. That was a series of 9.65 percent increases each year for about five years, compounding close to about 70 percent over the period. The rationale then, which is actually very similar to the rationale today, is the need to continue to invest into our water system infrastructure. The idea then was to develop additional revenue to provide a larger capital program. That has happened, and since then we have also embarked on developing a long term Water Master Plan that looked ahead 30 years, and evaluated the entire water system infrastructure.

The components of the water system are pretty large. Island-wide, we have 2,100 miles of pipeline, 171 water tanks all over the island, almost 200 well and source pumps in the system, 11 tunnels, 21,000 fire hydrants, 170,000 water meter accounts that are read every month. This system is so huge, if we had to replace it all at once; one estimate of costs in today's dollars was about $16 billion.

We look at revenue needs for about a five-year period. We project what our capital program for that five-year period is going be, and we try to develop the rates to bring in the money that we need to implement that program. But the effort never stops. It is almost like painting the Golden Gate Bridge; they go from one end, and proceed, and by the time they reach the other end and finish painting, they actually start again.

The infrastructure needs to be sustained over time. We cannot let it degrade. That is why we need to continue to invest in the infrastructure. And you're right, sir, there was a period of deferred maintenance. There

was a period of about 11 years where the water rates were not increased. That meant the revenue coming in was pretty steady, but the costs continued to rise, so the investments into the infrastructure started to decline, and that's why main breaks started to go back up. We saw that in 2010, we had around 400 main breaks a year.

So sir, we look at the infrastructure needs of the system, usually in five-year increments. We determine the water rates and revenues that we need to implement that program. But it doesn't mean the program is completed, because we'll never get to the end. We have to continue to invest in replacing aging infrastructure.

Speaker #3: So are you getting ahead of the curve?

Ernie Lau: That is what we are trying to do. We are trying to get ahead of the curve.

Speaker #3: Trying or succeeding?

Ernie Lau: Time will tell. Hopefully we're still around by the time we can see the results of this, because it doesn't happen overnight. But the idea is to start ramping up to 21 miles a year, which is 1 percent of the 2,100-mile system. That is probably just the minimum necessary and what the American Water Works Association recommends nationwide. We are going to ramp up gradually in about 10 years, and sustain that at 21 miles a year going forward.

So you're absolutely right. The test is going to be: Can we implement and can we sustain this, and will it provide the results over time? That is one of the reasons, sir, I asked the BWS Board to adopt the Water Master Plan. Water managers come and go. Some of my predecessors were only there for two years. I've been here six years.

But the idea is the reason the Board of Water Supply was created semi-autonomous, and that board members had overlapping terms was so that BWS could develop and support implementation of long range plans. So by having the BWS Board adopt the water master plan as policy, I'm hoping to sustain this program going forward.

Speaker #3: That does not mean that they will.

Ernie Lau: There is nothing certain in life except death and taxes. But the reality is, this is the best shot we have at the future. I have two young daughters. I want to leave a future for them because I will not be around on this earth forever. But, what is our legacy that we leave behind?

What we're trying to get to is, let's not do a period of zero rate increases for a long time, like say 11 years, and then have to do this big catch up where the customers suffer because the rate increases have to generate lots of money in a short period of time. But let's see if we can step the

increases up incrementally. Over the four years of increases being proposed in this rate proposal for the single-family residential customers, increases would be about five percent per year. If we can increase rates on this incremental basis over time and at the same time ramp up our capital program, and also leverage floating more revenue bonds to balance out the cost to current customers, that will help keep rates affordable for our customers. The 70 percent compounded increase was a shock to our customers. But we had to do it because the capital program was shrinking. We didn't have enough money to cover those costs.

So in about 10 years, you and I'll still be here, and you can tell me: "Ernie, you were wrong," or "Ernie, you were right."

Dave Ebersold: Other questions?

Speaker #4: Obviously, with all the building going on, we are bringing on new customers. If BWS is going to stick to replacing 21 miles per year, we are not going to replace enough because as you add new customers and adding new developments, you are also adding more miles of pipelines. I didn't see how these new customers that you're bringing on, who are adding new funds, help with what you're going forward with? Shouldn't that (increasing the miles of pipeline replaced annually proportionally with expanding the system for growth) be part of the plan? I know that in 10 years we're going have more people, or at least more customers, more pipelines, and more of everything else. But yet you're not adding them into this mix. So when we come back in 10 years, will we say: “Oops, 21 miles isn't going to cut it anymore”? In 10 more years, are we going to come back here and start over again? I don't see where you're adding in future people.

Dave Ebersold: Great question.

Ernie Lau: In the Water Master Plan, we used population projections going out to the year 2040. We converted those projections to increases in water demand. You're right that the service area will probably grow, but what we're looking at is, hopefully, more compact development, especially along the transit line as it gets built out, and that infill development will help reduce the spread of our infrastructure over time.

BWS doesn't necessarily put in all of the infrastructure. Sometimes we have others put it in, which would also address your concern. In the larger developments, the developers put in the water system infrastructure.

Speaker #4: Yeah, but we still have to maintain it.

Ernie Lau: Yes, we have to maintain it.

Speaker #4: We are talking about replacing 21 miles a year, so when you get past five years, you are still looking at serving this bigger population; so 21 miles will not be enough.

Ernie Lau: The target of replacing 21 miles over the long term might have to increase. Like I mentioned earlier, replacing 1 percent of the system annually is the minimum (1 percent of the 2,100-mile system is 21 miles). If the system creeps up to 2,500 miles total, then that 1 percent will be 25 miles replaced a year to sustain that.

Dave Ebersold: Could you touch quickly on the process of updating the Water Master Plan periodically, because that is the question that you are getting to: "What's the process to go through to update these plans?"

Speaker #4: Revenues will be increasing, so do you really need to float that many more bonds when you sell more water or have more money coming.

Barry Usagawa: The customer base will grow, so more potential revenue coming in. Good point. The Water Master Plan is updated every 10 years. As developers build, they're going add the miles of pipeline they need for their developments. For every hundred miles of pipe added, our "one percent" goes up. If the system increases to 2,200 miles, we will have to replace 22 miles of pipeline a year. That'll increase incrementally. Now, how do we pay for that? Large developers put in the infrastructure themselves. They install it at their cost, which is passed on to the homeowners that purchase the properties there. Then the infrastructure is dedicated to us.

Those pipes are brand new, so they should last 100 years. We won't need to replace them for quite some time if they're put in right and they use the right materials. So our cost to replace new pipe is very low. The 21 miles of pipeline that we're talking about are 50-100 years old. In the Water Master Plan, we analyzed the entire water system, and prioritized which pipes we need to replace. We prioritized by risk, which looked at the consequence of failure and the likelihood of failure.

We have all the data of main breaks in the last several decades. If a pipeline is serving a facility like a hospital, it's a high consequence if we disrupt water service. Those pipes are ranked higher, and they get replaced quicker than others.

We know which pipes we want to replace. We just have to put our nose to the grindstone and get them replaced. It is on us to make sure that we can put the capital projects out, get the funding for them, and then implement the plan.

Five years ago, we didn't have such a comprehensive plan. Now we do. And we can only make it better, and we'll keep updating that. You folks hold us to the candle, right.

Speaker #5: With regard to maintenance, is that only for changing pipes?

Ernie Lau: No, it is not.

Speaker #5: You have preventative maintenance, basically. Is that a high percentage of what the Board of Water Supply will do with the upcoming increase? I'd like to understand it a little more.

Ernie Lau: There is a category of projects called “renew and replacement”. Those projects replace or fix existing infrastructure. The renew and replacement component of our capital program is the largest part of our capital program. It isn't only pipes.

In the early years, when we projected out what capital projects are needed, we identified pumps, tanks, and treatment systems that we need to address. Then over time the focus will become the big component items, like pipelines. We'll replace some pipelines right now because we're ramping up to 21 miles in 10 years. The proposed Capital Improvement Program for next year is to replace seven miles.

Dave Ebersold: All right. Other questions? Yes sir.

Speaker #6: One of the charts showed a level charge, I believe, of $9.26 per month. Can you go back to that chart?

Ernie Lau: Yes, that is the customer charge.

Speaker #6: My question to you is: Why is the charge for a five-eighth inch meter $9.26 per month, and the charge for a 12-inch meter is also $9.26 per month? I noticed that there's a big proposed adjustment for those in the future. But why is it those rates are (currently) all the same for all the categories?

Ernie Lau: Thank you, sir, for pointing that out. After the rates were adopted in 2011 – I started in 2012 – that was one of the big questions people had: Why was the customer charge the same for all meter sizes? Remember, the five-eighths and three quarters meters are usually your homeowners. A major shopping center might have four eight-inch meters. We're proposing a change come July 1st of 2019, to vary the customer charge by meter sizes, so customers with the bigger meters pay more per month.

Speaker #6: When I look at nine dollars versus $598 per month for the largest meters, I’m asking what the heck happened here? Not that you should not be charging that amount. Why were we charging only $9.26? Are you saying that’s because it was the error on the part of the previous administration?

Ernie Lau: A decision was made at the time that they wanted to structure it that way. I can't explain, but I did suffer the consequence of after it was adopted. I

started after the rates kicked in in 2012. So you're right. The charge for an eight-inch meter will jump to $276 per month. For that customer with an eight-inch meter, probably a non-residential customer, $276 is a small percentage of their total water bill.

Speaker #6: Is it?

Ernie Lau: Yes, it's probably about 2 percent. So you're right. That's why we're proposing this change to vary that charge by meter size. There are two components to this fixed charge. One component is related to providing the customer service and the billing. That's the same whether or not you have a large meter or a small meter. The other component varies by the cost of the maintenance required for the larger meter.

Speaker #7: Does the Board of Water Supply have any say in the construction of monster homes being built on this island?

Ernie Lau: We are asked if we can provide water service to those projects when they come in, but it's really the responsibility of the Department of Planning and Permitting in the city.

Speaker #7: So you don't have any input on that? You see all these bathrooms going in, 17 bathrooms in one house, and you have no input?

Ernie Lau: We have the input of whether or not we can serve them, and if we can serve them, what the cost will be. There is a Water System Facilities Charge, which is an impact fee. It's calculated by fixture units, so the more plumbing fixtures you have in the house, like 10 bathrooms, then they're going to be paying that much more to the Board of Water Supply, for the up front water system facilities charge. But the decision to approve the permit or not is mainly made by the Department of Planning and Permits with the input from all the agencies. BWS provides comments whether or not we can provide service to that project.

Speaker #7: Have you done that?

Ernie Lau: We probably have.

Speaker #7: But you don't know that.

Ernie Lau: Just driving around the community, I don't know for sure what's classified as a monster home, but I see these big structures in a mostly single family residential area, but these large structures take up most of the lot.

When someone wanting to build a monster home (or any home) comes in, they have to file a building permit application. It starts at the Department of Planning and Permitting. It comes through the Board of Water Supply, and we count what their water use going to be, based on fixtures. If they have 10 toilets, it's probably going to result in installing a

larger water meter, and they would be paying a larger impact fee. That's a one time capacity charge, because if they all flushed at one time, it would impact our system. So we have a permitting process that reviews all new development for water availability, fire protection, and other considerations. The new development has to be consistent with our rules and regulations. All of that is regulated through a city permit system.

Dave Ebersold: I wanted to go back to the current uniform customer charge of $9.26 per month, because I think I heard you characterize this as an error. What I would add, from a perspective of what's acceptable and what discretion water utilities have in establishing water rates and charges, that this is a discretionary decision that a water utility has available to it. They consider what costs it is trying to recover, and should the charge be the same for every customer or vary by meter size? What I heard you say is that it made a lot of sense to you to vary it by meter size regardless of what was done before in that decision.

Speaker #7: It just made sense. I wasn't criticizing the increases, because I think it's warranted. But why wasn't it done before?

Ernie Lau: It was a policy decision made at the time. This is our only real fixed charge that recurs every month. What we wanted to do is generate more of our revenue through the charges for water usage (per 1,000 gallons) and keep our fixed charge lower. We wanted to encourage customers to practice water conservation so you try to manage your water bill more. We want to empower our customers by keeping our monthly fixed charge at a smaller size.

Speaker #8: I was complaining earlier about the way my water bill is apportioned – 80 percent of the water bill allocated to inside the house, and 20 percent to the landscaping. In my case, it's just reverse of that. My water use is 80% for landscaping. You told me that particular ratio was not determined by the Board of Water Supply; that it's done by the Department of Environmental Services.

Ernie Lau: That's correct. That relates to your sewer charges, and you have the ability to sub meter your irrigation system. For the Board of Water Supply, we don't use that.

Speaker #8: The problem with that is, in my case where I use water mostly for landscaping, they're (Department of Environmental Services) charging me all this extra money and I'm not using the sewer.

Ernie Lau: You have the opportunity to install a sub meter, and I know you're going to follow up with the Department of Environmental Services about that. Thank you. Good point.

Speaker #9: I am a member of the stakeholders group. I live in a townhouse that's behind Buzz’s Steakhouse. We have two-inch water meters that feed our

complex. I'm telling the president of my board that currently we pay $9.26 per bill. Now, in 2019, that bill goes up to $38.81. But I have seven meters. So my association will have to pay seven times that $38. Now, to your point, what I did some years ago when I was the president of my board, I demanded to spend $35,000 to have a sub meter on my association, because I don't want to pay the sewer charge for water for my sprinkler system that doesn't go into the sewer. The residence manager is tasked on a monthly basis to read the sub meter and send that information to the Department of Environmental Services. They subtract the amount of water that we use for our lawn system from water from the Board of Water Supply, and that's how we compensate for that. I paid for that thing (sub meter) in five years. It was worth it to have a sub meter installed.

The problem coming up now is that the association pays for everybody's water. I'm demanding another $45,000 to sub meter all the units, because I live in a townhome. I believe you pay for what you use, and it is fair. So as a member I expressed this point to all the stakeholders. That is what we are trying to do.

I think this is equitable. We need to sustain our system, because I'll be long gone, but the water system remains. We have to take care of that. Thank you.

Dave Ebersold: Great, thank you.

Speaker #10: Does that mean that you don't determine what ag land is, or who is in ag? Is it done by someone else?

Barry Usagawa: Are you talking about diversified farmers trying to come in for a water meter to irrigate the crops?

Speaker #10: I'm talking more gentleman farmers than real ag land.

Barry Usagawa: Okay, now that's a different question.

Speaker #10: Who actually determines what's ag?

Barry Usagawa: Part of setting the ag rates is anticipating one house on a farm. With the ag rate, you pay the same amount as a single family home for the first 6,000 gallons, then for water use above 6,000 gallons per month, you get the subsidized rate at $1.89 per thousand gallons. That's going up to $2 per 1,000. The rate is subsidized to promote diversified ag because we all benefit from fresh produce in our stores and in our farmers markets. To get that subsidized rate, they have to submit an annual application and provide GE tax information that they are in commercial agricultural business to get that rate.

Country farmers and gentleman farmers are an approved land use on agricultural land. A lot of communities are concerned that they just buying that land for the view and they're growing some fruit trees to make like they're farmers. Are you not taking away prime ag from real farmers because you're building on house instead?

That's a big land use question that the Department of Planning and Permitting has to grapple with too. But for BWS to give them a subsidized agricultural rate, they have to show that GE tax license, and they have to use more than a certain amount to get the lower water use rate – more than the proposed 6,000 gallons per month. If they don't have those two things, then they don't get the subsidized rate, and then it's just a country estate. They also need to apply every year to get that rate.

Speaker #11: The chart showed a proposed monthly charge of $598 for customers with large meters. Is that a flat rate? If they exceed that in their use of gallons of water, do they pay extra?

Ernie Lau: The customer charge is a fixed charge. It's tied to the size of the meter. Their water use is billed at the cost per 1,000 gallons. The customer with and eight inch meter is probably a non-residential customer or a large condominium complex. This charge is regardless of customer type, just based on meter size.

Speaker #11: Normally who would pay $598 as of July 2022?

Ernie Lau: There are not too many customers with a 12-inch in the system.

Speaker #11: If they happen to go beyond the $598, they're getting charged by the gallon too.

Ernie Lau: There are two components to your bill. One is the fixed charge, which is what we are calling the customer charge. It's a flat rate per month based on your water meter size.

Speaker #11: So you are paying $598.53 per month just because you have that meter?

Ernie Lau: Right. And then they pay the usage charge on top of that.

Speaker #11: It is going to be a hell of a bill.

Ernie Lau: When you take the whole bill and you look at this fixed customer charge per month in relation to the total bill amount, not counting the sewer part, it is still a smaller percentage of their total bill, because their water usage bill is so large. This customer would have a large meter because they had lots of water usage on their property.

Speaker #12: I have a comment, then a question. The first comment is, I would suggest that at your future meetings that you have proposed, you encourage the homeowner and attendees to bring their water bill.

Ernie Lau: Excellent point.

Speaker #12: Because as you were explaining this, I was trying to imagine what my bill looked like and all the components that went into it, how that relates to me as to how that is going to change. I would suggest that your information officer get that word out.

Ernie Lau: Excellent suggestion. We have two more public hearings coming up, tomorrow night and also next week.

Speaker #12: The other comment that I wanted to make is, you're looking for conservation means. I don't know if this is a conservation measure – I know it would conserve my money – but I understand a little bit about putting in a sub meter for agriculture or for my landscaping, such as this gentleman spoke about. Would it be appropriate for some kind of credit for people that are going to make that kind of a change? You're looking for ways for people to want conserve, and also people are going see these kinds of changes in their costs. They're going to be looking for ways to offset that. For the Board of Water Supply to offer that as a alternative or something that they might want to consider and pursue as a means of saving money for the future like Cruz did with his condominium association.

