

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HI 96843
www.boardofwatersupply.com



February 27, 2023

RICK BLANGIARDI, MAYOR

BRYAN P. ANDAYA, Chair
KAPUA SPROAT, Vice Chair
MAX J. SWORD
NA'ALEHU ANTHONY
JONATHAN KANESHIRO

DAWN B. SZEWCZYK, P.E., Ex-Officio
EDWIN H. SNIFFEN, Ex-Officio

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

ERWIN M. KAWATA
Deputy Manager

NOTICE

The Board of Water Supply, City and County of Honolulu, Regular Meeting will be held on Monday, February 27, 2023, at 2:00 p.m. in the Boardroom, Public Service Building, 630 South Beretania Street, Honolulu, HI 96843.

Limited seating will be available for in-person testifiers in the Boardroom. The public may also view the livestream of the meeting from the lobby of the Board of Water Supply, Public Service Building, 630 S. Beretania St., Honolulu, HI 96843.

TESTIMONY

Testimony may be submitted as follows:

- Written testimony should include the submitter's address, email address, and phone number. Testimony should be received by Monday, February 27, 2023, at noon. Submit written testimony by:
 - Email to board@hbws.org
 - Online at boardofwatersupply.com/testimony
 - Mail to Board of Water Supply, 630 S. Beretania St., Honolulu, HI 96843
 - Fax to (808) 748-5079

- Oral testimony will be accepted remotely and in person during the meeting. Pre-registration is encouraged to facilitate as much remote and in-person testimony as reasonably possible during the time allotted. Testifiers should also consider submitting a written version of their oral testimony.

- To testify remotely by phone or video using the Zoom videoconferencing platform, please submit your request by:

- Email to board@hbws.org
- Online at boardofwatersupply.com/testimony

Zoom registration instructions, as well as participant guidelines, will be sent to the contact information provided. Once confirmed as registered, testifiers will receive an email containing the links and instructions to join the Zoom session. Submit your request to testify remotely by Friday, February 24, 2023, at noon.

- To testify in person at the Board of Water Supply, Public Service Building, 630 S. Beretania St., Honolulu, HI 96843, please pre-register by submitting your request by Monday, February 27, 2023:

- Email to board@hbws.org
- Online at boardofwatersupply.com/testimony

In-person testifiers should check-in with building security and then with testimony staff located in the lobby. Testifiers will be escorted to and from the Board Room. On-site registration will be available for walk-in requests.

Testimony is limited to two (2) minutes and shall be presented by the registered speaker only. Testimony submitted in writing or orally, electronically or in person, for use in the meeting process is public information. All testimony will be included as part of the approved meeting minutes at boardofwatersupply.com/boardmeetings.

MATERIALS AVAILABLE FOR INSPECTION

Meeting materials (“board packet” under HRS Section 92-7.5) are accessible at www.boardofwatersupply.com/boardmeetings.

VIEWING THE MEETING

The meeting will be viewable via live streaming on the BWS website: www.boardofwatersupply.com/live. Video will appear on screen. You may have to click the arrow on video to start it. You may have to unmute audio as muted audio tends to be the default setting.

SPECIAL REQUESTS AND ACCOMMODATIONS

If you require special assistance, an auxiliary aid or service, and/or an accommodation due to a disability to participate in this meeting (i.e., sign language interpreter; interpreter for language other than English, or wheelchair accessibility), please call (808) 748-5172 or email your request to board@hbws.org **at least three business days prior to the meeting date**. If a response is received after the requested three business days before the meeting date deadline, we will try to obtain the auxiliary aid/service or accommodation, but we cannot guarantee that request will be filled.

Upon request, this notice is available in alternate formats such as large print, Braille, or electronic copy.

The agenda for February 27, 2023, Regular Meeting of the Board of Water Supply is as follows:

ITEMS REQUIRING BOARD ACTION

1. Approval of the Minutes of the Regular Meeting Held on December 12, 2022
2. Approval of the Minutes of the Regular Meeting Held on January 23, 2023
3. Adoption of Resolution No. 960, 2023, Acceptance of Gift to the Board of Water Supply from Hardware Hawaii (HH Holdings, Inc.) for Detect-A-Leak Week
4. Adoption of Resolution No. 961, 2023, Acceptance of Gifts to the Board of Water Supply from Various Donors in Support of the 2023 Water Conservation Week Program
5. Adoption of Resolution No. 962, 2023, Authorizing Up to \$25,000,000 Principal Amount of Series 2023 Bonds

ITEMS FOR INFORMATION

1. Update on the Board of Water Supply's Response to the Potential Impacts of the Red Hill Fuel Contamination
2. Financial Statements and Supplementary Information with Independent Auditors' Report, Fiscal Year Ended June 30, 2022
3. Financial Update for the Quarter Ended December 31, 2022
4. Capital Improvement Program Quarterly Update
5. Status Update of Groundwater Levels at All Index Stations for December 2022 and January 2023
6. Water Main Repair Report for December 2022 and January 2023

EXECUTIVE SESSION

1. Approval of the Minutes of the Executive Session Held on November 28, 2022
2. Approval of the Minutes of the Executive Session Held on January 23, 2023
3. To Consider the Evaluation of the Manager and Chief Engineer, Where Consideration of Matters Affecting Privacy Will be Involved [HRS §92-5(a)(2)]

MINUTES

THE REGULAR MEETING OF THE BOARD OF WATER SUPPLY

February 27, 2023

At 2:00 PM on February 27, 2023, 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.

Present: Bryan P. Andaya, Chair
Kapua Sproat, Vice Chair via Zoom
Max J. Sword, Board Member
Na'alehu Anthony, Board Member
Jonathan Kaneshiro, Board Member
Dawn B. Szewczyk., Board Member, Ex- Officio
Edwin H. Sniffen, Board Member, Ex-Officio
via Zoom

Also Present: Ernest Lau, Manager and Chief Engineer
Erwin Kawata, Deputy Manager
Jadine Urasaki, Assistant Program Administrator,
Capital Projects Division
via Vimeo and In-Person
Jennifer Elflein, Program Administrator,
Customer Care Division via Vimeo
Kathleen Elliott-Pahinui, Information Officer,
Communications Office
Raelynn Nakabayashi, Executive Assistant I,
Executive Support Office
Jason Nikaido, Program Administrator,
Field Operations Division
via Vimeo and In-Person
Joseph Cooper, Waterworks Controller,
Finance Division
Teriann Akana, Human Resources Specialist VI,
via Vimeo
Henderson Nuuhiwa, Program Administrator,
Information Technology Division
via Vimeo
Michael Matsuo, Land Administrator, Land Division
via Vimeo
Barry Usagawa, Program Administrator,
Water Resources Division
via Zoom, Vimeo and In-Person
Kevin Ihu, Program Administrator,
Water System Operations Division
via Vimeo
Kathy Mitchell, Administrative Services Officer
via Vimeo
Kimberly Kuwaye, Manager Secretary

Joy Cruz-Achiu, Board Secretary
Tracy Burgo, Information Specialist II,
Communications Office
Stella Bernardo, Information Specialist II,
Communications Office via Zoom
Michele Harman, Community Relations Specialist I,
Communications Office via Zoom
Wayne Maria, Information Specialist II,
Communications Office via Zoom

Others Present: Jeff Lau, Deputy Corporation Counsel via Zoom
Jessica Wong, Deputy Corporation Counsel
via Zoom

Chair Bryan Andaya welcomed everyone to the February 27, 2023, Regular Meeting of the Board of Water Supply (BWS).

Before the meeting, Chair Andaya reviewed a few meeting regulations required by law. Board Members attending the Board Meeting remotely must be visible to the public to be considered present and meet quorum guidelines. He also stated during roll call that Board Members participating remotely must disclose their location and anyone that may be present at their location.

Chair Andaya announced that the public could attend Board Meetings at the BWS Public Service Building, 630 S. Beretania Street, Honolulu, HI 96843, via interactive conference technology.

Chair Andaya requested a roll call and asked those participating remotely to keep their cameras on during the meeting to comply with quorum guidelines. Chair Andaya asked each Board Member to respond verbally and state who is present in the room if participating remotely when their names are called. Vice Chair Kapua Sproat, aye, and alone at her current location; and Board Member Dawn Szewczyk, aye, and alone at her location. He announced that Board Member Na'alehu Anthony, Board Member Jonathan Kaneshiro, and Board Member Max Sword were present with him in the Board room.

Chair Andaya asked all attendees calling in or video conferencing to mute their microphones when not speaking to the audience. When intending to speak, unmute their microphone and identify themselves before speaking.

Chair Andaya introduced those in the Boardroom, Manager Ernest Lau, Deputy Manager Erwin Kawata, Board Secretary Joy L. Cruz-Achui, Manager Secretary Kim Kuwaye, and Information Specialist II Tracy Burgo. Joining via Zoom from the City and County Corporation Counsel were Deputy Jeff Lau and Deputy Jessica Wong, and Information Specialist II Wayne Maria.

At 2:13 PM, Chair Andaya announced that Board Member Edwin Sniffen joined the Board meeting via Zoom.

The following procedures are in effect for the meeting:

Chair Andaya shared the various ways to submit testimony: Written testimony may be submitted by email to board@hbws.org, by fax to (808) 748-5079; mailed to Board of Water Supply, 630 S. Beretania St., Honolulu, HI 96843; or online at the boardofwatersupply.com/testimony, which were all due on Monday, February 27, 2023, at noon. However, late testimony will be accepted by email, fax, or mail. Videoconference testimony was accepted by registering at boardofwatersupply.com/testimony by Friday, February 24, 2023. In-person testimony is being accepted at the Board of Water Supply, Public Service Building located at 630 S. Beretania St., Honolulu, HI 96843. Pursuant to HRS Section 92-7.5, Board Meeting materials are available to view on our website at www.boardofwatersupply.com/boardmeeting.

Chair Andaya also announced the Board Meeting is broadcasted live on the BWS website at www.boardofwatersupply.com/live.

APPROVAL OF MINUTES

Approval of the Minutes of the Regular Meeting Held on December 12, 2022.

MOTION TO APPROVE

Na'alehu Anthony and Kapua Sproat motioned and seconded, respectively, to approve the Minutes of the Regular Meeting Held on December 12, 2022.

Board Member Max Sword announced that he would be abstaining from voting.

In lieu of a roll call vote, Chair Andaya requested a voice vote on the motion and requested that Board Members in favor of the motion say "Aye." The Board members present responded with a verbal "Aye." Chair Andaya then inquired if any Board Members would like to object or vote "Nay" on the motion. There were no objections or "Nay" votes. Chair Andaya announced that the motion was unanimously carried.

THE MINUTES OF THE REGULAR MEETING HELD ON DECEMBER 12, 2022, WERE APPROVED AT THE FEBRUARY 27, 2023, BOARD MEETING			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
MAX J. SWORD			ABSTAIN
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
DAWN B. SZEWCZYK	X		
EDWIN H. SNIFFEN	X		

APPROVAL OF MINUTES

Approval of the Minutes of the Regular Meeting Held on January 23, 2023.

MOTION TO APPROVE

Max Sword and Na'alehu Anthony motioned and seconded, respectively, to approve the Minutes of the Regular Meeting Held on January 23, 2023.

Vice Chair Kapua Sproat announced that she would be abstaining from voting.

In lieu of a roll call vote, Chair Andaya requested a voice vote on the motion and requested that Board Members in favor of the motion say "Aye." The Board members present responded with a verbal "Aye." Chair Andaya then inquired if any Board Members would like to object or vote "Nay" on the motion. There were no objections or "Nay" votes. Chair Andaya announced that the motion was unanimously carried.

THE MINUTES OF THE REGULAR MEETING HELD ON JANUARY 23, 2023, WERE APPROVED AT THE FEBRUARY 27, 2023, BOARD MEETING			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT			ABSTAIN
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
DAWN B. SZEWCZYK	X		
EDWIN H. SNIFFEN	X		

"February 27, 2023

ADOPTION OF
RESOLUTION
NO. 960, 2023,
ACCEPTANCE OF
GIFT TO THE
BOARD OF WATER
SUPPLY FROM
HARDWARE
HAWAII (HH
HOLDINGS, INC.)
FOR DETECT-A-
LEAK WEEK

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

Chair and Members:

Subject: Adoption of Resolution No. 960, 2023, Acceptance of Gift to the Board of Water Supply from Hardware Hawaii (HH Holdings, Inc.) for Detect-A-Leak Week

We recommend acceptance of the proposed gift to the Board of Water Supply (BWS), City and County of Honolulu, from Hardware Hawaii (HH HOLDINGS, INC.) of four WaterSense labeled toilets (three elongated and one round) valued at \$786.00. This supports the BWS's annual Detect-A-Leak Week campaign, observed from April 16, 2023, through April 22, 2023.

The goal of the campaign is to remind customers to detect and repair leaks, emphasizing the importance of replacing older inefficient toilets with WaterSense labeled models (1.28 gallons per flush or less). This can reduce water waste by 20 to 60% per year.