Many years ago, people watered their plants by hand. Right now, the vast majority of homes going in have sprinkler systems. That may be a reason why you are getting higher consumption. I don't know if that's part of your calculations that have gone into, but I'm thinking about that.

The last thing I want to ask is what was the rationale, historically, for having implemented subsidies to residential homes in the first place?

Ernie Lau: I can't answer the question at this time. We can look into it. But you have a good suggestion about looking for different ways for water conservation, because it's cheaper to save water through conservation than to build new wells, put in new pipes and tanks in the system.

We're bringing back the rebate program. We used to have a toilet rebate program. We're bringing back rebates right now for water efficient clothes washers. So if you're in the market right now for water efficient clothes washers, we're going be offering a rebate of $75 back from the purchase of a water efficient clothes washer.

Barry Usagawa: We're only scratching the surface with rebates at this point. We have rebates for rain barrels coming out next month. Rebates for irrigation controllers will be available in the fall of this year. Using a sub meter is a

definite way to conserve water. I firmly believe that if you don't know how much water you're using, you don't know how to conserve water. You have to measure it.

They have meters now for just the shower, or for the hose bib/garden hose and you can reset it every time. If you're washing your car, or you're irrigating by hand, you know how much water you're using. In Kapolei, a developer was looking at building a combination of uses with commercial on the bottom and residential on top. They're talking about installing sub meters in the residential so they pay for what they use. Instead of paying a non-residential for mixed use, you can segregate.

It is the same thing with electricity too. The idea is, if you could sub meter it, people have a greater awareness of how much they're using and move to try to save.

Speaker #12: Have you looked into plans for implementing water sub metering in condominiums that are built? Many of the condominiums 40 years old or more are currently going through retrofitting of all of their plumbing. It's a good time to strike right now because if the condominiums are going through retrofitting, now's the time to help them.

Ernie Lau: Excellent point. This may be just an opportune time. Thank you sir. I'll work on it and I'll let you know.

Dave Ebersold: We're at the part that I want to transition now into public testimony so we have enough time for that. I do have one card. Sir, I don't know if what you said at the beginning was your public testimony or if you have other testimony that you wanted to provide at this time.

Speaker #13: Nothing further to add.

Dave Ebersold: Would anyone else like to provide public testimony on the proposed water rates as opposed to asking questions?

Okay, seeing none, then what I do want to remind you is that there is the opportunity to provide comment or testimony over the website, by phone, by mailing in. We've got two more public meetings.

I want to thank you all for being here tonight for asking a great set of questions. I hope you got answers to your questions, and I know that the Board of Water Supply is looking for any other input you may have, so want to thank you for being here.

Speaker #14: I just wanted to say that prior to my arrival here, I was ready to pretty much fight this, but I thank the gentleman sitting there. He said to wait until I came into this hearing, and I'm very glad because you're all very good at presenting this, and you made me see that it is quite a fair effort, and I'm going to advocate for this to friends and family, and I'm so glad

that I did come to tonight's hearing. I really appreciate all of you taking the time to educate us. Thank you so much.

Ernie Lau: Thank you so much, ma'am. Thank you.

Update on the Public Hearing #3 Held on May 15, 2018

At about 6:30 p.m. on May 15, 2018, in the Benjamin Parker Elementary School Cafeteria at 45-259 Waikalua Road, Kaneohe, Hawaii, the Public Hearing commenced to discuss the Five Year Water Rate Proposal.

NOTE: Presentation of Proposed Water Rates is the same as shown at the April 26, 2018 Public Hearing #1. Please refer to these minutes for an overview of the presentation or view the video on our website at boardofwatersupply.com. Minutes for the May 15, 2018 Public Hearing #3 will focus on questions, responses and testimony from the audience.

QUESTIONS AND ANSWERS

Speaker #1: Has there been any discussion about separating the BWS (Board of Water Supply) water and Department of Environmental Services (ENV) sewer bills?

Ernest Lau: When most homeowners look at their total bill, the water component is usually much smaller than the sewage portion so we have asked about separating the bills. The decision to bring the bills together was made, over 30 years ago for efficiency purposes, such as saving on postage. The combined bills are getting larger, so we actually changed from bi-monthly bills to monthly bills in 2013. The sewer portion of the bill was becoming really large. ENV has to follow an EPA (Environmental Protection Agency) consent decree that requires improvements to the sewer system and treatment plants on a certain schedule, so their rates have gone up quite significantly.

Unfortunately, there is still concern about efficiency with regards to billing so we cannot separate the bills, yet. We are hopeful that someday we can separate the bills. We are trying to encourage people to save water. If the sewer side of the bill is still two or three times larger, it is more challenging to see significant change in your bill due to conservation efforts and we do not want the signal to be masked. Are you for separating the bill ma'am?

Speaker #1: I don't know anybody that calls it the water and sewer bill. Everybody calls it the water bill, which is very misleading. The relative increase really is not that big when you think about the water and sewer combined so I think that is going to be hard for the public to grasp.

Ernest Lau: It is a little confusing, and this point has proven true in our customer surveys and focus groups. The water portion of the bill may be a third or a quarter of the total bill, and we talk to customers who are upset about the total bill being so much. Thank you for bringing that up.

Speaker #2: I heard you say that BWS is replacing six miles of water mains/pipes per year. Can you explain how? Are you replacing the pipes as the water

mains break or are you putting new pipes in the ground? Or how are you going about it?

Ernie Lau: We are replacing the old pipe with brand new pipe.

Speaker #2: Let me rephrase the question. Are you waiting for the water mains to break and then replacing the pipes? Or do you have a plan where you guys are replacing the pipes before they break?

Ernie Lau: The plan is to replace the pipes before they break and get ahead of them, eventually. I'd like to ask Barry Usagawa, the head of our Water Resources Division to answer your question. He is the project manager for our Water Master Plan. That plan included an extensive evaluation of all 2100 miles of pipelines, and we scored every segment of pipe in the system to try and determine how we should replace them, and in what order.

Barry Usagawa: As part of the Water Master Plan, we did an extensive evaluation of the water system, a comprehensive water system analysis, and a forensic analysis on why water mains break. Age of the pipe, type of soil, corrosion and pressure are the primary causes of main breaks. Our consultants at CDM Smith prioritized the pipes in segments. We then evaluated them by risk, which is the consequence of failure times the likelihood of failure. The likelihood of failure is based on the main break history.

If the main is serving a high consequence customer like a hospital, we need to limit disruptions in service there because that could affect the public health.

If we could replace 200 miles of the highest risk pipe at one time, which is impossible, but if we could do that, we could reduce the amount of main breaks by half. We have identified the highest priority pipes that need to be replaced; it just takes us time to actually do that.

This is a big challenge but the Water Master Plan was the first step to determine and identify the pipes that need to be replaced first. That was followed by assessing the BWS rate structure to provide the funding. The next step is ensuring that our internal capacity to implement construction projects and ramp up to 21 miles of replacement per year.

That's why we're giving ourselves 10 years to ramp up to replacing 21 miles per year. We have a main break model that tells us that if we do not replace these mains, main breaks will increase. If we do replace them, main breaks will decrease.

Speaker #3: I have an issue with the billing. I conserve a lot of water. I have had a rain catchment system for over 10 years. I use 300 gallons of city water a month so, I'm charged at the lowest rate. The water meter is read only by

1000s of gallons, so on the fourth month I get charged because it has turned to 1000. But in actuality, I've used only 300 gallons. Therefore, I'm charged extra every fourth month. So that's a problem I'd like to address.

Ernest Lau: You only use 300 gallons a month, that's really great. I'm going to ask Joe Cooper, our Water Works Controller to respond to that question.

Joe Cooper #3: We charge for each 1000 gallons of water use. The first 1000 gallons is in the lower tier charged at $4.42 per 1000 gallons. So if you use only 300 gallons a month, you'll just get charged the billing charge until your meter turns over and hits 1000 gallons. So if you use 300 gallons a month, you would have only been charged the base charge for three months. On the fourth month, the meter turns over and reads 1.2 thousand gallons and we charge you that $4.42 for that 1000 gallons that you've used over the four months.

Dave Ebersold: So, that water bill, under that scenario, would be $9.26 each of three months.

Joe Cooper: And then the next month it would be $14 dollars and a few cents.

Speaker #3: I don't think that's correct. I'm still using 300 gallons. The meter has 100-gallon and 10-gallon increments on the dial, but you're only reading the 1000 gallons increments.

Ernest Lau: Customer care representatives are here so could you spend a few minutes with them after the meeting. You could also talk with Joe Cooper to go through the details of your water bill and make sure we get that question answered more specifically.

Speaker #3: I know your answer is going to be that it's cumulative. On the fourth month it's the 1000. It's a fact. But way back when, the Board of Water Supply used to read the 100-gallon dial, and the 10-gallon dial. That was a more accurate representation.

Joe Cooper: I think what you're asking is, if we were reading per 100 gallons then we would bill you 44 cents for 100 gallons. And you would like that approach better.

Speaker #3: No, I'd like to have more accuracy because I'm not the only one that uses less water. There are others like me who are very strong in conservation, and I try very hard. So I'm charged an extra five or six dollars, is it? So that's $12 a year. I think that's more accurate right? My actual usage is 300 gallons. And then I'm charged extra.

Ernest Lau: I'd be glad to follow up with you on this. Could you also let me know when it was that we moved from billing on 100-gallon basis, or reading on the 100-gallon or 10-gallon basis to reading on a 100-gallon basis?

Speaker #4: My statement is more on the side of being conservative of drinking water. Let me tell you my problem. Last June, the Board of Water Supply did something – I cannot find out what – but our water pressure increased. It blew all the ice trays and filters used to make ice in the refrigerator. I've been calling since the middle of last June to find out why they've been wasting water by opening a fire hydrant to lower the pressure at my house and others in the neighborhood. And every time we call to find out if something is being done, all we get is, "If we close that fire hydrant, we're going to blow the pipes in your house."

What did the Board of Water Supply do to increase the pressure? I also realize that the pressure at the top of my street is not as high as where I live, down at the bottom of the street. I would like an engineer to call me and tell me what pressure I should be getting before the regulator. I'm getting 150 pounds of pressure per square inch. That's with the fire hydrant open. What is it going to be when the fire hydrant closes?

After my regulator, I am presently getting 110 pounds of pressure to my house. This is why my shower is leaking out of the house, my bathtub is leaking out of the house, everything's leaking. So I bought a new regulator which I'm going to install tomorrow, but I will not adjust that regulator until somebody from the Board of Water Supply tells me how much pressure the Board of Water Supply should be supplying me before the regulator. I know that I should adjust it to 75 pounds after the regulator if I do not want to keep blowing stuff up in my house.

All night long my shut off valve, which I have replaced five times already, blasts maybe every hour for about five seconds and then shuts off. Why is that? I've lived there four years already and I've never had this problem before. I can smell chlorine in my faucets from midnight to 2 o'clock in the morning. It is horrendous. You can smell it before you even taste it.

Ernie Lau: Thank you sir, for telling us about your situation. I actually have engineers here tonight who can help you with that. I also have the head of our water quality division here, and he can have a chemist actually go out and draw a water sample and actually measure the chlorine in your home. So it sounds like it's going to be multiple divisions looking into your problem sir. And I'm sure maybe your neighbors might be experiencing similar situations.

My apologies again sir, for that situation. So please leave your name, phone number, and address with Barry Usagawa, from our Water Resources Division and we'll look specifically and we can calculate what we call the static pressure at your location. So my apologies for the situation, sir.

Speaker #5: I understand that you guys are separated from the city and you don't get any money from them to do any of the infrastructure work. Why is that?

Ernie Lau: The way the State law is set up, Board of Water Supply was created in 1929. This was by the territorial legislature. They wanted the Board to focus on the water supply for our community. In 1929, there were concerns about Honolulu running out of water because of uncontrolled well drilling in the community. People found out there was artesian water; they could just drill a well and the water flowed out of the ground. There was also a lot of politics at the time. So the territorial legislature felt, with water being so important to our community, it was best to make the Board of Water Supply semi-autonomous. BWS was part of city government, but on its own as a Water Board. We have seven members on the BWS Board that are not elected to office. They are able to do long-term planning, and raise water rates when necessary.

Along with that governance model came the idea that the Board and the water system should be self-sufficient financially. BWS depends on its rates and charges, and does not get any money from the City or the State through tax revenues.

So sir, good point. We want to try, over time, to just have smaller increments of increases each year. We want to keep on investing more heavily into the infrastructure. Pipe replacement, as one example, is going to be ramped up to 21 miles a year to sustain the system.

The worst situation would come if we didn't increase water rates for a long time. We would then have to do a catch up. Infrastructure issues don't go away. And a lot of our infrastructure's underground, you cannot even see it. But the pipes are getting older and breaking down and we see that manifested as main breaks in our system.

Good question. We have to try to reduce political influence by having our own Board and making sure that we can invest adequately in the water system. But it does create a burden on our water customers.

One of the things we are looking for is other sources of revenue. One example is that we are looking at a public-private partnership to develop BWS's open parking lot on Beretania Street and provide us with additional revenue.

Another thing that we did this past session was with the state government. We sought authorization by the state legislature to issue special purpose revenue bonds on our behalf to help improve our dams in Nuuanu. The state has access to cheaper money to borrow. We would be responsible to pay for the debt service. What we want to do in the future is go to the state legislature to request CIP funds every year.

We are doing a lot to support farmers by giving them a very discounted water rate. Because there is not an island-wide irrigation system to support farmers, they have to take water from BWS to farm in some locations. Maybe they can give a few million each year for related CIP

projects. Every dollar we can get from the state is less money we need from our ratepayers.

Speaker #6: Aloha. I wanted to know how you are preparing for the issues of climate change and how it will affect our island water supply?

Ernie Lau: Good question. It's on everybody's mind, especially here in Hawaii. What we're currently doing is an assessment of the vulnerability of our water utility to the effects of climate change. We are assessing the impact from sea level rise, and also, changes to rainfall and changes in the intensity of storms on the island. The BWS and the Water Research Foundation, which is a national research organization in the water industry, are funding the research project that is currently underway. When we have those results we'd be glad to come back to the community and share that information.

Some of the initial concerns are in the coastal areas with sea level rise. Experts have talked about a rise of 3.3 feet, and now they're talking about possibly rising more than six feet by the end of 2100. Our coastal pipelines that are already buried underground will start to be inundated in salt water on a permanent basis. We will have to replace these pipes more frequently because of corrosion of the metallic pipe. Challenges include: How do we fix water main breaks when they are constantly under the ocean water? How do we de-water the area to fix the water main breaks?

Barry Usagawa: We are also concerned about the impacts droughts may have on our water supply as well as our coastal infrastructure.

The study is about 3/4 of the way through. The University of Hawaii did some climate modeling for us, and made rainfall forecasts to the year 2100. UH researchers have found that, in their statistical down-scaling model, the Leeward side of the island will get less rainfall by as much as 65 to 70 percent. The Leeward side of the island, Waianae for example, is going to get a lot drier in that scenario. In the researchers' other model, they're saying that some places like Windward and upper Honolulu will get wetter, and the leeward side wouldn't be as dry.

What would we do if the most conservative model turns out to be the case? If rainfall decreases by that much, we expect the sustainable yields to drop. Each aquifer is filled with rainfall and recharge. A portion of that can be pumped out and still maintain the aquifer health, basically forever, as long as rainfall is consistent. If rainfall drops, then the yield will drop too. Sustainable yields in the aquifers could drop by as much as 34 percent. If that is the case, we will have to make some drastic adaptation measures to ensure that there's enough supply.

The study is identifying what those adaptation measures are. They will certainly include advanced conservation, producing more recycled water, capturing more storm water. We will have a project to capture storm

water in the Nuuanu Dam and recharge the aquifer. We will have to advance more of our watershed management projects to ensure that the forests are much more healthier, to be a better sponge to capture that less rainfall.

On the mainland, some communities are actually taking wastewater and double treating and disinfecting it. Then they put that water into the ground, and eventually pump it for drinking water. The technology is there. That is a bleak future but it is something that we need to fold into our plan. We'll continue to monitor what happens in the future to determine what atmospheric situations may come up and then we'll adjust.

Speaker #6: On the Leeward side, rather than just monitoring, couldn't you repopulate trees and use recycled water for irrigation so the Waianae coast doesn't have to get to that point?

A second question is: With the melting of the icebergs and ocean levels rising, will freshwater aquifers also rise and/or will they become saltier at the bottom?

Barry Usagawa: To try to stay ahead of the impacts of climate change, we're doing more watershed projects. BWS is focusing on the Makaha and Waianae watersheds, because those two aquifers provide about 40 percent of Waianae's water. Recycled water produced near Waianae is a little too salty for irrigation of crops. With sea level rise, we expect more salt to get into the collection system. We'd have to desalinate that recycled water. We are investing in advanced conservation, watershed projects, and transporting more water in.

To answer the second question: Fresh water sits on top of salt water because of the difference in density. If sea level rises three feet, the aquifer will rise three feet. It will not affect our wells.

Sea level rise is a hard nut to crack. We are trying to identify the streets and areas that will be most impacted by sea level rise. Last year we had King Tides and we have pictures of the Ala Wai flowing into Ala Wai Boulevard, into the golf course and around Waikiki. This is called nuisance flooding. We are trying to identify what areas would be the highest priorities.