Unlike earlier generation low-flush toilets, WaterSense models combine high efficiency with high performance functioning better than standard toilets in consumer testing.

During Detect-A-Leak Week, the public will have the chance to win four WaterSense (1.28 gallons per flush) labeled toilets. This will inspire residents to embrace their role as responsible stewards of our limited yet precious water resources and may help to lower customer water bills.

We greatly appreciate the continued participation and commitment of our community partners and customers who support this worthwhile program.

Respectfully Submitted,

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

Attachment"

DISCUSSION:

Kathleen Elliott-Pahinui, Information Officer, Communications Office, gave the report.

**MOTION
TO APPROVE**

Edwin Sniffen and Max Sword motioned and seconded, respectively, to approve the Adoption of Resolution No. 960, 2023, Acceptance of Gift to the Board of Water supply from Hardware Hawaii (HH Holdings, Inc.) for Detect-A-Leak Week

In lieu of a roll call vote, Chair Andaya requested a voice vote on the motion and requested that Board Members in favor of the motion say "Aye." The Board members present responded with a verbal "Aye." Chair Andaya then inquired if any Board Members would like to object or vote "Nay" on the motion. There were no objections or "Nay" votes. Chair Andaya announced that the motion was unanimously carried.

ADOPTION OF RESOLUTION NO. 960, 2023, ACCEPTANCE OF GIFT TO THE BOARD OF WATER SUPPLY FROM HARDWARE HAWAII (HH HOLDINGS, INC.) FOR DETECT-A-LEAK WEEK WAS ADOPTED ON FEBRUARY 27, 2023			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
DAWN B. SZEWCZYK	X		
EDWIN H. SNIFFEN	X		

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU

RESOLUTION NO. 960.2023

ACCEPTANCE OF GIFT FROM HARDWARE HAWAII (HH HOLDINGS, INC.) IN
SUPPORT OF THE ANNUAL DETECT-A-LEAK WEEK CAMPAIGN

WHEREAS, the Board of Water Supply's (BWS) Detect-A-Leak Week campaign will be observed from April 16, 2023, through April 22, 2023, encouraging Oahu residents to reduce water usage by replacing older inefficient toilets with WaterSense labeled models, as an effective way to protect our most precious limited water supply; and

WHEREAS, Hardware Hawaii is offering a generous gift of four WaterSense labeled toilets (1.28 gallons per flush) in support of Detect-A-Leak Week, which reminds government entities, businesses, and residents to detect and repair leaks, emphasizing the importance of replacing an inefficient toilet, which can reduce water waste by 20 to 60%; and

WHEREAS, unlike earlier generation low-flush toilets, WaterSense labeled models combine high efficiency/performance and function better than standard toilets in consumer testing; and

WHEREAS, conserving water replenishes our supply of fresh drinking water and may help to lower customer water bills; 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

BE IT RESOLVED that the BWS hereby accept the gift valued at and directs the Manager and Chief Engineer, or his delegate, to accept and thank Hardware Hawaii (HH Holdings, Inc.) for this gift.

ADOPTED:



BRYAN P. ANDAYA
Chair

Honolulu, Hawaii
February 27, 2023

ADOPTION OF RESOLUTION NO. 960, 2023, ACCEPTANCE OF GIFT TO THE BOARD OF WATER SUPPLY FROM HARDWARE HAWAII (HH HOLDINGS, INC.) FOR DETECT-A-LEAK WEEK WAS ADOPTED ON FEBRUARY 27, 2023			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
DAWN B. SZEWCZYK	X		
EDWIN H. SNIFFEN	X		

ADOPTION OF
RESOLUTION
NO. 961, 2023
ACCEPTANCE OF
GIFTS TO THE

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

BOARD OF WATER
SUPPLY FROM

Chair and Members:

VARIOUS DONORS
IN SUPPORT OF
2023 WATER
CONSERVATION
WEEK PROGRAM

Subject: Adoption of Resolution No. 961, 2023, Acceptance of Gifts to the Board of Water Supply from Various Donors in Support of the 2023 Water Conservation Week Program

We recommend the adoption of the attached Resolution No. 961, 2023, which accepts proposed gifts to the Board of Water Supply (BWS), City and County of Honolulu, in support of the 2023 Water Conservation Week (WCW) Program. Monetary and in-kind gifts from the donors total of \$12,700.00.

<u>Donor Name</u>	<u>Amount</u>
Friends of Halawa Xeriscape Garden	\$ 2,000.00
Sodexo (Refreshments for awards ceremony)	\$ 2,700.00
Hawaiian Financial Federal Credit Union	\$ 2,000.00
Aloha Pacific Federal Credit Union	\$ 2,000.00
Alexander and Baldwin, Incorporated	\$ 1,000.00
Hawaii Energy	\$ 1,000.00
Pasha Hawaii	\$ 1,000.00
Times Supermarkets	<u>\$ 1,000.00</u>
TOTAL	\$12,700.00

This well-established education outreach program is in its 44th year of existence. It uses a poster and poetry contest to engage Oahu's students in grades Kindergarten through 12 and teach them the value of water. Our goal is to instill in them the need to be water-efficient as everyone contributes to a larger, island-wide commitment to a sustainable water future. Through this program, the BWS hopes to inspire more island residents to adopt water-conserving behaviors.

Sponsor gifts will help the BWS offset program costs that include printing of 20,000 copies of the 2024 Water Conservation Calendars that will feature the winning entries from the 2023 WCW Poster and Poetry contests, as well as an awards ceremony for place winners and honorable mentions of the 2023 contests. The calendars are distributed to all Oahu schools, elected officials, and the public.

We sincerely appreciate the continued support of this Board for this very valuable and worthwhile public education program. All participants in our WCW program are encouraged to always embrace their roles as responsible stewards of our precious water resource.

Respectfully Submitted,

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

Attachment”

DISCUSSION: Kathleen Elliott-Pahinui, Information Officer, Communications Office, gave the report.

MOTION TO APPROVE Max Sword and Na’alehu Anthony motioned and seconded, respectively, to approve the Adoption of Resolution No. 961, 2023, Acceptance of Gift to the Board of Water Supply from Various Donors in Support of the 2023 Water Conservation Week Program.

In lieu of a roll call vote, Chair Andaya requested a voice vote on the motion and requested that Board Members in favor of the motion say “Aye.” The Board members present responded with a verbal “Aye.” Chair Andaya then inquired if any Board Members would like to object or vote “Nay” on the motion. There were no objections or “Nay” votes. Chair Andaya announced that the motion was unanimously carried.