We need to raise streets. The target for Hawaii is going to be to raise streets 3.2 feet. We have the new Office of Climate Change, Sustainability, and Resiliency and the Climate Change Commission. The State also has a Climate Change Commission. They're working on bills at the legislature to start to fold in the findings of the State Climate Change Plan. We are folding their findings into day to day planning and the CIP.

We are going to focus our efforts on drainage. How do you drain these high priority areas at high tide? BWS is one of the city agencies that is trying to do more, engaging the University of Hawaii and the professional community, and collaborating with other agencies.

Speaker #7: I think it's really important to acknowledge that a little over 30 years ago there was no State Commission on Water Resource Management, and no State Water Code. Would you address the interface between county level Board or Water Supply here on Oahu and the other counties, with the State Commission on Water Resource Management, especially with respect to the fact that the Board of Water Supply is managing what it can manage. But there are many other straws in the cup, including private entities. Maybe you could address that interface, because there's such a huge need for everybody to be on the same page, whether it's chemical inputs or withdrawals of water and how those relate to each other.

Ernie Lau: I served for a brief time, as a deputy of the State Water Commission. I also served as a water manager on the island of Kauai. In the state of Hawaii, we have some of the major elements we need. The Water Code provides the State overall authority. It also designates that water resources in the state of Hawaii, especially the freshwater resources, are not owned by private individuals. They are a public trust resource for the people of Hawaii.

The Water Commission monitors the condition of the water resources, both the surface water and ground water across the state. When they find that the resource is being threatened by overuse, or planned overuse, they can take steps to actually take over and regulate the resources in that region. One of the areas that they designated as a groundwater management area was the whole island of Oahu.

The Board of Water Supply is the biggest groundwater user on Oahu. We have to get a permit from the Water Commission to tell us how much we can pump each day on a sustainable basis on a long term from the different aquifers on this island.

The Water Commission is active in different areas of the island. On Oahu they're the most active for groundwater. We look at it as an important partnership because we're both looking out for sustainability and health of the resource, and we don't want to overuse the resource.

The Water Commission is responsible for water resources across the whole state of Hawaii. But they don't have the staffing and resources or research and data collection that they need to actually get a better understanding of the condition of the resources. So, I've advocated that, unless you're going to give them enough resources, they can't implement the code as it's written. It's a great code but the Water Commission is challenged by not having enough resources to carry out their mission.

For our long-term health, these partnerships are going to be very important as we start to see the effects of climate change. We need to support the effort better, increase the collaboration and take away the barriers of siloed-thinking.

We are focused on drinking water, but our Watershed Management Plans look at all water use including agricultural use, environmental needs, and native Hawaiian uses. We take a very broad, holistic approach and try to do grassroots planning with the community in these areas.

Climate change is a multi agency, private and public sector issue. But right now, there's a lack of collaboration. We need to be breaking down the silos, and looking at the issue and challenges that face all of our community. We need to look at it broadly and see how we can work together for the good of our community, because we live on an island.

Speaker #7: The rate changes that are being suggested are in so many ways a huge investment in an organization that's really holding the discussion to the level that it should be at. Yes, there should be far more collaboration but, without the Board of Water Supply and all of the work that it's doing, we wouldn't be addressing these. The rate changes will help to support safety, precautionary measures for a long ways down the road.

Ernie Lau: And you can see that for the first time, we're now looking at trying to focus more funding resources toward water conservation and to the care of our watersheds.

PUBLIC TESTIMONY

Speaker #8: Hi, my name is Ted Kanamori and I didn't intend to say anything formal when I got here. First of all, I want to commend the Board of Water Supply for all the clean, good, terrific drinking water that we've been having over the years. I know that it's sometimes a thankless job. I also want to thank you for the information. That's a lot of information that you gave tonight. And to me, some of it went in one ear and came out the other ear because I see it as a bill.

And what I want to say is that, just listening to this I can understand there is a need to go ahead and fix whatever needs to be fixed. But in 2006, I was at City Hall listening to the Board of Water Supply ask for increases in rates for the next five years, all under the auspicious of "oh we have to play catch up." That's the bottom line. And then after five years, Board of Water Supply came back and asked for another five years. And I remember Romeo Cachola saying "Oh, you mean the first five years is up already, so that's gone, and we'll go back to the old rates and then you're going to ask for another five year increase." And you said "No, no, no, no. We're going to keep the rates after the 5 years, and then we're going to increase it another five years." And that went on and on and on until today.

I just want to give you my perspective as an end user. I've lived in the same place for 47 years. I've seen my water bill, or water/sewer bill, triple and almost quadruple. What you're doing is you're asking for another rate increase for another four or five years.

This past Sunday, the newspaper said the base costs of water for the average single-family household customer is proposed to rise 14.3 percentage over four years, starting in 2019. Well, as a retiree on a fixed income, every increase in my monthly bill, no matter how small or how big is important to me. Just wanted to say that.

Thank you.

Speaker #9: I work for Board of Water Supply. I'm a meter reader. All these guys are talking about "Oh, we have sewage bill." All these guys know, they come and tell us. I'm tired of listening to that. Why don't you do something about it? Cause all of your employees have to put up with that garbage. You guys don't answer the phone, you don't talk to the customers. But what I'm saying is: I don't know if these figures are right, they might be, they might not be. I don't trust who's running. Why? Because we've been lied to so many times. I'm not talking about all supervisors. I'm just talking about certain ones because they're the ones that lie to us up to our face.

I've had customers tell me "I've called water supply and I want them to fix this leak" and they don't fix the leak. The customer actually went out and fixed it themselves, because it's coming in the line, coming onto their property and it's making mud of the dirt in front of their house. They had a little fruit stand and the mud was going all over the place. I turned it (the complaint) in four times in a row, and nothing was done. So if you telling me that we're hunky dory and all that garbage, it actually depends on the workers. And that's why I'm upset, that's why I'm here. Because they treat the workers like [expletive]. Excuse the word, but that's the word.

They come down, they give us – I'm a meter reader – they gave us five-year old cars. The cars start breaking down almost immediately. Why? Well it's not us. You get a five-year old car, it starts breaking down, five to seven years old. So we want good equipment too. We don't even have enough computers for every worker we have. And they're contract workers and they can threaten them any way they want, because if you're not a full-time worker under civil service, you have no protections. So if they tell you, you go out there and you drive slower than the speed limit and you get a ticket, you have to pay the ticket. So this is all fine and dandy but how does it affect us? We're the guys that make it work. And I don't hear you guys talking about us.

Thank you.

Dave Ebersold: Thank you for your comments. I want to thank you for taking the time to come out, spend time, and learn about what's being proposed with water rates. There's additional ways to provide public input, through the website, mail, e-mail, phone calls, look forward to that. Thank you for spending the time tonight to be here and take an interest.

Update on the Public Hearing #4 Held on May 24, 2018

At about 6:30 p.m. on May 24, 2018, in the Mililani Recreation Center #5 at 95-1101 Ainamakua Drive, Mililani, Hawaii, the Public Hearing commenced to discuss the Five Year Water Rate Proposal.

NOTE: Presentation of Proposed Water Rates is the same as shown at the April 26, 2018 Public Hearing #1. Please refer to these minutes for an overview of the presentation or view the video on our website at www.boardofwatersupply.com. Minutes for the May 24, 2018 Public Hearing #4 will focus on questions, responses and testimony from the audience.

QUESTIONS AND ANSWERS

Speaker #1: BWS went from billing every two months to once a month, and now you charge us twice the fees. I've been told by some of your staff that it's because the sewer part of the bill became too high. That doesn't change the fact that we're still going to have to pay the same amount of money for our sewer bill as well as the water bill. Are we being charged twice as much in fees, which we shouldn't pay? I don't have a problem with you raising some of the rates, but if you went back to billing every two months, we would pay less for the fees, and then you can raise the rates and people probably wouldn't be so upset with you guys.

Ernie Lau: Thank you sir for that question. You're right. We used to have a water bill every other month – it's what we call bi-monthly billing. The change to monthly billing was made in 2013, but the City Council and the Department of Environmental Services requested this change years earlier. The sewer bill was getting larger. They wanted us to look at billing monthly.

Across the country, more frequent billing is actually one of the best practices to make payments easier for people. People remember to set money aside to pay that bill. I looked at my water bill last night. Water and sewer combined is about $150 per month. If I had to wait every two months to pay, then I'd have to make sure I had $300 for the bill every two months.

It would be cheaper for us and easier to manage if we billed for water only on a bi-monthly basis. We process over two million bills a year. I'd love to return to bi-monthly, but we're going to have to separate sewer charges from the bills before that happens.

Speaker #1: Single-family homes are paying way more than non-residential, for example, hotels. Hotels are paying a small amount compared to what we're paying. They're probably using a lot more water than we are at home per unit. I know when I go on vacation somewhere I don't worry about the water; most people don't. Hotels should be charged the same rate as us single families. We should not have to subsidize them. You should be able to charge them the same rate based on their water usage.

Ernie Lau: The single-family residential rate is tiered, so the more water we use, the more we pay per 1,000 gallons in the higher tiers. But for non-residential customers – that includes the hotels, hospitals, government buildings, and industrial customers – they're on a flat rate.

When we looked at what customers pay compared to what it costs BWS to provide them service, we found that single-family homeowners were getting subsidized by other customer types. We found that non-residential customers are paying 120 percent of the cost it takes to provide service to them.

When residential customers are at home, we're using water. During the day, children go to school and we go to our jobs. When we get back home, we start using water again. This is what we call “peak demands”, and they are higher among the residential customers than the non-residential customers. Those non-residential customers’ water use is steadier throughout the day. The system capacity to serve them is less expensive. Non-residential customers are subsidizing residential customers to the tune of over 120 percent -- 20 percent more than the cost to provide them water service. The BWS considered this carefully and concluded to keep the flat rate for the non-residential customers and try to bring their rate closer to what they're paying for right now. We are striving to reduce that to around 117 percent (rather than 120 percent), and non-residential will continue to subsidize other customer groups.

We didn't feel we were quite ready for changing to a tiered rate structure for non-residential customers. Non-residential customers include hotels, restaurants, government buildings, shopping centers, hospitals, retail, and industrial customers. We are not going to set up different rate schedules for each of the different non-residential customers at this time.

Non-residential customers are going pay a higher cost for the monthly customer charge that varies with the size of meter. Hotels typically have bigger meters.

Speaker #1: According to what you're saying, if they're paying $4.96 and I'm paying $18, how would they subsidize me? I don't understand.

Ernie Lau: Yes, but when we look at the actual dollars collected for the water that they use, the revenue from this customer class is actually more than it would cost to provide them the service.

Speaker #2: Is it this board that's appointed by the mayor that's going to ultimately make the determination as to whether this proposal goes forward? There's no oversight on that. Is that right?

Ernie Lau: Board members are accountable to carry out the mission of the Board of Water Supply. They are appointed by the mayor, and they have to go through a vetting process for approval by the City Council. They are not elected.

Speaker #2 : You mentioned that one of the goals of this plan was to have gradual increases. When I did some rough figuring of the numbers from 2019 to 2022, the monthly customer charge based on meter size went up some 30 percent. And if you used 6,000 gallons, it went up 20 percent. If I were to tell you that your mortgage or an airplane ticket would go up 30 percent over the next four years, that would be more than gradual. The point is that it's small numbers but in percentage terms, it's still a very significant increase.

Ernie Lau: Yes, I see what you said. But when we think about it, it's three dollars more over the five-year period. We looked at the combination of both the water use rates and monthly customer charge. In the example of using 6,000 gallons a month, the total bill is around $35.78 a month. It would go up over the five-year period. This includes the fixed charge and the usage charge, because you have to look at both together because that ends up being the total bill, total water bill about five percent a year. But the total bill is what our customers have to pay. Thank you sir.

Speaker #2: You want to raise your water rates. But what about the sewer? Now you already mentioned it and we all know that our sewer part of the bill is two to three times higher than our water. Are the sewer rates going to go up at the same time?

Ernie Lau: The sewer rates are the responsibility of the Department of Environmental Services. I don't speak for them because I have no control over the sewer bill.

Yes, they're probably going to increase their rates. There's an EPA consent decree that mandates they have to make improvements under a certain timeline. The improvements are quite extensive, including secondary treatment at our big treatment plants. They have to go to secondary treatment and they are also making massive improvements to the sewer collection system. I am sorry, I can't really answer your question tonight. We would be glad to check with the Environmental Services.

Speaker #2: They should be here. Their charges are part of the bill.

Ernie Lau: The combined bill is done as a service to the City for efficiency, and to save rate-payers money.

Speaker #2: BWS’s customer charge could increase as much as 30 percent on the water bill over the four years. If they're (ENV) going to follow what BWS is doing, then that could be double or triple what you guys are raising your rates on. That's why they should be here to at least answer that question as well.

Ernie Lau: Thank you sir. Good point. Well, the next time we do this, maybe we'll invite them.

When we look at rate increases, we want to do it carefully because we know everybody's struggling. That is why the essential needs tier was developed – to try to help especially those that earn really fixed incomes. 10 percent of our customers use 2,000 gallons or less.

So sir, since you use 2000 gallons or less, you're going to see probably the lowest increases for the single-family residential customers. The other thing that essential needs tier does is give positive motivation to encourage people to try to use less water. That essential needs tier is being charged at below-cost rates per 1,000 gallons.

Speaker #3: How are you going to decide which water mains to repair first?

Barry Usagawa: For part of the Water Master Plan, we did a comprehensive look at the evaluation of the whole water system including pumps, reservoirs, and treatment. The biggest asset we have is our pipelines. So we looked at all the pipelines and evaluated them through a condition assessment. We evaluated each pipe by a concept called “risk”. “Risk” is the consequence of failure times the likelihood of failure.

Likelihood is based on the historical data of the number of main breaks. We have a pretty good database on what pipes broke and the cause. The primary causes are corrosion, ground settlement, and internal pressure. Our design life for pipelines is about 100 years, but some of these don't last that long for various reasons.

The consequence reflects who we are serving. If we're serving a hospital, those pipes cannot be breaking very often because then you disrupt hospital services and surgeries and the like. Also of high consequence are the economic centers of Waikiki, the transportation centers of the airport and the harbors. Another is Waianae, because there is just one pipeline going in. If we have a main break there, it shuts the water off for a whole day for most of the coast.

Then we identify what pipes that are the highest risk. So we know which pipes we need to replace. An evaluation has concluded that, if we could replace 200 miles of the highest risk pipelines throughout the island right now, we could reduce our main breaks by half. But it takes years to actually replace them. We're replacing pipes at a rate of six miles per year, and we want to ramp that up to 21 miles per year. We're giving ourselves 10 years to achieve that. The Water Master Plan identifies what we need to do. The rates provide us the funding needed to do that. Then there is internal capacity to be able put those projects out. Those three pillars all come together to determine how fast and which ones that we replace.

Our goal is to reduce main breaks. If we can replace those highest priority highest risk mains we feel that over time we will get those main breaks down.

Speaker #4: I have a question about the pesticides that are down the aquifer. What's the life expectancy of them and how often do we get the report that tells the concentration of those in our water?

Ernie Lau: Our mission is to provide safe, dependable and affordable water to our community now and into the future. The first word is safe. There are many places around the world where you can't drink the water out of the faucet. But here, “safe” is our number one component of our mission.

Erwin Kawata: As far as the life expectancy goes, we've been treating since the 1990s. They were first discovered in the 1980s. The concentrations haven't decreased at all, so we expect it to continue probably for the next several years. In terms of the monitoring, we do it monthly. Initially we did weekly testing, and collected enough data to understand how the treatment facility is working. Now we're at a point that we test monthly and the data is available to whoever would like a copy of the results.

Every year we distribute our water quality report, and it include the test results. But if you'd like to have data from individual months, you can always call the BWS Water Quality Division and we'll be happy to give you a copy.

Ernie Lau: Customers that receive a water bill will get this water quality report. If you live in a condominium you may not get a water bill so you can go on to our website, www.boardofwatersupply.com. Look for Water Quality Reports, and if you enter your address it'll give you the copy of the water quality report that serves your area. That includes what water sources serve your community and what has been found in the water in the past year. Thank you.

Speaker #5: Is there any plan to try to coordinate with other departments, like Department of Transportation. Is there any plan to try, especially on the main roads when you know far in advance that you are going to replace a water pipe, to talk to the other departments so you only repave it once?

Ernie Lau: That's a great question. It's been an ongoing challenge. We do coordinate. The roads are paved on a different time cycle from water pipeline work. Usually roads last about 10 years before they have to redo the paving. Repaving projects happen pretty quickly.

When you replace a water line, it's underground. So we have to dig a trench, lay the pipe, and hook up all the meters. Those projects can take three years to get done, because it’s just a different level of effort.

Sometimes road resurfacing involves vibrate to compact the asphalt to reach a certain standard or specification. That vibratory roller shakes the ground so hard, and if our pipes are old underneath there, we're finding that it can start to leak. Then we have to dig up the road, unfortunately. I'm really sorry about that.

But we hire a paving contractor, do a temporary for the short term, and within a month come back with a permanent repair that hopefully is as good as the road was after the City did the job.

Jason Takaki: What you bring up is a valid concern. We do meet monthly with the city departments as well as the other utilities – gas company, Hawaiian Electric, Verizon – to try and coordinate our projects. But many times our schedule of replacing high priority pipes doesn't fit with the plans for other utilities. We do try our best to coordinate whenever a project is planned for repaving. The Department of Transportation does come to us and ask us if we have plans to do a water main replacement in that area, particularly if they're doing concrete pavement which is very difficult for us to work under if we have a main break. It's very difficult but we're trying our best.

Speaker #6: I really feel for the residents because we're going to get hit with both a sewage and a water increase and the timing is really bad. Have you considered a charter amendment to allow the City to float bonds to partially pay for this modernization project? Probably not for the whole thing, but that way we can for both the sewer and the water projects at the same time. I know it would require a charter amendment for you to accept those bond funds, but that would provide some relief to the residents as far as not having to raise their rates at the same time. This is going to be a significant increase in their bill.

Ernie Lau: That's a good question. What we're trying to do is get to a place where the rates for water goes up in small increments so there are no large increases at one time. Over the five-year period, we're projecting that we will collect an additional $60 million. That's not enough to pay for all the operations and also this capital program. We're going to float revenue bonds. We have that ability, with the support of the Director of Budget and Finance, the City Council. In the last few decades we've been issuing revenue bonds and we have the obligation for repayment of the debt of the bond.

The State Revolving Loan fund is very cost effective. We leverage as much as we can. Effective interest rates are around one to one and a half percent.

Speaker #6: As far as you know does ENV have the ability to float revenue bonds as well?

Ernie Lau: They do also.

PUBLIC TESTIMONY

Speaker #7: My name is Bill Rudich, I live here in Mililani Mauka. I don't disagree that you definitely need to do some work on your systems. Leaks and the water main breaks are unacceptable in terms of loss of water and things that are going on. That being said my concern is that you're asking for a

tremendous amount of money to be generated with the rate increase. The question is: Are you spending all the money that you have on what's basically part of your regular charter?

Specifically, my concern is you're spending over a million dollars on consultants, litigation, and things like that related to Red Hill. That seems to be under the purview of the Department of Health, the EPA, or the water supply, which is not a regulatory agency. I think that before this type of rate increase should be approved, there should be a full accounting publicly of how much you have spent, how much you plan to spend in this area and compare that to what you're saying are your shortfalls.

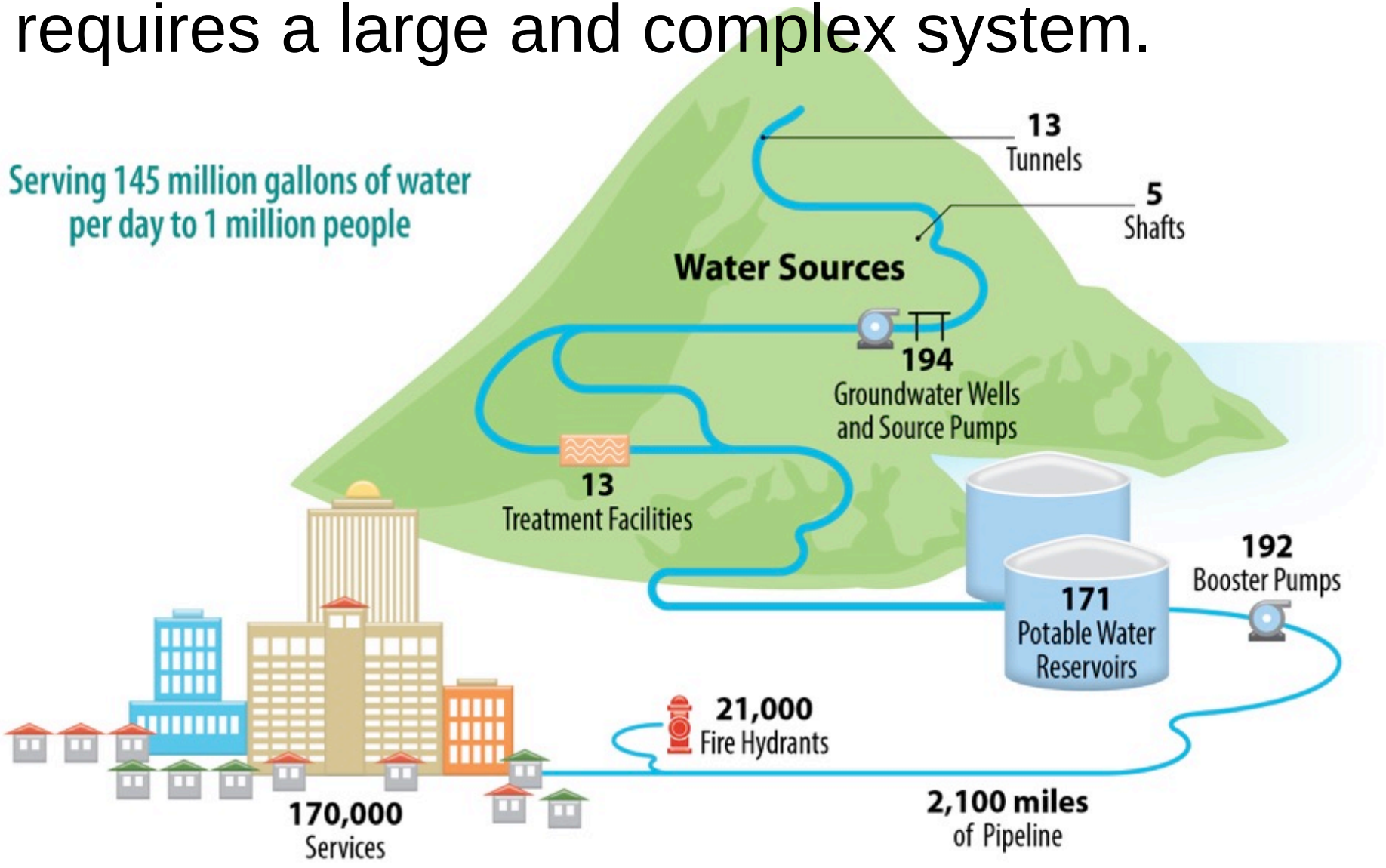
Speaker #8: My name is Jim Dilibern and I'm going to follow on Bill's comment here. I'm a recovering lawyer. I took the liberty to pull the statute, and although Mr. Lau talks about how providing safe drinking water is within his charter, I don't find that at all in the statute. BWS is to provide the water and to collect and receive, expand and account for all sums of money derived from the operation thereof, and other monies provided.

The director of the Department of Health is the one who is responsible for enforcing the drinking water standards. And I, like Mr. Rudich, object to the fact that I think there has been an abuse of authority to spend $1.1 million, $100,000 on a litigation firm in San Francisco to get involved in the Red Hill matter when that is already being examined by both the U.S. Environmental Protection Agency and the State Department of Health. So, like Mr. Rudich, I would ask for an accounting of those sums and then maybe a revision as to the amount that's needed to move forward. Thank you.


Ka Wai Ola
All life depends on water
Board of Water Supply
City and County of Honolulu


The Board of Water Supply (BWS) delivers
safe, dependable, affordable water
to your tap ...
… every minute of every hour
of every day.

Delivering water from underground water sources to your home requires a large and complex system.



Are we prepared to provide safe, dependable, and affordable water for the next generation?

# The BWS Water Master Plan …

… Looked ahead 30 years

… Evaluated the entire water system

… Identified necessary improvements

… Balanced needs with costs of providing water to our customers

# Here are some of the findings of the Water Master Plan.

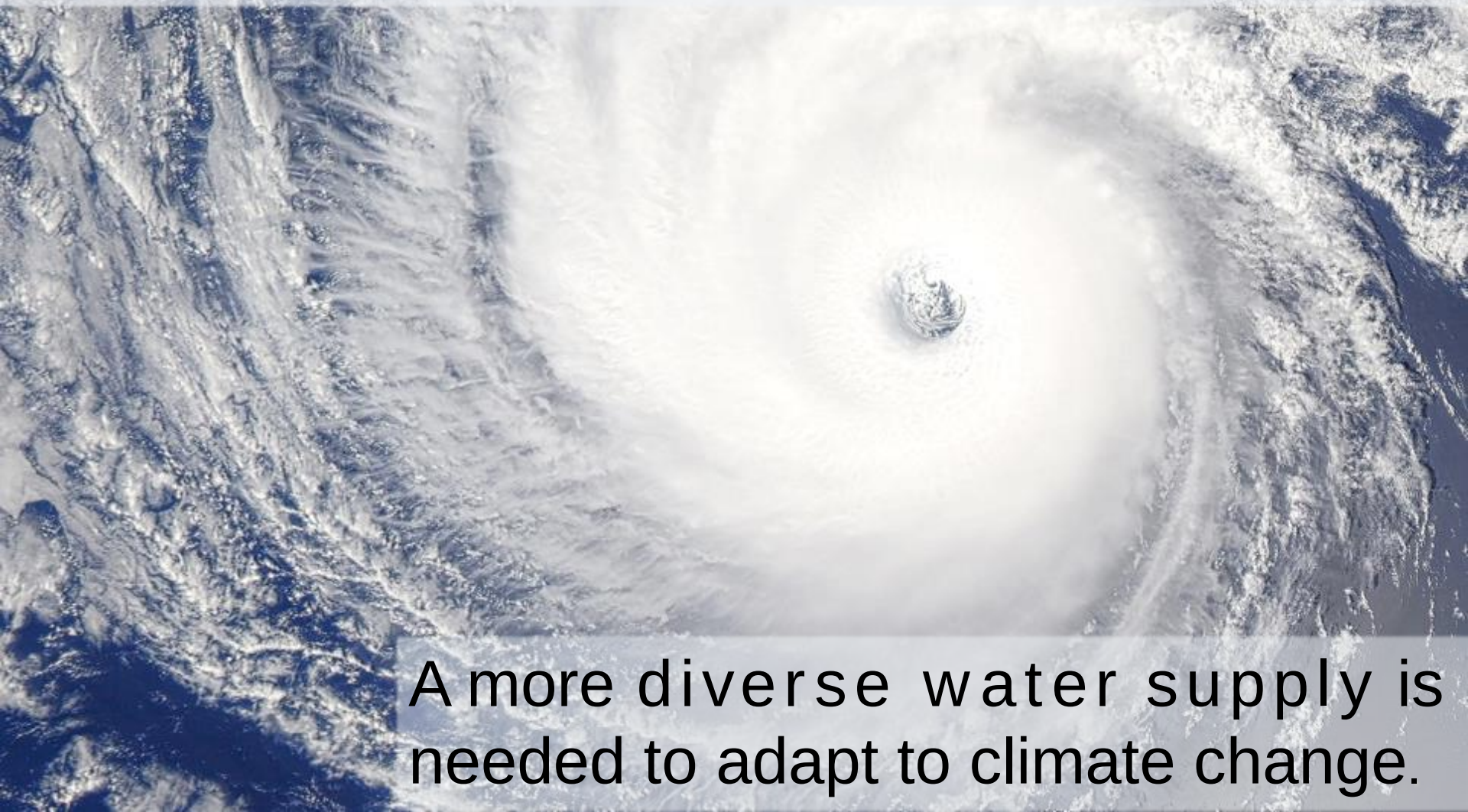
*Finding:* We need new drinking water supplies for Ewa, Waianae, and Honolulu.

*Finding:* We have sufficient pumping capacity today, but we need additional backup pump capacity.

*Finding:* BWS pipelines suffer deterioration from age, corrosion, and soil, leading to more than 300 water main breaks per year.

*Finding:* Oahu cut its daily water use by 30 gallons per person since the 1990s, saving over 12 million gallons per day, but we still need to do more.

*Finding:* We expect rainfall to decrease in West Oahu, but the intensity of storms to increase.



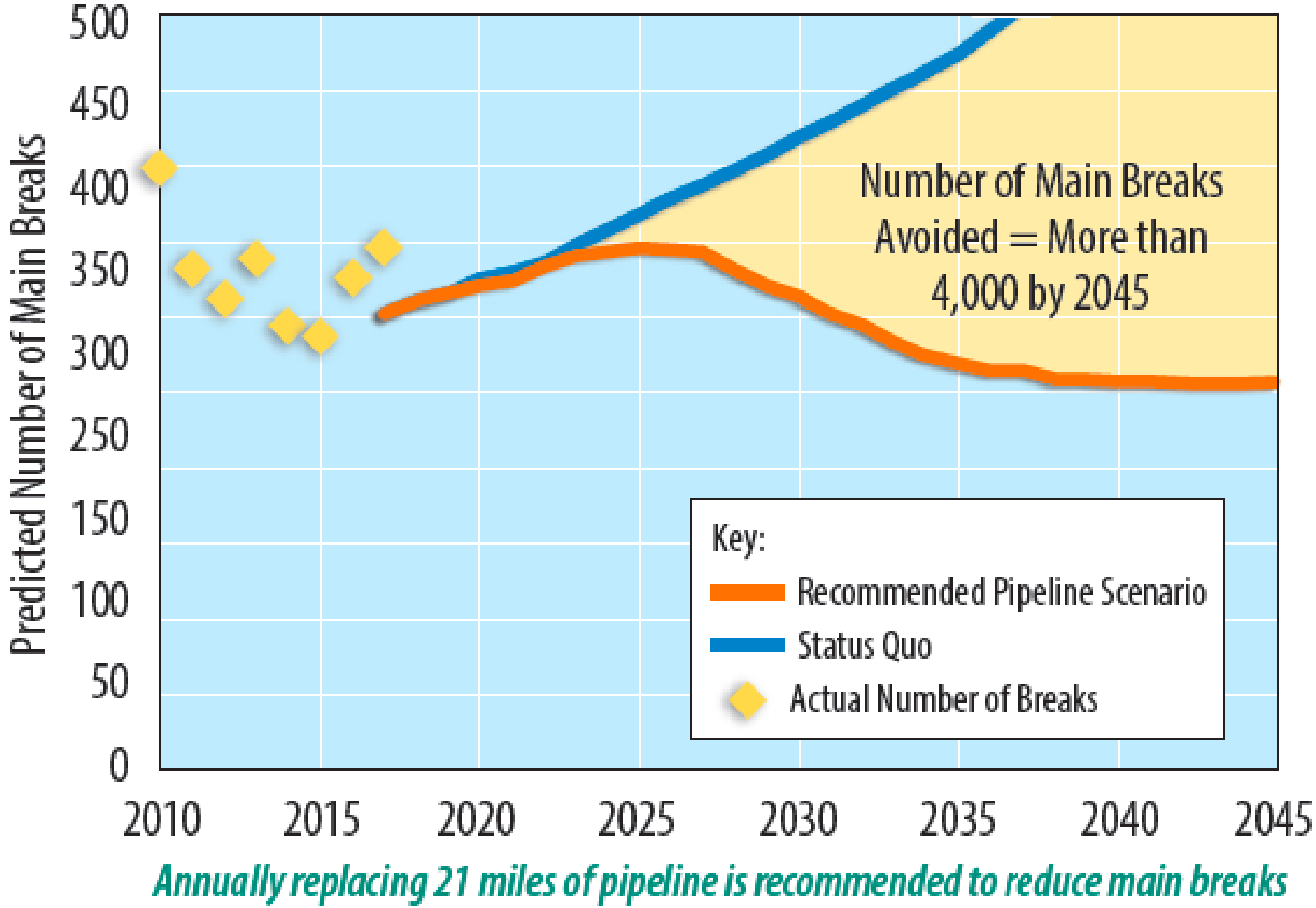
A more diverse water supply is needed to adapt to climate change.

*Finding:* Healthy watersheds are necessary to sustain our water supply over the ages and require care and conservation.

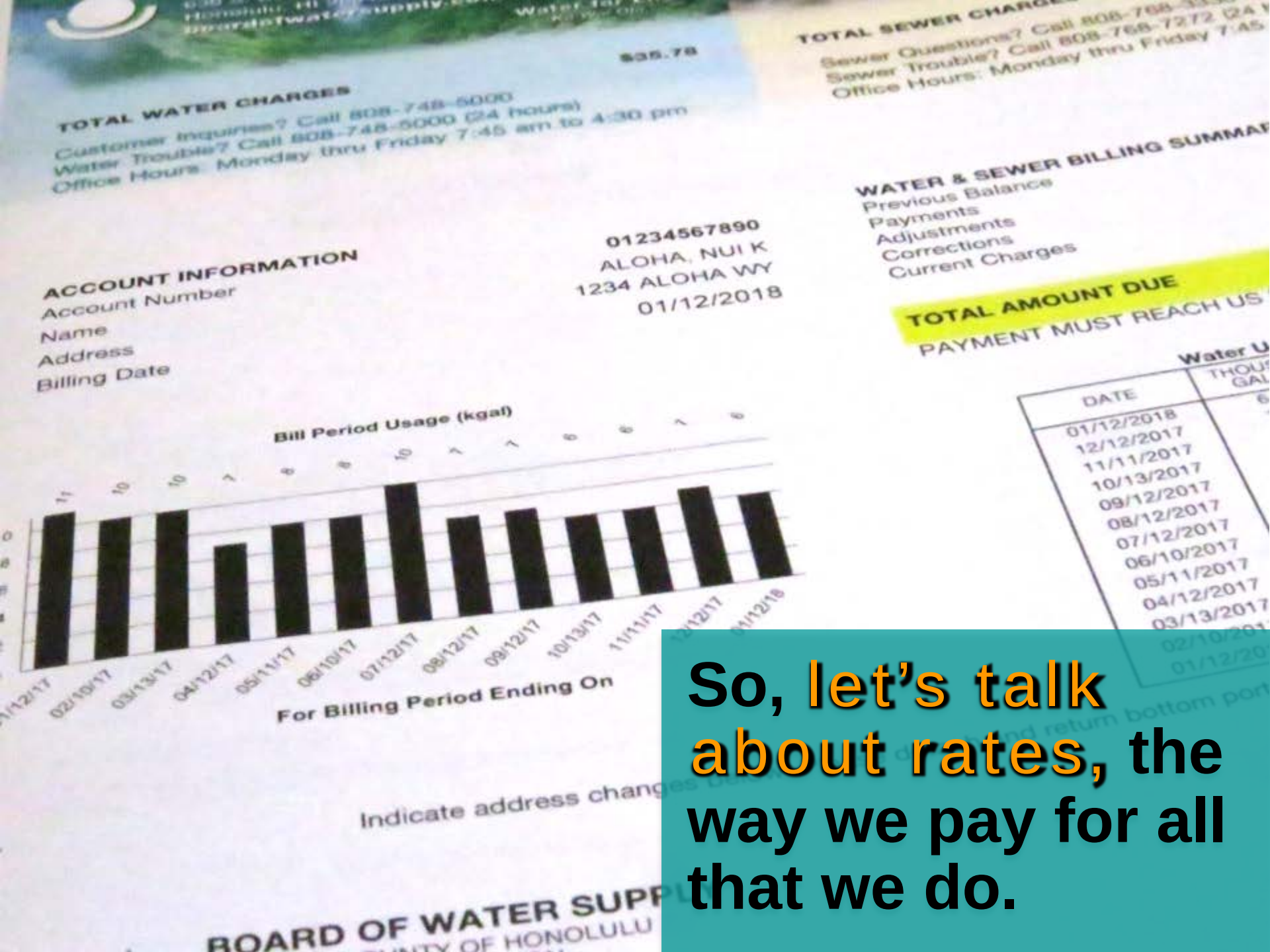
Over the next 30 years, BWS will invest in 800+ infrastructure projects island-wide, with total costs above $5.3 billion.