ADOPTION OF RESOLUTION NO. 961, 2023, ACCEPTANCE OF GIFTS TO THE BOARD OF WATER SUPPLY FROM VARIOUS DONORS IN SUPPORT OF THE 2023 WATER CONSERVATION WEEK PROGRAM WAS ADOPTED FEBRUARY 27, 2023			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
MAX J. SWORD	X		
NA’ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
DAWN B. SZEWCZYK	X		
EDWIN H. SNIFFEN	X		

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU

RESOLUTION NO. 961, 2023

ACCEPTANCE OF GIFTS TO THE BOARD OF WATER SUPPLY
FROM VARIOUS DONORS IN SUPPORT OF THE
2023 WATER CONSERVATION WEEK PROGRAM

WHEREAS, the Board of Water Supply's (BWS) annual Water Conservation Week program uses a poster and poetry contest to encourage Oahu students to reflect on the importance of efficient water use and features the winning and honorable mention entries in a yearly Water Conservation Calendar that is distributed to the public; and

WHEREAS, the BWS may solicit 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, the BWS will solicit for gifts on its agency website, which is available for access by any interested person or business; and

WHEREAS, the Friends of Halawa Xeriscape Garden; Sodexo; Hawaiian Financial Federal Credit Union, Board of Water Supply Branch; Aloha Pacific Federal Credit Union; Alexander and Baldwin, Incorporated; Hawaii Energy; Pasha Hawaii, and Times Supermarkets are offering monetary and in-kind gifts totaling \$12,700.00 in support of the 2023 Water Conservation Week program; and

WHEREAS, a gift to the BWS benefits the Department because it assists ongoing efforts, such as this well-established public education program, and reduces the need for ratepayer funds to support the program's key components; and

WHEREAS, the gifts will be used to offset reasonable and necessary costs of the printing and delivery of about 20,000 Water Conservation Calendars featuring the contests' winning entries and efforts to reveal and recognize the student winners and honorable mentions; now, therefore

BE IT RESOLVED that the Board of Water Supply hereby accepts the various gifts valued at \$12,700.00 and directs the Manager and Chief Engineer, or his delegate, to accept and thank the various donors for these gifts.

ADOPTED:


BRYAN P. ANDAYA
Chair

Honolulu, Hawaii
February 27, 2023

ADOPTION OF RESOLUTION NO. 961, 2023,
ACCEPTANCE OF GIFTS TO THE BOARD OF WATER
SUPPLY FROM VARIOUS DONORS IN SUPPORT OF THE
2023 WATER CONSERVATION WEEK PROGRAM WAS
ADOPTED FEBRUARY 27, 2023

	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
DAWN B. SZEWCZYK	X		
EDWIN H. SNIFFEN	X		

"February 27, 2023

ADOPTION OF
RESOLUTION
NO. 962, 2023,
AUTHORIZING
UP TO
\$25,000,000
PRINCIPAL
AMOUNT OF
SERIES 2023
BOND

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

Chair and Members:

Subject: Adoption of Resolution No. 962, 2023, Authorizing Up to
\$25,000,000 Principal Amount of Series 2023 Bonds

We recommend the adoption and approval of Resolution No. 962, 2023, which authorizes and approves the issuance by the Board of Water Supply (Board) at one time, of not to exceed \$25,000,000 principal amount of revenue bonds. The purposes for which the Series 2023 Bonds are being issued are: (1) to pay the cost of improvements authorized in the capital budget of the Board; and (2) to pay the cost of issuance of the Series 2023 Bonds. The bonds shall be on terms and conditions as the Board determined to be necessary and advisable.

Respectfully Submitted,

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

Attachment"

DISCUSSION:

Joseph Cooper, Waterworks Controller, Finance Division, gave the report.

MOTION
TO APPROVE

Na'alehu Anthony and Max Sword motioned and seconded, respectively, to approve the Adoption of Resolution No. 962, 2023, Authorizing up to \$25,000,000 Principal Amount of Series 2023 Bonds

In lieu of a roll call vote, Chair Andaya requested a voice vote on the motion and requested that Board Members in favor of the motion say "Aye." The Board members present responded with a verbal "Aye." Chair Andaya then inquired if any Board Members would like to object or vote "Nay" on the motion. There were no objections or "Nay" votes. Chair Andaya announced that the motion was unanimously carried.

At 2:21, Board Member Dawn Szewczyk joined the Board meeting in the Board room.

ADOPTION OF RESOLUTION NO. 962, 2023,
 AUTHORIZING UP TO \$25,000,000 PRINCIPAL AMOUNT
 OF SERIES 2023 BONDS WAS ADOPTED ON
 FEBRUARY 27, 2023

	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
DAWN B. SZEWCZYK	X		
EDWIN H. SNIFFEN	X		

**BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU, HAWAII**

**WATER SYSTEM REVENUE BOND
SERIES 2023 RESOLUTION NO. 962, 2023**

**AUTHORIZING UP TO
\$25,000,000 PRINCIPAL AMOUNT OF SERIES 2023 BONDS**

ADOPTED FEBRUARY 27, 2023

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WATER SYSTEM REVENUE BOND
SERIES 2023 RESOLUTION

AUTHORIZING UP TO
\$25,000,000 PRINCIPAL AMOUNT OF SERIES 2023 BONDS

BE IT RESOLVED by the Board of Water Supply of the City and County of Honolulu, Hawaii, as follows:

ARTICLE I

DEFINITIONS AND STATUTORY AUTHORITY

Section 1.01. *Series 2023 Resolution.* (1) This Water System Revenue Bond Series 2023 Resolution, authorizing up to \$25,000,000 principal amount of Series 2023 Bonds, is supplemental to, and constitutes a Series Resolution within the meaning of and is adopted in accordance with Article X of, the Resolution, as hereinafter defined.

(2) It is hereby found and determined that it is necessary and required that the Board authorize and issue at this time a Series of Bonds to be designated as herein provided to provide monies to carry out one or more purposes of the Board.

Section 1.02. *Definitions.* (1) All terms which are defined in Section 1.01 of the Resolution shall have the same meanings, respectively, in this Series Resolution as such terms are given in said Section 1.01 of the Resolution.

(2) In addition, as used in this Series Resolution, unless the context shall otherwise require, the following terms shall have the following respective meanings:

“*Authorized Officer*” means the Manager, the Waterworks Controller or other officer designated by resolution of the Board.

“*Resolution*” means that certain resolution adopted by the Board on April 26, 2001, entitled “A Resolution Authorizing and Providing for the Issuance of Revenue Bonds of the Board of Water Supply of the City and County of Honolulu, Hawaii, for the Purposes of the Water System of Said City and County; Covenanteeing as to the Establishment, Maintenance, Revision and Collection of Charges and Rates for the Use and Services of Said Water System and the Collection and Disbursement of the Revenues Derived Therefrom; Pledging the Net Revenues Derived from Said Water System to the Payment of the Principal of and Interest on Said Bonds as the Same Fall Due; Creating and Establishing Certain Funds and Accounts; Setting Forth the Limitations or Conditions Upon the Issuance by the Board of Additional Bonds

Payable from the Aforesaid Revenues; and Making Other Covenants and Agreements in Connection with the Foregoing,” as amended and supplemented.

“*Series 2023 Bonds*” means the Bonds authorized by Article II of this Series 2023 Resolution.

“*Series 2023 Resolution*” means this Water System Revenue Bond Series 2023 Resolution authorizing up to \$25,000,000 principal amount of the Series 2023 Bonds.

“*Taxable Bonds*” means any Series 2023 Bonds which are not intended by the Board to be Tax-exempt Bonds.

“*Tax Certificate*” means the Tax Certificate executed by an Authorized Officer of the Board in connection with the issuance of the Series 2023 Bonds that are Tax-exempt Bonds.

(3) Words of any gender shall be deemed and construed to include correlative words of the other genders. Unless the context shall otherwise indicate, words importing the singular number shall include the plural number and vice versa, and words importing persons shall include firms, associations and corporations, including public bodies, as well as natural persons.

(4) The terms “hereby,” “hereof,” “hereto,” “herein,” “hereunder,” and any similar terms, as used in this Series 2023 Resolution, refer to the Series 2023 Resolution.

Section 1.03. *Authority for the Series 2023 Resolution.* This Series 2023 Resolution is adopted pursuant to the provisions of the Act and the Resolution.

ARTICLE II

AUTHORIZATION, TERMS AND ISSUANCE OF SERIES 2023 BONDS

Section 2.01. *Authorization of Series 2023 Bonds, Principal Amount, Designation and Series.* One or more Series of Bonds entitled to the benefit, protection and security of the Resolution are hereby authorized to be issued in an aggregate principal amount not to exceed \$25,000,000. Each such Series of Bonds shall be designated as and shall be distinguished from the Bonds of all other Series by the title “Water System Revenue Bonds, Series _____,” (having inserted in such blank the year of issuance and any appropriate letter designation), pursuant to and subject to the terms, conditions and limitations established in the Resolution and this Series 2023 Resolution.

Section 2.02. *Purposes.* The purposes for which the Series 2023 Bonds are being issued are (1) to pay the Costs of Improvements authorized in the capital budget of the Board; and (2) to pay the costs of issuance of the Series 2023 Bonds.

Section 2.03. *Delegation of Authority.* (1) There is hereby delegated to any Authorized Officer of the Board, subject to the limitations contained herein and in the Resolution

and the Act, the power with respect to the Series 2023 Bonds to determine and carry out the following:

(a) The sale of the Series 2023 Bonds at public or private sale and, if at private sale, the underwriter or underwriters; provided, however, that in the case of a private sale the purchase price paid by the purchasers thereof shall not be less than ninety percent (90%) of the principal amount of the Series 2023 Bonds so sold;

(b) The principal amount of Series 2023 Bonds to be issued; *provided, however,* that the principal amount of Series 2023 Bonds shall not exceed \$25,000,000;

(c) The specific Improvements to be financed from the proceeds of the Series 2023 Bonds;

(d) The Series designation of each Series of the Series 2023 Bonds, the date or dates, maturity date or dates and principal amount of each maturity of the Series 2023 Bonds or the method for calculating such dates and amounts, the amount and date of each Sinking Fund Installment, if any, or the method for calculating the Sinking Fund Installments and which Series 2023 Bonds are Serial Bonds or Term Bonds, if any, and the Record Date or Record Dates of the Series 2023 Bonds for which the Record Date or Record Dates is other than the fifteenth (15th) day (whether or not a Business Day) of the month next preceding an interest payment date for such Bonds;

(e) The interest rate or rates, if any, of the Series 2023 Bonds or the manner of determining such rate or rates, the date from which interest on the Series 2023 Bonds shall accrue, the dates on which interest on the Series 2023 Bonds shall be payable, if any, and if any Series 2023 Bonds are Variable Rate Bonds, the Maximum Interest Rate and the Minimum Interest Rate for such Bonds, and the provisions, if any, as to the calculation or change of variable interest rates; provided, however, that the true interest cost (as determined by an Authorized Officer of the Board, which determination shall be conclusive) on the Series 2023 Bonds shall not exceed eight percent (8%) per annum in the case of Tax-exempt Bonds or ten percent (10%) per annum in the case of Taxable Bonds;

(f) The Series 2023 Bonds which are Capital Appreciation Bonds, if any, the Valuation Dates for such Bonds and the Accreted Value on each such Valuation Date;

(g) The Series 2023 Bonds which are Deferred Income Bonds, if any, the Valuation Dates for such Bonds, the Appreciated Value on each such Valuation Date and the Interest Commencement Date for such Bonds;

(h) If any Series 2023 Bonds are Capital Appreciation Bonds or Deferred Income Bonds, the manner in which and the period during which principal and interest shall be deemed to accrue on such Series 2023 Bonds;

(i) If any Series 2023 Bonds are Option Bonds, (1) provisions regarding tender for purchase or redemption thereof and payment of the purchase or Redemption Price thereof; and (2) provisions regarding the appointment of a Remarketing Agent;

(j) The denomination or denominations of and the manner of numbering the Series 2023 Bonds;

(k) The Series 2023 Bonds which are Book Entry Bonds, if any, and the Depository therefor;

(l) The Paying Agent or Paying Agents for the Series 2023 Bonds and the place or places of payment of the principal, Sinking Fund Installments, if any, or Redemption Price of and interest on the Series 2023 Bonds;

(m) The Redemption Price or Redemption Prices, if any, and, subject to Article V of the Resolution, the redemption terms, if any, for the Series 2023 Bonds; provided, however, that the Redemption Price of Series 2023 Bonds at the election or direction of the Board shall not be greater than one hundred three percent (103%) of the principal amount of the Series 2023 Bonds to be redeemed, plus accrued interest thereon to the date of redemption; provided that the Redemption Price for any redemption of Taxable Bonds may be such higher price as may be appropriate for the sale of such Taxable Bonds;