# Over the next 10 years:

| Results | Investment |
| --- | --- |
| Reliability and resiliency of our water system will increase | **$511 million** |
| The number of main breaks will go down | **$876 million** |
| Increased investments in conservation will preserve existing supplies and delay the need for new ones | **$3.4 million** (per year, 4% of infrastructure investments) |
| Targeted funding for watershed protection will help us adapt to a changing climate | **$3.4 million** (per year, 4% of infrastructure investments) |




*Annually replacing 21 miles of pipeline is recommended to reduce main breaks*




**So, let's talk about rates, the way we pay for all that we do.**

# Remember – We're Just Talking about Water Rates


Water rates are proposed for a 5-year period beginning in July 2018 through 2022.

There would be no increase until July 2019.

Increases are expected to generate about an additional $60 million over that time.

Board of Water Supply
City and County of Honolulu

# This is what BWS is committed to do with new rates

- Raise rates gradually
- Provide a low cost "Essential Needs" tier that rewards conservation
- Encourage conservation by highest water users
- Address subsidy of single-family residential by multi-unit residential customers
- Everyone pays their fair share

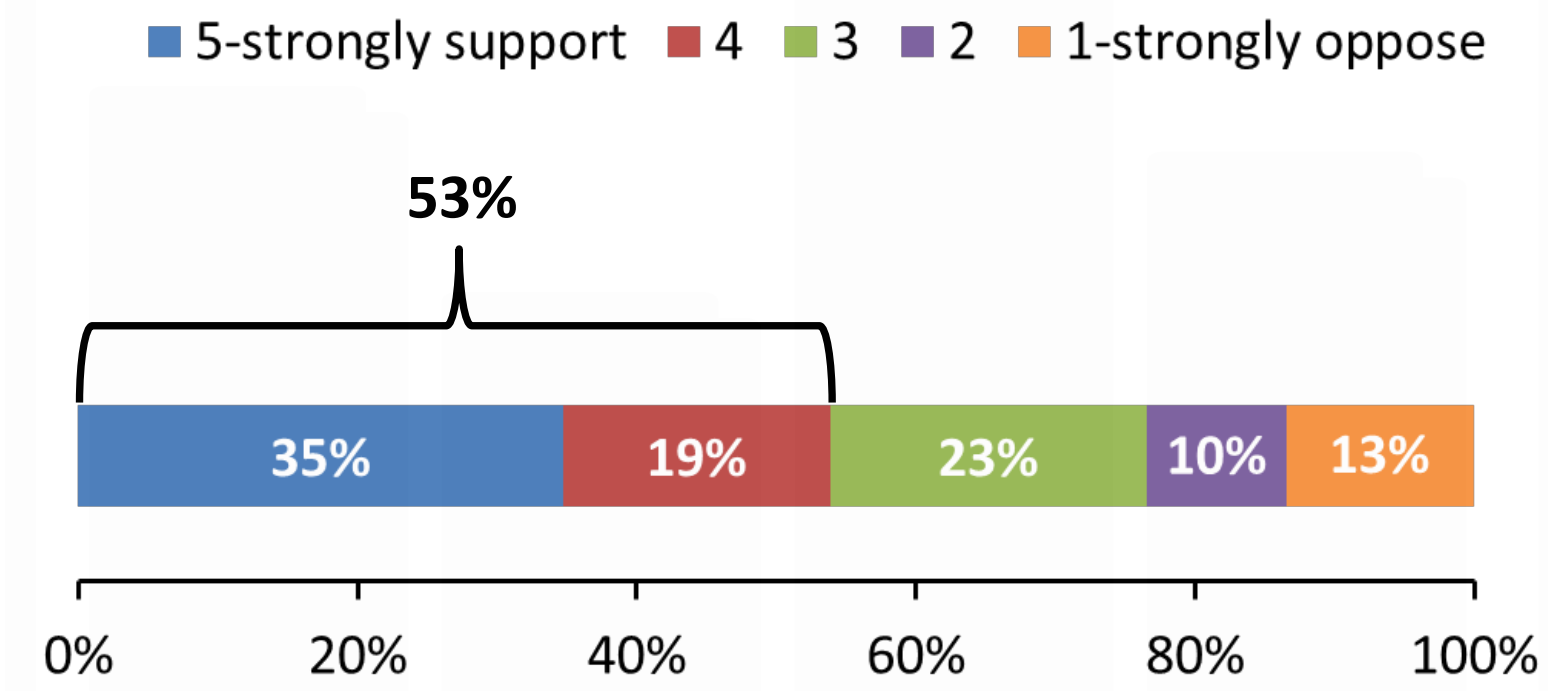
# New: Essential needs tier

Below-cost rate for first 2,000 gallons per month.

All residential customers get this rate.

10% of BWS residential customers use 2,000 gallons or less.

# Over half of our customers support adding a new tier with a very low rate to ensure affordability and reward conservation.



**New:** Adjust tiers to financially motivate water conservation.

# Monthly customer charge – Based on water meter size

**Proposed Monthly Customer Charge** (per meter)

| Meter Size | Proposed Monthly Customer Charge in $ / Month – Effective Dates | | | | | |
|---|---|---|---|---|---|---|
| | Current | July 2018 | July 2019 | July 2020 | July 2021 | July 2022 |
| 5/8-inch or 3/4-inch* | $9.26 | $9.26 | $10.42 | $10.80 | $11.38 | $12.09 |
| 1-inch | $9.26 | $9.26 | $13.31 | $13.79 | $14.45 | $15.28 |
| 1-1/2-inch | $9.26 | $9.26 | $15.23 | $15.78 | $16.50 | $17.41 |
| 2-inch | $9.26 | $9.26 | $38.81 | $40.18 | $41.61 | $43.45 |
| 3-inch | $9.26 | $9.26 | $47.95 | $49.64 | $51.35 | $53.55 |
| 4-inch | $9.26 | $9.26 | $91.74 | $94.95 | $97.98 | $101.92 |
| 6-inch | $9.26 | $9.26 | $163.91 | $169.63 | $174.84 | $181.64 |
| 8-inch | $9.26 | $9.26 | $250.03 | $258.76 | $266.57 | $276.78 |
| 12-inch | $9.26 | $9.26 | $541.31 | $560.18 | $576.78 | $598.53 |

*** Typical for single-family residential customer.**

# Single-family residential water rates 2018 - 2022

| | Existing | | Proposed Rates, Effective Dates | | | | | |
|---|---|---|---|---|---|---|---|---|
| Tier | Gallons/ du/month | Rate | July 2018 | Gallons/ du/month | July 2019 | July 2020 | July 2021 | July 2022 |
| EssN | 0 to 13,000 | $4.42 | $4.42 | 0 to 2,000 | $3.79 | $3.91 | $4.17 | $4.46 |
| 1 | | | | 2,001 to 6,000 | $4.46 | $4.60 | $4.90 | $5.25 |
| 2 | 13,001 to 30,000 | $5.33 | $5.33 | 6,001 to 30,000 | $5.06 | $5.20 | $5.50 | $5.85 |
| 3 | More than 30,000 | $7.94 | $7.94 | More than 30,000 | $8.46 | $8.60 | $8.90 | $9.25 |

EssN – Essential needs
Rates are in $ per thousand gallons
du – dwelling unit

# Comparing bills – Essential Needs – 10% of Single-family residential

**Essential Needs Tier – The Low Water User**
(2,000 gallons per month)

| Current Bill | Future Bill at Proposed Rates | | | | |
|---|---|---|---|---|---|
| | July 2018 | July 2019 | July 2020 | July 2021 | July 2022 |
| $18.10 | $18.10 | $18.00 | $18.62 | $19.72 | $21.01 |

# Comparing bills – Median water user – 50% of Single-family residential

**The Median Water User** (6,000 gallons per month)

| Current Bill | Future Bill at Proposed Rates | | | | |
|---|---|---|---|---|---|
| | July 2018 | July 2019 | July 2020 | July 2021 | July 2022 |
| $35.78 | $35.78 | $35.84 | $37.02 | $39.32 | $42.01 |

# Comparing bills – Average water user Single-family residential

**The Average Water User** (9,000 gallons per month)

| Current Bill | Future Bill at Proposed Rates | | | | |
|---|---|---|---|---|---|
| | July 2018 | July 2019 | July 2020 | July 2021 | July 2022 |
| $49.04 | $49.04 | $51.02 | $52.62 | $55.82 | $59.56 |

# Comparing bills –
# High water users – top 3% of Single-family residential

**The High Water User** (35,000 gallons per month)

| Current Bill | Future Bill at Proposed Rates | | | | |
|---|---|---|---|---|---|
| | July 2018 | July 2019 | July 2020 | July 2021 | July 2022 |
| $197.03 | $197.03 | $199.58 | $204.82 | $215.82 | $228.66 |

# Multi-unit residential water rates 2018 - 2022

| | Existing | | Proposed Rates, Effective Dates | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Tier** | **Gallons/ du/month** | **Rate** | **July 2018** | **Gallons/ du/month** | **July 2019** | **July 2020** | **July 2021** | **July 2022** |
| **EssN** | 0 to 9,000 | $4.42 | $4.42 | 0 to 2,000 | $3.70 | $3.71 | $3.72 | $3.77 |
| **1** | | | | 2,001 to 4,000 | $4.35 | $4.36 | $4.38 | $4.43 |
| **2** | 9,001 to 22,000 | $5.33 | $5.33 | 4,001 to 10,000 | $4.95 | $4.96 | $4.98 | $5.03 |
| **3** | More than 22,000 | $7.94 | $7.94 | More than 10,000 | $5.90 | $5.91 | $5.93 | $5.98 |

EssN – Essential needs
Rates are in $ per thousand gallons
du – dwelling unit

# Non-residential water rates 2018 - 2022

| Current | Proposed Rates, Effective Dates | | | | |
|---|---|---|---|---|---|
| | July 2018 | July 2019 | July 2020 | July 2021 | July 2022 |
| $4.96 | $4.96 | $5.01 | $5.06 | $5.16 | $5.27 |

Rates are in $ per thousand gallons

Examples: hotels, restaurants, government, shopping centers, hospitals, retail

# Current subsidies will be continued

**Lower rates for**
local agriculture

and recycled water

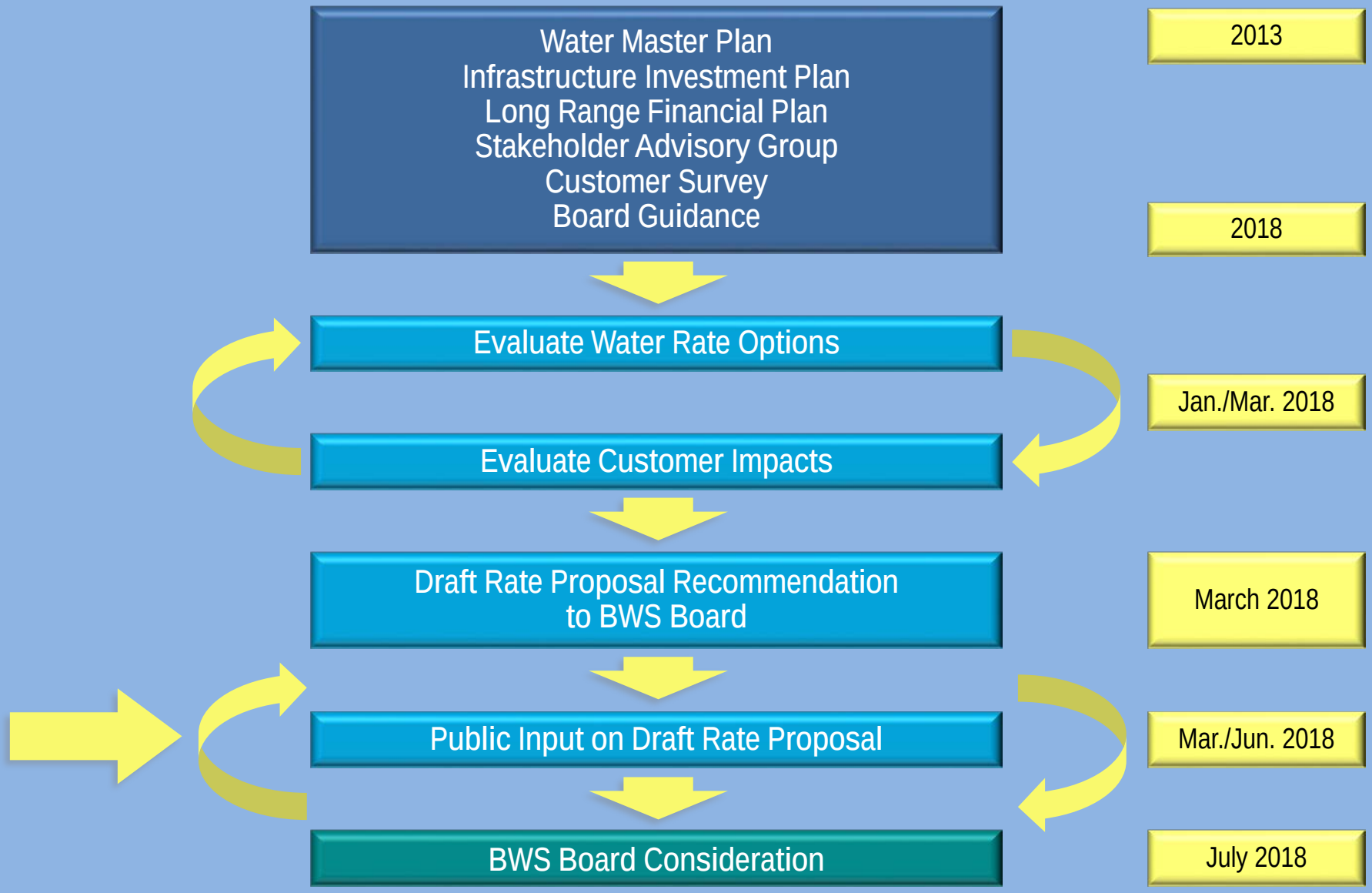
# And new fee waivers



# Other BWS charges:

- **Fire Meter Standby Charge**
- **Standby Charge** (emergency interconnections)
- **Water System Facilities Charge**
- **Environmental Regulations Compliance Fee Cost Adjustment**
- **Power Cost Adjustment**

# Process Overview



# Learn More at a Public Hearing Near You

| All Hearings: 6:30 – 8:30 PM | |
|---|---|
| Honolulu | Thursday, April 26<br>***Mission Memorial Auditorium***<br>550 South King St., Honolulu 96813 |
| Kapolei | Monday, May 14<br>***Kapolei Hale, ground floor conference room***<br>1000 Uluohia Street, Kapolei 96707 |
| Kaneohe | Tuesday, May 15<br>***Benjamin Parker Elementary School Cafeteria***<br>45-259 Waikalua Road, Kaneohe 96744 |
| Mililani | Thursday, May 24<br>***Mililani Recreation Center #5***<br>95-1101 Ainamakua Drive, Mililani 96789 |

# Give Your Input on Proposed Rates

## Send a letter or an email to:

**Board of Water Supply**

Attn: Proposed Water Rates

*630 South Beretania, Honolulu 96843*

Email: contactus@hbws.org

JUNE 30, 2018

## Questions?

**Call: (808) 748-5041**

BWS Website: www.boardofwatersupply.com

Twitter: @BWSHonolulu

Facebook: http://www.facebook.com/BWSHonolulu


Questions?

ITEM FOR INFORMATION NO. 2

"June 29, 2018

WATER
SYSTEM
REVENUE
BONDS

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Water System Revenue Bonds – Compliance with Covenant Rate

In accordance with Article VIII, Section 8.02, Rates and Charges, of the Water System Revenue Bonds, Resolution No. 717, 2001, we have completed a review of the financial condition of the Board of Water Supply for the purpose of estimating whether the Net Revenues for the current fiscal year and the next succeeding fiscal year will be sufficient to comply with the rate covenant in Section 8.02.

Our review included an examination of the financial and accounting records which we considered necessary to express an opinion on the adequacy of the department's rates and other charges such that Net Revenues shall not be less than the Net Revenue Requirement in each fiscal year.