(n) The form of the Series 2023 Bonds and the form of the Paying Agent's certificate of authentication thereon;

(o) Whether the Series 2023 Bonds shall be entitled to the benefit of the Common Reserve Account, and if so entitled, the amount of the Common Reserve Account Requirement and the method of funding or providing for such Common Reserve Account Requirement, the terms and provisions and credit quality of any Support Facility to be deposited therein, and any provisions with respect to subaccounts therein, if applicable;

(p) Any provisions with respect to funds and accounts and subaccounts therein, if applicable, and the Revenues and application thereof, as provided in Article VI of the Resolution;

(q) If the Series 2023 Bonds shall not be entitled to the benefit of the Common Reserve Account, whether a Series Reserve Account will be established for any of the Series 2023 Bonds, and if so determined to be established, the amount of the Series Reserve Account Requirement and the method of funding or providing for such Series Reserve Account Requirement, the terms and provisions and credit quality of any Support Facility to be deposited therein, and any provisions with respect to subaccounts therein, if applicable;

(r) [reserved];

(s) Whether a Support Facility shall be obtained or an Interest Rate Exchange Agreement shall be entered into with respect to the Series 2023 Bonds, and if any Series 2023 Bonds are Option Bonds, (i) the appointment of a Support Facility Provider which shall supply a Support Facility with respect to such Series 2023 Bonds; and (ii)

provisions for the establishment of separate accounts in which amounts drawn under a Support Facility for the Series 2023 Bonds are to be deposited;

(t) Directions for the application of the proceeds of the Series 2023 Bonds, including the interest on any Series 2023 Bonds to be capitalized from the proceeds thereof, if any, and the date or dates to which such capitalized interest shall accrue;

(u) [reserved];

(v) Which Series 2023 Bonds are to be issued as Tax-exempt Bonds and which, if any, are to be issued as Taxable Bonds; and

(w) Any other provisions deemed advisable by an Authorized Officer of the Board, not in conflict with the provisions hereof or of the Resolution.

(2) Such Authorized Officer shall execute one or more Series Certificates evidencing determinations or other actions taken pursuant to the authority granted herein or in the Resolution and any such Series Certificate shall be conclusive evidence of the action or determination of such Authorized Officer as to the matters stated therein.

(3) All Series 2023 Bonds of like Series, maturity and tenor issued pursuant to this Series 2023 Resolution shall be identical in all respects, except as to denominations and numbers.

Section 2.04. Authority to Enter into Agreements. (1) In the event any of the Series 2023 Bonds are sold at private sale as provided in clause (a) of subsection (1) of Section 2.03, any Authorized Officer of the Board is hereby authorized to execute one or more Bond Purchase Contracts in the name and on behalf of the Board in substantially the form as presented to and on file with the Board, which form is hereby approved, with such changes, insertions and omissions as may be approved by such Authorized Officer, such execution being conclusive evidence of such approval.

(2) The form of the Continuing Disclosure Certificate, as presented to and on file with the Board, is hereby approved. Any Authorized Officer of the Board is hereby authorized to execute one or more Continuing Disclosure Certificates substantially in such form, with such changes, insertions and omissions as may be approved by such Authorized Officer, such execution being conclusive evidence of such approval.

Section 2.05. Official Statements. (1) The form of Preliminary Official Statement, as presented to and on file with the Board, is hereby approved. The distribution in connection with the offering and sale of the Series 2023 Bonds of one or more Preliminary Official Statements in such form, with such changes, insertions and omissions as an Authorized Officer of the Board deems advisable, is hereby authorized.

(2) Any Authorized Officer of the Board is hereby authorized to execute and deliver, in the name and on behalf of the Board, one or more final Official Statements in substantially the form of the Preliminary Official Statement, with such changes, insertions and omissions as such

Authorized Officer deems advisable, and to permit the distribution of said Official Statement or Official Statements in connection with the offering and sale of the Series 2023 Bonds.

Section 2.06. *Execution of Documents.* Any Authorized Officer of the Board is hereby authorized to execute and deliver, in the name and on behalf of the Board, any and all documents and instruments, and to do and cause to be done any and all acts and things, said Authorized Officer deems necessary or advisable in connection with the offering, sale and issuance of the Series 2023 Bonds and to carry out the transactions contemplated by this Series 2023 Resolution.

ARTICLE III

EXECUTION AND AUTHENTICATION OF THE SERIES 2023 BONDS

Section 3.01. *Execution and Authentication of Series 2023 Bonds.* (1) Pursuant to the provisions of Sections 4.02 and 4.03 of the Resolution, the Chair or Vice-Chair of the Board is hereby authorized and directed to execute by his or her manual or facsimile signature the Series 2023 Bonds in the name of the Board; the program administrator, Finance Division, as the Waterworks Controller, is hereby authorized and directed to countersign by his or her manual or facsimile signature the Series 2023 Bonds, and the seal of the Board shall be affixed or a facsimile of such seal shall be imprinted on the Series 2023 Bonds.

(2) If a Paying Agent for the Series 2023 Bonds is appointed as provided in clause (1) of subsection (1) of Section 2.03, such Paying Agent is hereby authorized to authenticate by manual signature the Series 2023 Bonds, and deliver the same to or upon the order of the Board, in such amounts and at such times as such Paying Agent shall be directed in writing by an Authorized Officer.

ARTICLE IV

APPLICATION OF PROCEEDS

Section 4.01. *Application of Proceeds and Deposit of Moneys.* On the date of delivery of the Series 2023 Bonds, the proceeds of the sale of the Series 2023 Bonds shall be applied in accordance with the written direction of any Authorized Officer given pursuant to Section 2.03(1)(r) of this Series 2023 Resolution.

ARTICLE V

SPECIAL COVENANTS

Section 5.01. *Tax Status.* The interest on the Series 2023 Bonds that are Tax-exempt Bonds is intended to be excluded from gross income for purposes of federal income

taxation. In order to maintain such exclusion, the Board affirms that the tax covenants made in Section 8.13 of the Resolution shall apply to the Series 2023 Bonds that are Tax-exempt Bonds. In furtherance of the foregoing, the Board shall comply with the provisions of the Tax Certificate executed by any Authorized Officer of the Board in connection with the applicable Series 2023 Bonds that are Tax-exempt Bonds.

Section 5.02. *Survival of Covenant.* The obligation of the Board to comply with the provisions of the Tax Certificate with respect to any required payments to the Department of the Treasury of the United States of America shall remain in full force and effect so long as the Board shall be required by the Code to make such payments, notwithstanding that the Series 2023 Bonds that are Tax-Exempt Bonds are no longer Outstanding.