In our opinion, Net Revenues for fiscal years 2018 and 2019 will not be less than the Net Revenue Requirement for such fiscal years.

The attached schedules present the actual and estimated revenues and expenditures in compliance with the above rate covenant.

Respectfully submitted,

/s/ ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

Attachments"

The foregoing was for information only.

DISCUSSION: Joe Cooper, Waterworks Controller, gave the report. There were no comments or discussion.

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
CALCULATIONS OF NET REVENUES AND NET REVENUE REQIREMENT
FISCAL YEAR ENDING JUNE 30, 2019

| | | PROJECTED FY 2019 |
|---|---|---|
| **REVENUES** | | |
| Water sales | $ | 232,611,800 |
| Other charges & services | | 3,425,000 |
| Interest revenue | | 3,198,900 |
| Total revenues | $ | 239,235,700 |
| **DEDUCTIONS** | | |
| Operating expenses | $ | 139,187,600 |
| Net revenues | $ | 100,048,100 |
| **NET REVENUE REQUIREMENT** | | |
| Greater of: | | |
| 1) Aggregate debt service for FY 19 | $ | 17,877,000 |
| Required deposits - subordinate obligation fund | | |
| | $ | 17,877,000 |
| 2) Aggregate debt service for FY 18 | $ | 17,877,000 |
| | | x 1.20 |
| | $ | 21,452,400 |
| | $ | 21,452,400 |
| Target Net Requirement of 1.7 | $ | 30,390,900 |
| Current Ratio | | 5.60 |

**Board of Water Supply**
**City and County of Honolulu**
**SUPPLEMENTAL SCHEDULE OF NET REVENUE REQUIREMENT**
**As of May 31, 2018**

| | | Amount |
|---|---|---|
| REVENUES: | | |
| Water sales | $ | 209,633,347 |
| Interest | | 4,958,500 |
| Other | | 4,736,842 |
| Total revenues | | 219,328,690 |
| DEDUCTIONS: | | |
| Operating expenses | | 160,780,922 |
| Less depreciation expense | | (43,317,732) |
| Total deductions | | 117,463,190 |
| Net revenues | $ | 101,865,499 |
| NET REVENUE REQUIREMENT: | | |
| Greater of: | | |
| 1) Aggregate debt service | $ | 16,357,917 |
| Required deposits - subordinate obligation fund | | |
| | | 16,357,917 |
| 2) Aggregate debt service | | 16,357,917 |
| | x | 1.20 |
| | | 19,629,500 |
| Net revenue requirement | $ | 19,629,500 |
| Current ratio | | 6.23 |

ITEM FOR INFORMATION NO. 3

"June 29, 2018

GROUNDWATER LEVELS

Chair and Members
Board of Water Supply
City and County of Honolulu
Honolulu, Hawaii 96843

Chair and Members:

Subject: Status Update of Groundwater Levels at All Index Stations

There were no aquifer index wells within low groundwater status for the production month of May 2018. The monthly production average for May 2018 was 135.89 million gallons per day (mgd).

The Board of Water Supply rainfall index for the month of May 2018 was 105 percent of normal; with a five-month moving average of 124 percent. As of June 12, 2018, the Hawaii Drought Monitor shows abnormally dry conditions for the Leeward side of Oahu.

Most monitoring wells are beginning to exhibit static or declining trends due to the increased pumping during the summer season.

Respectfully submitted,

/s/ ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

Attachments"

The foregoing was for information only.

DISCUSSION: Barry Usagawa, Water Resources Division Program Administrator, gave the report. There were no comments or discussion.

# PRODUCTION, HEAD AND RAINFALL REPORT
# MONTH OF JUNE 2018

## POTABLE

| STATION | MGD |
|---|---|
| HONOLULU (1) | |
| KULIOUOU | 0.06 |
| WAILUPE | 0.12 |
| AINA KOA | 0.21 |
| AINA KOA II | 0.81 |
| MANOA II | 0.82 |
| PALOLO | 1.15 |
| KAIMUKI HIGH | 1.43 |
| KAIMUKI LOW | 1.44 |
| WILDER | 8.29 |
| BERETANIA HIGH | 4.20 |
| BERETANIA LOW | 3.64 |
| KALIHI HIGH | 1.98 |
| KALIHI LOW | 2.22 |
| KAPALAMA | 0.57 |
| KALIHI SHAFT | 8.19 |
| MOANALUA | 1.10 |
| HALAWA SHAFT | 8.64 |
| KAAMILO | 0.87 |
| KALAUAO | 6.74 |
| PUNANANI | 10.82 |
| KAAHUMANU | 0.25 |
| HECO WAIAU | 2.63 |
| MANANA | 0.42 |
| WELLS SUBTOTAL: | 66.61 |
| MANOA TUNNEL | 0.17 |
| PALOLO TUNNEL | 0.23 |
| GRAVITY SUBTOTAL: | 0.40 |
| HONO. SUBTOTAL: | 67.01 |

| STATION | MGD |
|---|---|
| WINDWARD (2) | |
| WAIMANALO II | 0.47 |
| WAIMANALO III | 0.00 |
| KUOU I | 1.72 |
| KUOU II | 0.02 |
| KUOU III | 0.46 |
| LULUKU | 0.99 |
| HAIKU | 0.00 |
| IOLEKAA | 0.00 |
| KAHALUU | 0.79 |
| KAHANA | 0.79 |
| PUNALUU I | 0.00 |
| PUNALUU II | 2.97 |
| PUNALUU III | 1.05 |
| KALUANUI | 0.00 |
| MAAKUA | 0.21 |
| HAUULA | 0.22 |
| WELLS SUBTOTAL: | 9.69 |
| WAIM. TUNNELS I & II | 0.00 |
| WAIM. TUNNELS III&IV | 0.19 |
| WAIHEE INCL. WELLS | 0.90 |
| WAIHEE TUNNEL | 4.85 |
| LULUKU TUNNEL | 0.19 |
| HAIKU TUNNEL | 0.90 |
| KAHALUU TUNNEL | 1.84 |
| GRAVITY SUBTOTAL: | 8.88 |
| WIND. SUBTOTAL: | 18.57 |

| STATION | MGD |
|---|---|
| NORTH SHORE (3) | |
| KAHUKU | 0.36 |
| OPANA | 0.60 |
| WAIALEE I | 0.00 |
| WAIALEE II | 0.50 |
| HALEIWA | 0.00 |
| WAIALUA | 1.91 |
| N.SHORE SUBTOTAL: | 3.38 |

| MILILANI (4) | |
|---|---|
| MILILANI I | 3.16 |
| MILILANI II | 0.00 |
| MILILANI III | 0.00 |
| MILILANI IV | 1.73 |
| MILILANI SUBTOTAL: | 4.90 |

| WAHIAWA (5) | |
|---|---|
| WAHIAWA | 1.67 |
| WAHIAWA II | 1.60 |
| WAHIAWA SUBTOTAL: | 3.26 |

| PEARL CITY-HALAWA (6) | |
|---|---|
| HALAWA 277 | 0.96 |
| HALAWA 550 | 0.00 |
| AIEA | 1.01 |
| AIEA GULCH 497 | 0.38 |
| AIEA GULCH 550 | 0.22 |
| KAONOHI I | 0.99 |
| WAIMALU I | 0.00 |
| NEWTOWN | 0.99 |
| WAIAU | 0.88 |
| PEARL CITY I | 0.51 |
| PEARL CITY II | 1.00 |
| PEARL CITY III | 0.41 |
| PEARL CITY SHAFT | 0.92 |
| PEARL CITY-HALAWA SUBTOTAL: | 8.28 |

| STATION | MGD |
|---|---|
| WAIPAHU-EWA (7) | |
| WAIPIO HTS. | 0.66 |
| WAIPIO HTS. I | 0.38 |
| WAIPIO HTS. II | 0.38 |
| WAIPIO HTS. III | 1.32 |
| WAIPAHU | 5.45 |
| WAIPAHU II | 2.05 |
| WAIPAHU III | 1.88 |
| WAIPAHU IV | 2.80 |
| KUNIA I | 4.74 |
| KUNIA II | 2.11 |
| KUNIA III | 1.48 |
| HOAEAE | 5.38 |
| HONOULIULI I | 1.27 |
| HONOULIULI II | 7.26 |
| MAKAKILO | 0.30 |
| WAIPAHU-EWA SUBTOTAL: | 37.45 |

| WAIANAE (8) | |
|---|---|
| MAKAHA I | 0.39 |
| MAKAHA II | 0.09 |
| MAKAHA III | 0.17 |
| MAKAHA V | 0.09 |
| MAKAHA VI | 0.00 |
| MAKAHA SHAFT | 0.00 |
| KAMAILE | 0.12 |
| WAIANAE I | 0.00 |
| WAIANAE II | 0.74 |
| WAIANAE III | 0.72 |
| WELLS SUBTOTAL: | 2.32 |
| WAIA. C&C TUNNEL | 1.40 |
| WAIA. PLANT. TUNNELS | 0.16 |
| GRAVITY SUBTOTAL: | 1.56 |
| WAIANAE SUBTOTAL: | 3.88 |

## NONPOTABLE

| NONPOTABLE | MGD |
|---|---|
| KALAUAO SPRINGS | 0.88 |
| BARBERS POINT WELL | 1.33 |
| GLOVER TUNNEL NP | 0.40 |
| NONPOTABLE TOTAL: | 2.62 |

## RECYCLED WATER MAY 2018)

| RECYCLED WATER | MGD |
|---|---|
| HONOULIULI WRF R-1 | 7.17 |
| HONOULIULI WRF RO | 1.66 |
| RECYCLED WATER TOTAL: | 8.83 |

# PRODUCTION, HEAD AND RAINFALL REPORT
# MONTH OF JUNE 2018

## PRODUCTION SUMMARIES

| TOTAL WATER | MGD |
|---|---|
| PUMPAGE | 135.89 |
| GRAVITY | 10.84 |
| POTABLE TOTAL: | 146.72 |
| NONPOTABLE | 2.62 |
| RECYCLED WATER | 8.83 |
| TOTAL WATER: | 158.17 |

CWRM PERMITTED USE AND BWS ASSESSED YIELDS FOR BWS POTABLE SOURCES

| | WATER USE DISTRICTS | A PERMITTED USE/ BWS YLDS | B JUN 2018 | C DIFF. A-B |
|---|---|---|---|---|
| 1 | HONOLULU | 82.93 | 66.61 | 16.32 |
| 2 | WINDWARD | 25.02 | 12.82 | 12.20 |
| 3 | NORTH SHORE | 4.74 | 3.38 | 1.36 |
| 4 | MILILANI | 7.53 | 4.90 | 2.63 |
| 5 | WAHIAWA | 4.27 | 3.26 | 1.01 |
| 6 | PEARL CITY-HALAWA | 12.25 | 8.28 | 3.97 |
| 7 | WAIPAHU-EWA | 50.63 | 37.45 | 13.18 |
| 8 | WAIANAE | 4.34 | 2.32 | 2.02 |
| TOTAL: | | 191.71 | 139.01 | 52.70 |

CWRM PERMITTED USE FOR BWS NONPOTABLE SOURCES

| | WATER USE DISTRICTS | A PERMITTED USE | B JUN 2018 | C DIFF. A-B |
|---|---|---|---|---|
| 7 | WAIPAHU-EWA (BARBERS POINT WELL) | 1.00 | 1.33 | -0.33 |
| TOTAL: | | 1.00 | 1.33 | -0.33 |

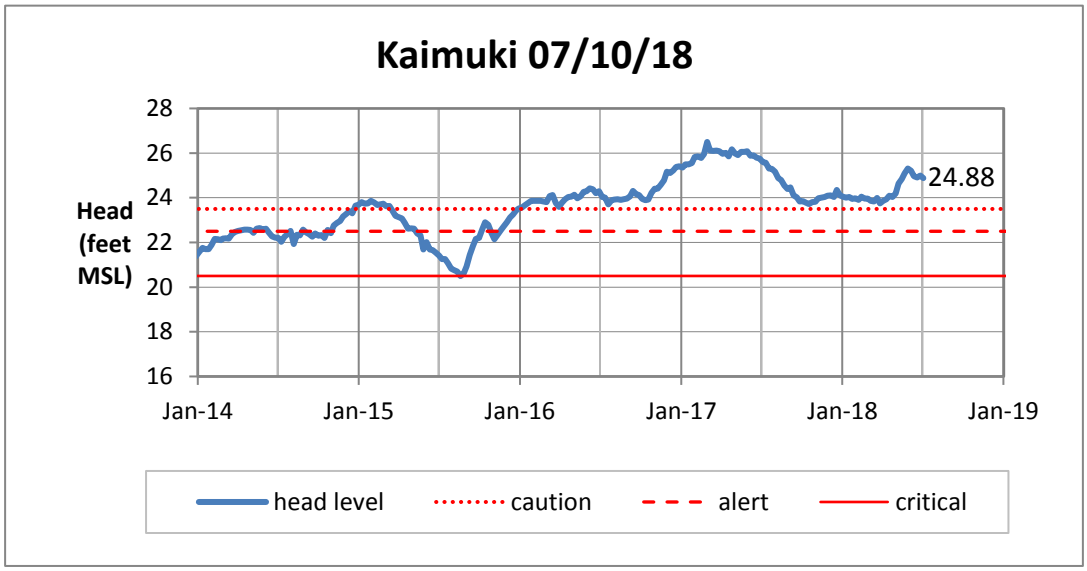
## EFFECTIVE WATER DEMAND PER DISTRICT

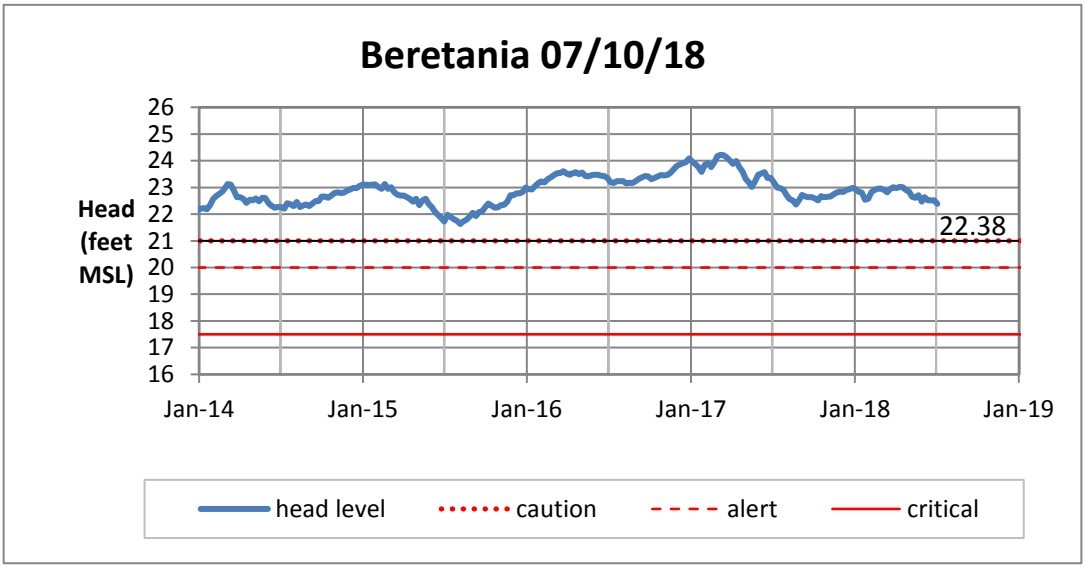
IMPORT/EXPORT BETWEEN WATER USE DISTRICTS

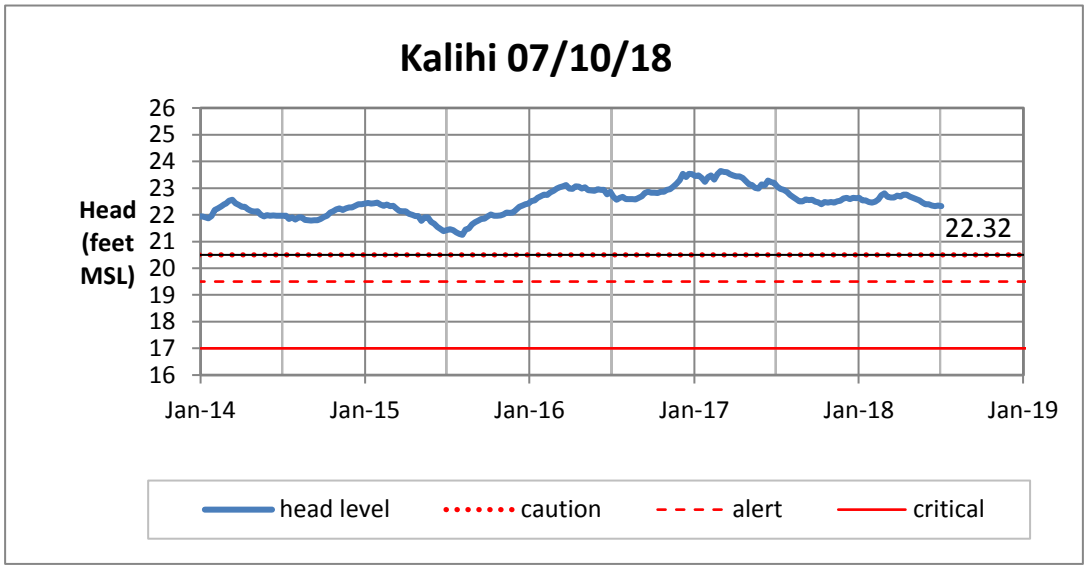
| FROM | TO | | MGD |
|---|---|---|---|
| 2 | 1 | WINDWARD EXPORT | 1.15 |
| 7 | 8 | BARBERS PT LB | 6.73 |

| | WATER USE DISTRICTS | SUBTOTAL | IMPORT | EXPORT | EFFECTIVE WATER DEMAND |
|---|---|---|---|---|---|
| 1 | HONOLULU | 66.61 | 1.15 | - | 67.77 |
| 2 | WINDWARD | 12.82 | - | 1.15 | 11.66 |
| 3 | NORTH SHORE | 3.38 | - | - | 3.38 |
| 4 | MILILANI | 4.90 | - | - | 4.90 |
| 5 | WAHIAWA | 3.26 | - | - | 3.26 |
| 6 | PEARL CITY-HALAWA | 8.28 | - | - | 8.28 |
| 7 | WAIPAHU-EWA | 37.45 | - | 6.73 | 30.72 |
| 8 | WAIANAE | 2.32 | 6.73 | - | 9.05 |
| TOTAL: | | 139.01 | 7.88 | 7.88 | 139.01 |