ARTICLE VI

MISCELLANEOUS

Section 6.01. *Effectiveness.* The Series 2023 Resolution shall become effective immediately upon its adoption.


INTRODUCED BY:


Bryan P. Andaya, Chair

Date of Introduction: February 27, 2023

ADOPTION OF RESOLUTION NO. 962, 2023, AUTHORIZING UP TO \$25,000,000 PRINCIPAL AMOUNT OF SERIES 2023 BONDS WAS ADOPTED ON FEBRUARY 27, 2023			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
DAWN B. SZEWCZYK	X		
EDWIN H. SNIFFEN	X		

The above and foregoing resolution is hereby approved as to form and legality this February 27, 2023.



Deputy Corporation Counsel
City and County of Honolulu
JESSICA Y. WONG

\$ _____
**BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU, HAWAII
WATER SYSTEM REVENUE BONDS,
SERIES 2023**

BOND PURCHASE CONTRACT

March __, 2023

Ernest Y.W. Lau
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96813

Andrew T. Kawano
Director of Budget and Fiscal Services
City and County of Honolulu
530 South King Street, Room 208
Honolulu, Hawaii 96813

Dear Sirs:

BofA Securities, Inc. (the "Underwriter") hereby offers to enter into this Bond Purchase Contract (the "Purchase Contract") with the Board of Water Supply (the "Board") of the City and County of Honolulu, Hawaii (the "City and County") which, upon your acceptance of this offer on behalf of the Board, will be binding upon the Board and the Underwriter. This offer is made subject to your written acceptance hereof at or before 5:00 P.M. Honolulu time, on the date written above, and, if not so accepted, will be subject to withdrawal by the Underwriter upon notice delivered to the Board at any time prior to your acceptance hereof after such date and time.

1. Background and Purpose. The Board intends to issue \$ _____ aggregate principal amount of the Board of Water Supply Water System Revenue Bonds, Series 2023 (the "Bonds"), to be issued under the provisions of Chapter 49, Hawaii Revised Statutes, and the Revised Charter of the City and County of Honolulu, Hawaii (collectively, the "Act"), proceedings of the Board, including a Water System Revenue Bond Resolution duly adopted by the Board on April 26, 2001, and a Series Resolution duly adopted by the Board on February __, 2023, relating to the Bonds (collectively, the "Resolutions") and a Series Certificate of Controller of the Board relating to the Bonds, dated March __, 2023 (the "Series Certificate").

(d) The Bonds will be offered and sold by the Underwriter with settlement to be made through The Depository Trust Company's book-entry-only system.

(e) The Underwriter shall pay the Purchase Price on the date of the Closing (if all other conditions to the Closing have been satisfied).

(f) In the event that the Underwriter fails (other than for a reason permitted hereunder) to accept and pay for the Bonds on the Closing Date as herein provided, the Underwriter and the Board agree that the Underwriter shall be obligated to pay to the Board immediately a sum equal to one percent (1%) of the principal amount of the Bonds as liquidated damages for such failure hereunder. The Underwriter and the Board understand that in such event the Board's actual damages may be greater or less than such amount. Accordingly, the Underwriter hereby waives any right to claim that the Board's actual damages are less than such amount, and the Board's acceptance of this offer shall constitute a waiver of any right the Board may have to additional damages from the Underwriter.

(g) The Underwriter agrees to make a public offering of all of the Bonds at prices not in excess of the initial public offering prices or less than the yields as set forth in the Official Statement.

4. Preliminary and Final Official Statements; Amendments and Supplements Thereto. (a) The Board hereby confirms that it has "deemed final" as of its date the Preliminary Official Statement dated February __, 2023, relating to the Bonds (the "Preliminary Official Statement") for purposes of paragraph (b)(1) of Rule 15c2-12, except for the omission of only such material as is permitted by such paragraph, as set forth in a confirmation letter, dated as of that date and delivered to the Underwriter, substantially in the form set forth in **Exhibit A** hereto.

(b) The Board shall provide to the Underwriter, within seven (7) business days after the date of acceptance of this Purchase Contract and in sufficient time to accompany any confirmation that requires payment from any customer, copies of the final Official Statement (the "Official Statement") in sufficient quantities to enable the Underwriter to comply with Rule 15c2-12 and the rules of the Municipal Securities Rulemaking Board.

(c) The Board agrees that it will notify the Underwriter if, between the date of this Purchase Contract and the earlier of (i) the "end of the underwriting period" (defined below), and (ii) the date on which the Underwriter notify the Board that all of the Bonds have been sold in the primary offering thereof pursuant to Section 3(g) hereof, the Board discovers any pre-existing or subsequent fact or becomes aware of the occurrence of any event, in any such case which might cause the Official Statement (as the same may have been theretofore supplemented or amended) to contain any untrue statement of a material fact or to omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading. If, in the written opinion of the Board or the Underwriter, the preparation and publication of a supplement or amendment to the Official Statement is, as a result of such fact or event (or any other event which becomes known to the Board or the Underwriter during such period), necessary so that the Official Statement does not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances

(c) The Board will furnish such information, execute such instruments and take such other action in cooperation with the Underwriter as the Underwriter may reasonably request in order (i) to qualify the Bonds for offer and sale under blue sky or other securities laws and regulations of such states and other jurisdictions of the United States as the Underwriter may designate, and (ii) to determine the eligibility of the Bonds for investment under the laws of such states and other jurisdictions, and will use its best efforts to continue such qualifications in effect so long as required for the distribution of the Bonds; *provided, however*, that the Board shall not be required to execute a general consent to service of process or qualify to do business in connection with any such qualification or determination in any jurisdiction.

6. Board's Representations; Warranties and Agreements. The Board represents and warrants to, and agrees with, the Underwriter as follows:

(a) The Board is the governing body of the Board of Water Supply (the "BWS") of the City and County, created pursuant to the Charter of the City and County (the "Charter"); and, under the Constitution and laws of the State of Hawaii, including the Act, and pursuant to the Resolutions and the Series Certificate, the Board has, and at the Closing Date will have, full legal right, power and authority (i) to adopt the Resolutions, (ii) to execute and deliver the Series Certificate, this Purchase Contract and the Disclosure Certificate, (iii) to issue, sell and deliver the Bonds pursuant to the Resolutions and the Series Certificate as provided herein, and (iv) to perform its obligations under, comply with the provisions of and carry out and consummate the transactions contemplated by the Resolutions, the Series Certificate, this Purchase Contract, the Disclosure Certificate and the Official Statement. The Bonds conform to the description thereof contained in the Official Statement, and when duly issued, authenticated, and delivered to the Underwriter as provided herein, will be validly issued and outstanding obligations of the Board, entitled to the benefits of the Resolution and payable from the sources identified therein.