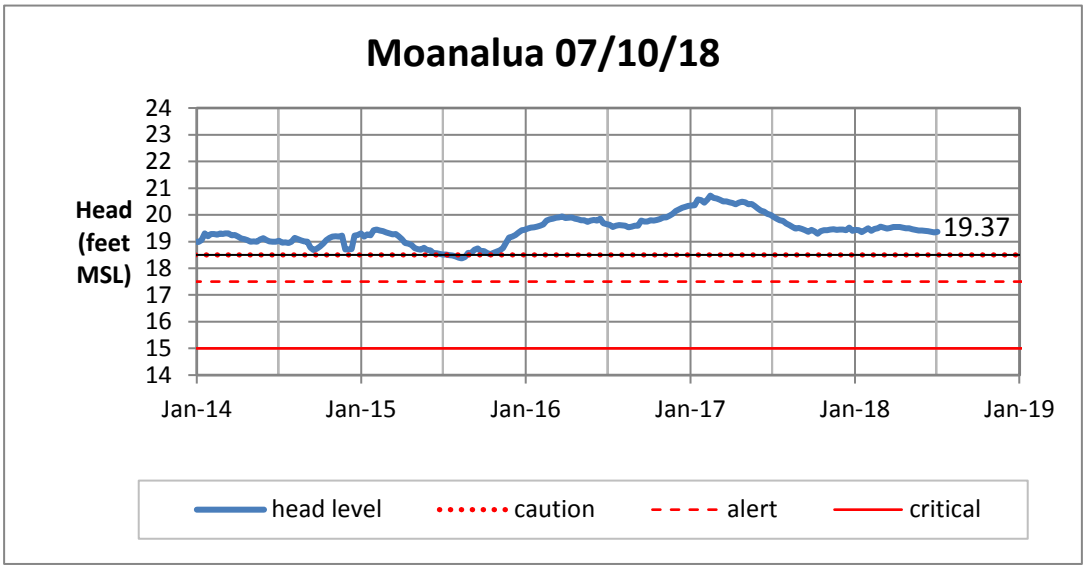
# Weekly Head Report

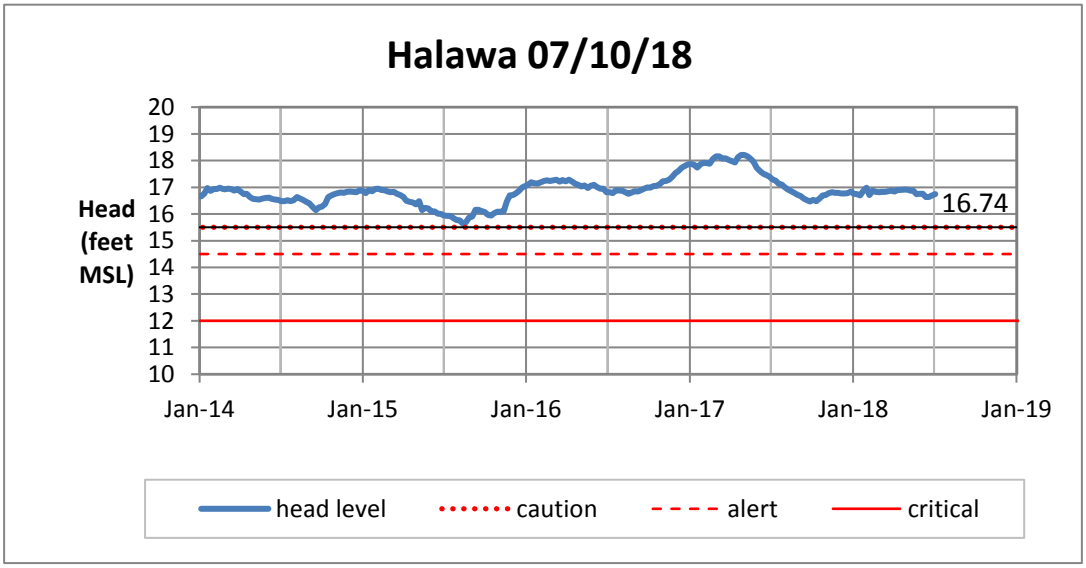


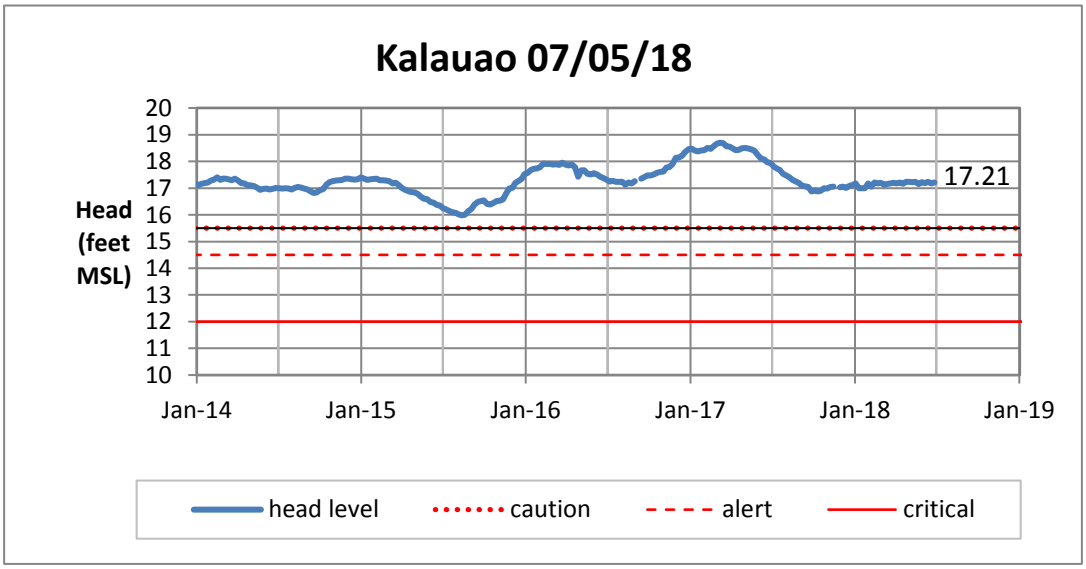



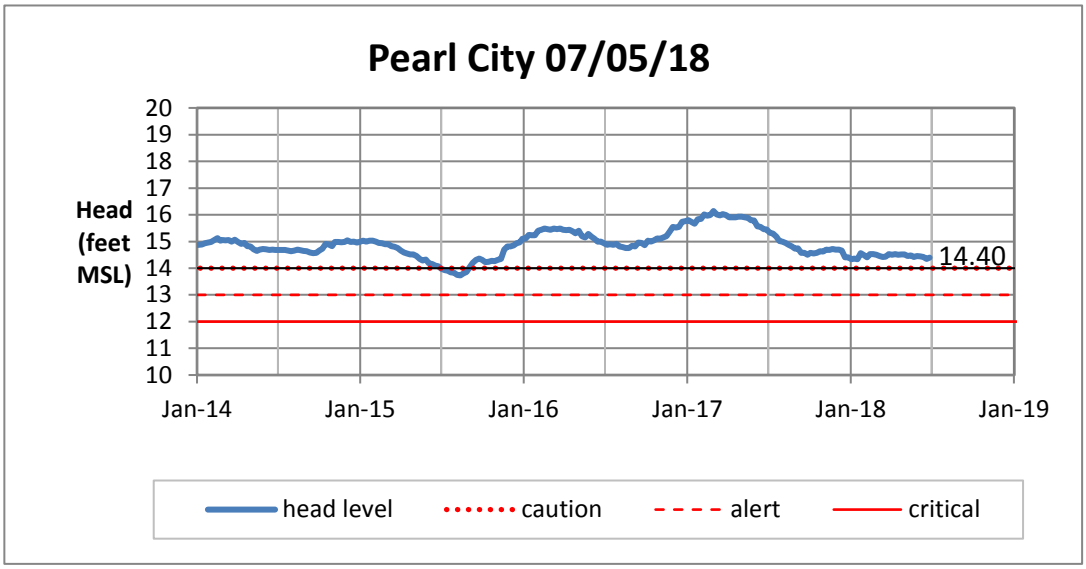
# Weekly Head Report

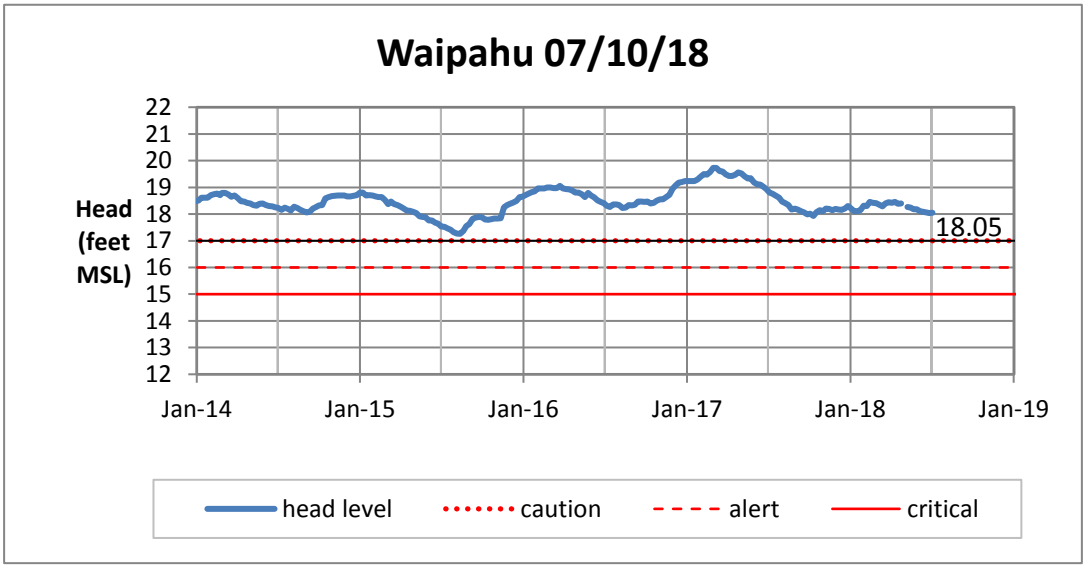


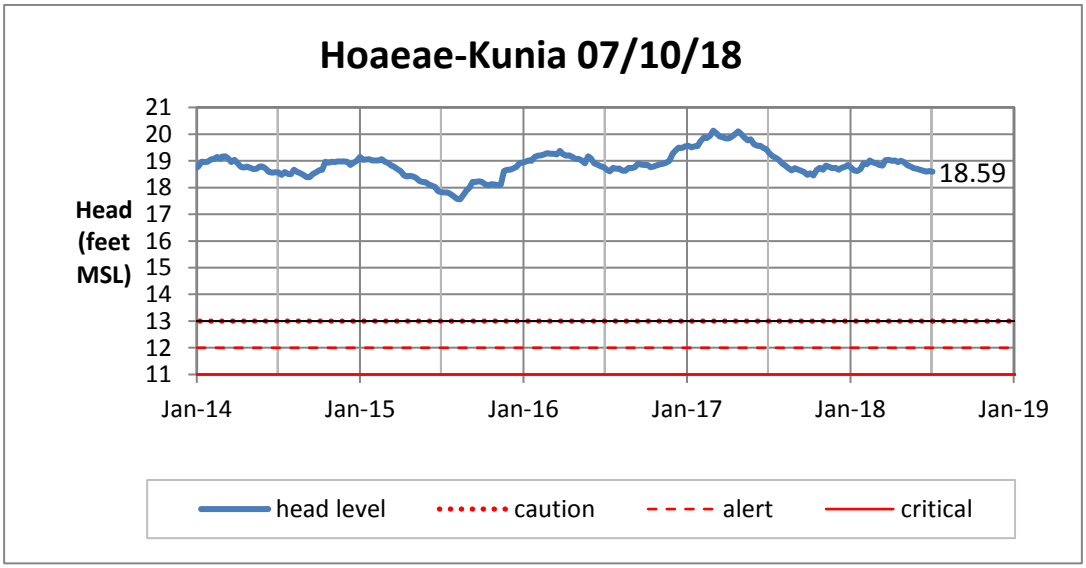



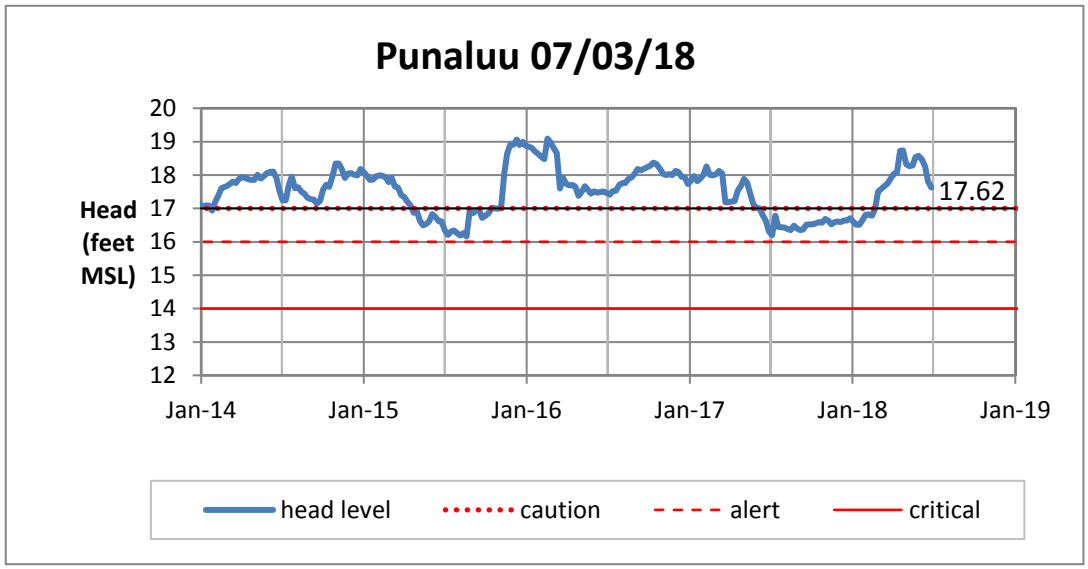
# Weekly Head Report

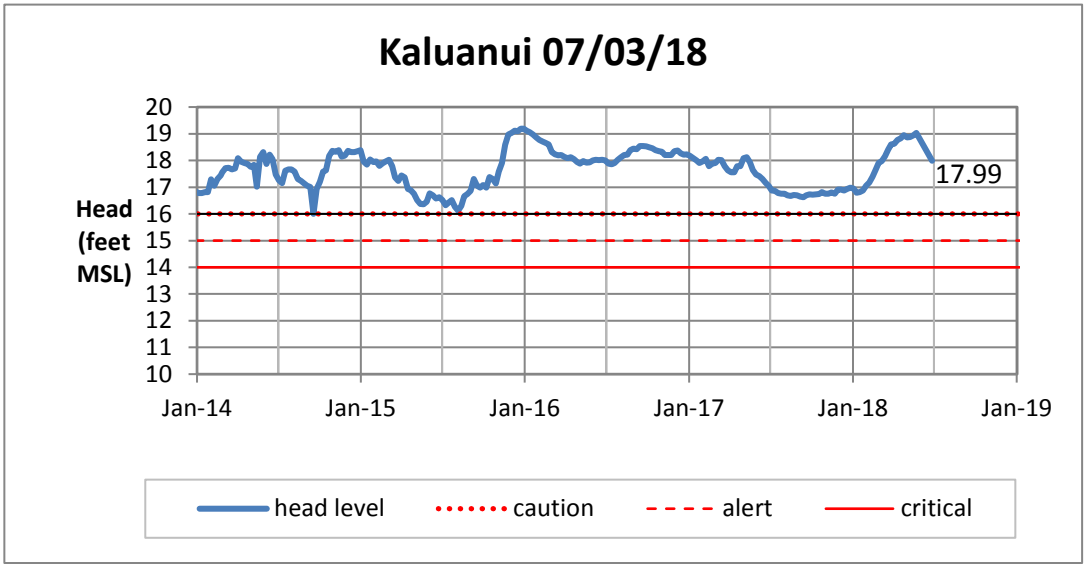


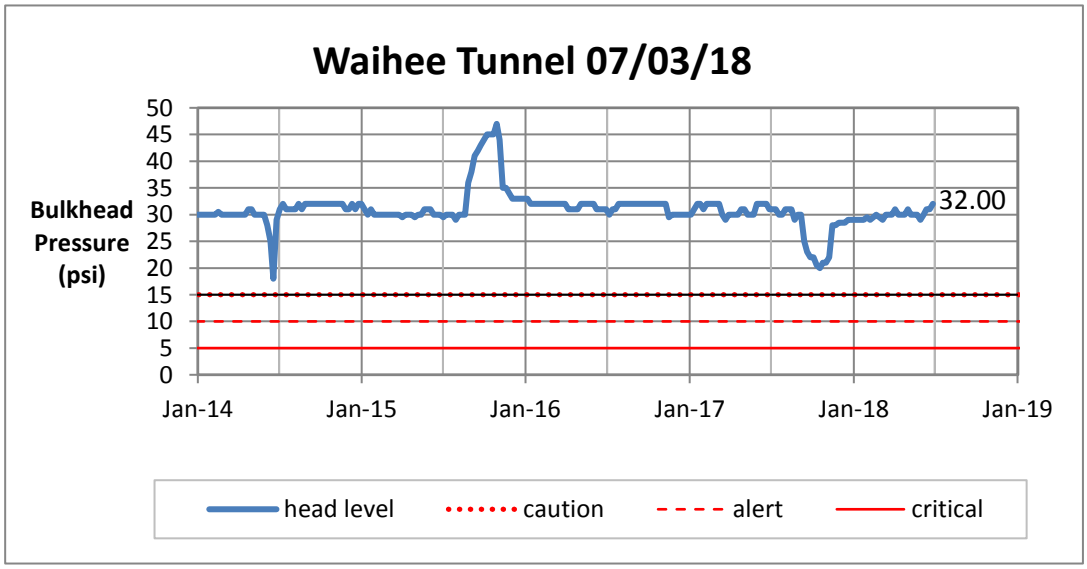



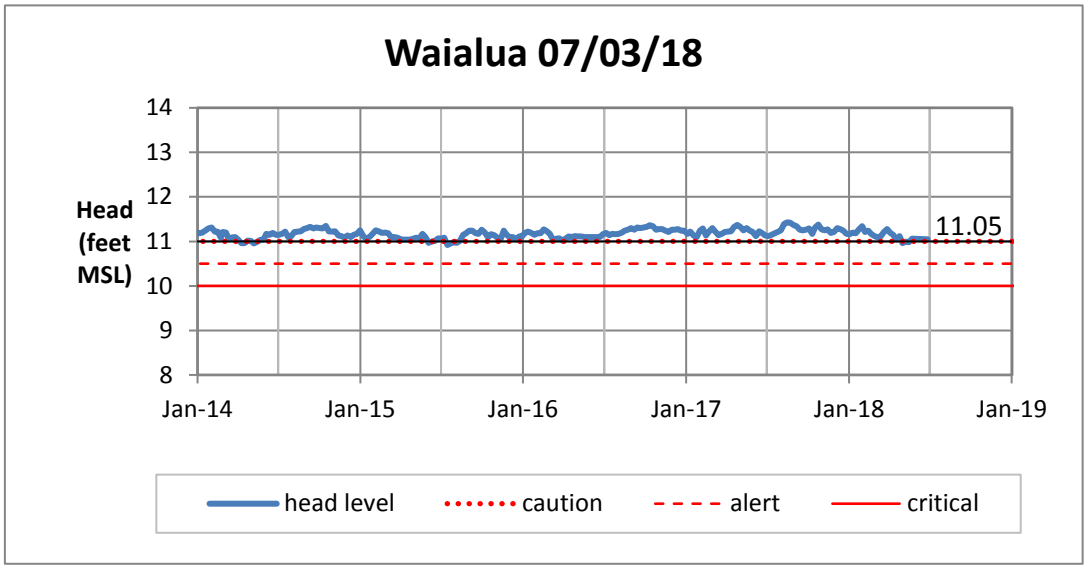
# Weekly Head Report

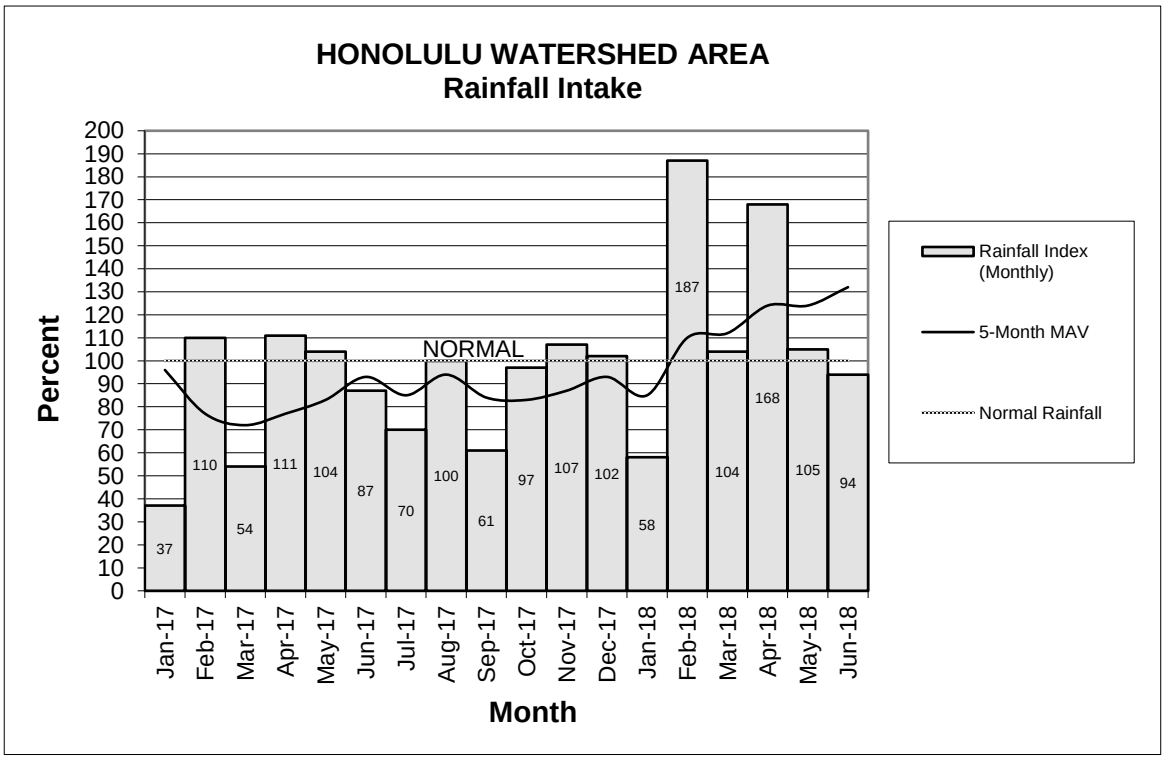


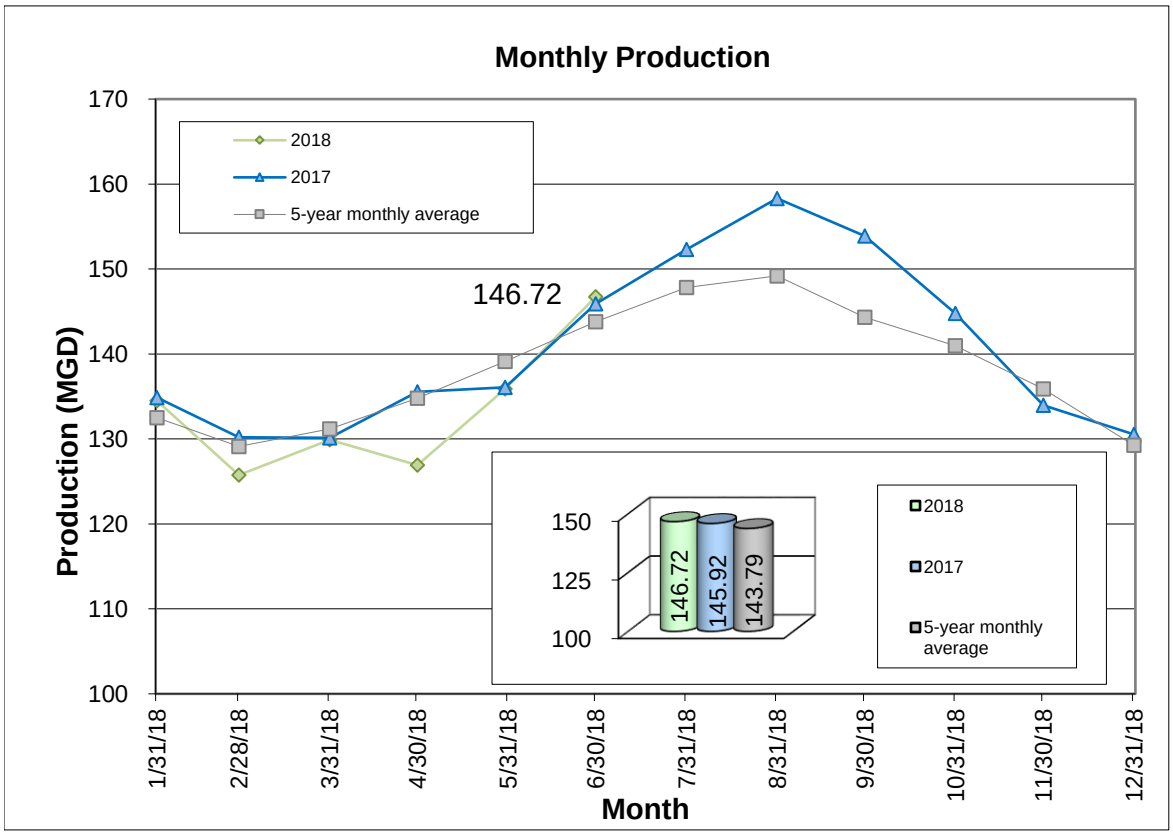



# Weekly Head Report




HONOLULU WATERSHED AREA
Rainfall Intake
Percent
Month
NORMAL
Rainfall Index (Monthly)
5-Month MAV
Normal Rainfall
37
110
54
111
104
87
70
100
61
97
107
102
58
187
104
168
105
94
Jan-17
Feb-17
Mar-17
Apr-17
May-17
Jun-17
Jul-17
Aug-17
Sep-17
Oct-17
Nov-17
Dec-17
Jan-18
Feb-18
Mar-18
Apr-18
May-18
Jun-18


Monthly Production
Production (MGD)
Month
2018
2017
5-year monthly average
146.72
146.72
145.92
143.79
1/31/18
2/28/18
3/31/18
4/30/18
5/31/18
6/30/18
7/31/18
8/31/18
9/30/18
10/31/18
11/30/18
12/31/18

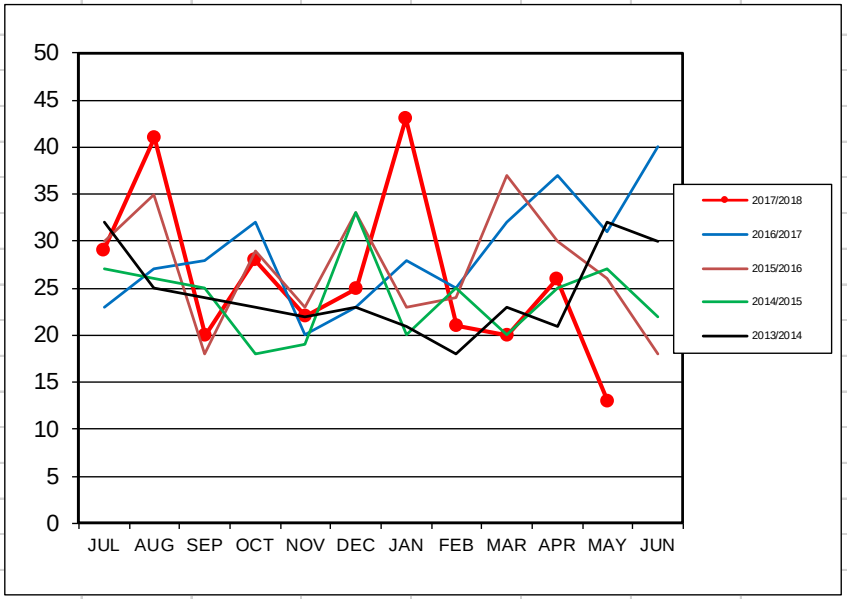
ITEM FOR INFORMATION NO. 4

# WATER MAIN REPAIR REPORT

## for May 2018

| | JUL | AUG | SEP | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2017/2018** | 29 | 41 | 20 | 28 | 22 | 25 | 43 | 21 | 20 | 26 | 13 | | 288 |
| **2016/2017** | 23 | 27 | 28 | 32 | 20 | 23 | 28 | 25 | 32 | 37 | 31 | 40 | 346 |
| **2015/2016** | 30 | 35 | 18 | 29 | 23 | 33 | 23 | 24 | 37 | 30 | 26 | 18 | 326 |
| **2014/2015** | 27 | 26 | 25 | 18 | 19 | 33 | 20 | 25 | 20 | 25 | 27 | 22 | 287 |
| **2013/2014** | 32 | 25 | 24 | 23 | 22 | 23 | 21 | 18 | 23 | 21 | 32 | 30 | 294 |

| Date | Address | Size (In) | Pipe Type |
|---|---|---|---|
| 5/1/2018 | 376 N Circle Mauka Pl, Wahiawa | 6 | CI |
| 5/5/2018 | 94-607 Kipou St, Honolulu | 8 | CI |
| 5/9/2018 | 87-109 Hookele St, Nanakuli-Maili | 6 | CI |
| 5/10/2018 | 99-1312 Aiea Heights Dr, Aiea | 6 | CI |
| 5/10/2018 | 1249 10th Ave, Honolulu | 12 | PVC |
| 5/11/2018 | 2228 N School St, Honolulu | 6 | CI |
| 5/11/2018 | 1403 Luinakoa St, Honolulu | 8 | CI |
| 5/16/2018 | 2305 Ahakapu St, Pearl City | 4 | CI |
| 5/24/2018 | 115 Plum St, Wahiawa | 8 | CI |
| 5/26/2018 | 94-010 Leolua St, Waipahu | 12 | CI |
| 5/28/2018 | 1720 Hoohulu St, Pearl City | 8 | CI |
| 5/30/2018 | 3258 Oahu Ave, Honolulu | 8 | PVC |
| 5/31/2018 | 1641 Hoohalike St, Pearl City | 8 | CI |




57 miles of pipelines were surveyed by the Leak Detection Team in the month of May.

DISCUSSION: Mike Fuke, Acting Field Operations Program Administrator, gave the report. Mr. Fuke stated that the BWS was fortunate in the month of May to have only 13 main breaks. However, that was short-lived, as there has already been over 30 breaks in the month of June. Mr. Fuke stated that 57 miles of pipeline were surveyed by the BWS Leak Detection Team, and four leaks were repaired before turning into major issues.

| | |
|---|---|
| MOTION TO RECESS INTO EXECUTIVE SESSION | Upon unanimously approved motion, the Board recessed into Executive Session Pursuant to [HRS § 92-5(a)(4)] at 2:52 PM to Consider Issues Pertaining to Matters Posted for Discussion at an Executive Session. |
| OPEN SESSION | The Board reconvened in Open Session at 3:20 PM |
| DISCUSSION | Mr. Soon expressed his appreciation for BWS sending him to the American Water Works Association (AWWA) Conference. He explained that it was very educational and recommends his fellow Board members to attend future AWWA conferences.<br><br>Mr. Soon commented that BWS's good reputation and strong integrity resulted in a reasonably "un-ruckus" review of the proposed rates from the public. Mr. Soon explained the importance of educating the public on what BWS is doing, and recommends sending Ms. Pahinui to next year's AWWA conference. Mr. Lau responded that the division heads rotate attending the AWWA Conference each year and stated that he is looking to send Ms. Pahinui next year because she was very instrumental in putting together the outreach program.<br><br>Ms. Sproat agreed with Mr. Soon on the importance of letting the public know what BWS is doing. She stated that the public knows most about main breaks, but not so much about good things BWS does. Mr. Lau responded that at the public outreach hearings, there were more non-rate related questions than there were rate related questions.<br><br>Mr. Andaya stated that he attended the AWWA Conference in Philadelphia, which was right before BWS started its ratemaking process. Many of the things that Mr. Andaya has said and done during this ratemaking process is because of what he's learned at that conference.<br><br>Mr. Lau stated that the AWWA Conference offers a Boards and Commissions Workshop. Seats for this workshop were sold out at the AWWA Conference in Las Vegas, Nevada. The AWWA starts to announce the conference dates and program around March or April. Mr. Lau stated that if the Board members are interested, BWS will try to get them registered early to ensure there are seats available for them. |

MOTION TO ADJOURN

There being no further business Chair Andaya at 3:28 PM called for a motion to adjourn the Open Session. Ross Sasamura so moved; seconded by Kapua Sproat and unanimously carried.

Respectfully submitted,

| THE MINUTES OF THE REGULAR SESSION BOARD MEETING ON JUNE 29, 2018 WERE APPROVED AT THE JULY 23, 2018 BOARD MEETING | | | |
|---|---|---|---|
| | AYE | NO | COMMENT |
| BRYAN P. ANDAYA | X | | |
| KAPUA SPROAT | X | | |
| DAVID C. HULIHEE | | | ABSENT |
| KAY C. MATSUI | | | ABSENT |
| RAY C. SOON | X | | |
| ROSS S. SASAMURA | X | | |
| JADE T. BUTAY | X | | |

LESLEY C. COON

APPROVED:

BRYAN P. ANDAYA
Chair of the Board

JUL 2 3 2018
Date