(b) In connection with the issuance of the Bonds, the Board has complied, and at the Closing will in all respects be in compliance, with the Constitution and laws of the State of Hawaii, including the Act, and with the Resolutions, the Series Certificate and the Disclosure Certificate.

(c) The Board has (i) duly adopted the Resolutions; (ii) duly authorized and approved the execution and delivery of this Purchase Contract, the Series Certificate and the Disclosure Certificate, (iii) duly authorized and approved the performance by the Board of its obligations contained in the Resolutions, the Series Certificate, this Purchase Contract and the Disclosure Certificate and the performance of the transactions contemplated by such documents and the Official Statement, and (iv) duly authorized and approved, upon satisfaction of the conditions set forth herein, the issuance and delivery of the Bonds.

(d) No authorization, approval, consent or order of or filing or registration with any court or governmental agency or body is required for the valid authorization, execution, issuance, sale or delivery of the Bonds or the exclusion from gross income of interest thereon for federal income tax purposes or the valid adoption by the Board of the Resolutions or the execution and delivery of the Series Certificate, this Purchase Contract and the Disclosure Certificate, except (i) such action as shall have been taken by the Board prior to the Closing, (ii) the filing of an information return with respect to the Bonds as required by Section 149(e) of the Internal

(h) The Board has not been notified of any listing or proposed listing by the Internal Revenue Service to the effect that the Board is a bond issuer whose arbitrage certificates may not be relied upon.

(i) The Board is not in breach or violation of or default under any applicable law, rule or regulation of the United States or of the State or of any department, division, agency or instrumentality thereof, or any applicable order, judgment or decree of any court or other governmental agency or body, which breach, violation or default would result in a material adverse change in the financial position or results of operations of the Board or materially adversely affect the properties or assets of the BWS managed by the Board, and the Board is not in breach or violation of or in default under any bond, note, loan agreement, resolution, certificate, agreement or other instrument to which the Board is a party or by which it is bound or to which any of its property is subject, which breach, violation or default might result in a material adverse change in the financial position or results of operation of the Board or materially adversely affect the properties or assets of the Board. The adoption of the Resolutions, the execution and delivery of the Series Certificate, this Purchase Contract, the Disclosure Certificate and the Bonds, the issuance of the Bonds, and the fulfillment of the terms and provisions hereof and thereof will not conflict with or constitute a breach or violation of or default under any such applicable law, rule, regulation, order, judgment, decree, bond, note, loan agreement, resolution, certificate, agreement or other instrument, and the Board has no reason to believe that any such conflict, breach, violation or default will exist on the Closing Date.

(j) The Board will not amend or supplement the Official Statement without the prior consent of the Underwriter, which consent will not be unreasonably withheld.

(k) The Board is not in default, and has not been in default at any time within the immediately preceding ten (10) years, in the payment of principal of, premium, if any, or interest on, any bonds, notes or other obligations which it has issued, assumed or guaranteed as to payment of principal, premium, if any, or interest, except with respect to certain conduit revenue bonds payable solely from loan, installment sale or lease payments received by the Board from private entities.

The Board will promptly notify the Underwriter if any of the foregoing representations ceases to be true at any time between the date hereof and the Closing Date.

7. Closing. At 5:00 a.m., Honolulu time, on March __, 2023, or such other date and time as shall have been mutually agreed upon by the Board and the Underwriter (the "Closing Date"), (i) the Board will, subject to the terms and conditions hereof, deliver the Bonds to The Depository Trust Company on behalf of the Underwriter in the form of one or more bonds for each maturity of the Bonds, registered in the name of Cede & Co., duly executed and authenticated, and deliver or cause to be delivered to the Underwriter the other documents required by Section 9 hereof; and (ii) the Underwriter will, subject to the terms and conditions hereof, accept such delivery and pay or cause to be paid the Purchase Price of the Bonds as set forth in Section 3 hereof by wire transfer in immediately available funds to the Board. (All of the foregoing described transactions are herein called the "Closing".) The Closing shall take place at the offices of McCarriston Miller Mukai MacKinnon LLP, 500 Ala Moana Boulevard,

knowledge of said officer, the information and statements, including financial statements, of or pertaining to the Board and the BWS contained in the Official Statement were and are correct in all material respects; (iii) insofar as the Board and the BWS and the affairs, including financial affairs, of the Board and the BWS are concerned, the Official Statement did not and does not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; (iv) insofar as the descriptions and statements, including financial data, contained in the Official Statement, of or pertaining to non-governmental bodies or governmental bodies other than the Board are concerned, such descriptions, statements and data have been obtained from sources believed by the Board to be reliable, and the Board has no reason to believe that they are untrue or incomplete in any material respect; (v) no litigation is pending or, to such officer's knowledge, threatened in any court in any way adversely affecting the legal existence of the Board or the title of its officers or other officials to their respective offices, or seeking to restrain or enjoin the issuance, sale or delivery of the Bonds, or materially and adversely affecting the right of the Board to impose and collect water system revenues to pay the principal of and interest on the Bonds, or in any way materially and adversely contesting or affecting the validity or enforceability of the Bonds, the Resolutions, the Series Certificate, this Purchase Contract or the Disclosure Certificate, or contesting the completeness or accuracy of the Preliminary Official Statement or the Official Statement, or contesting the power of the Board or its authority with respect to the Bonds, the Resolutions, the Series Certificate, this Purchase Contract or the Disclosure Certificate (but in lieu of or in conjunction with such certificate, the Underwriter may, in its sole discretion, accept certificates or opinions of Corporation Counsel of the City and County, as counsel to the Board, acceptable to the Underwriter, that in the opinion of such counsel the issues raised in any such pending or threatened litigation are without substance or that the contentions of the plaintiffs therein are without merit); (vi) to the best of the knowledge of said officer, no event materially and adversely affecting the Board or the transactions contemplated hereby has occurred since the date of the Official Statement which, in the reasonable opinion of the Board, is required to be set forth in an amendment or supplement to the Official Statement (whether or not the Official Statement shall have been amended or supplemented to set forth such event); (vii) the Board has the full legal right, power and authority to carry out and consummate the transactions contemplated hereby and by the Official Statement; and (viii) the Board has complied with all of the requirements and satisfied all of the conditions on its part to be performed or satisfied at or prior to the Closing Date;

(5) evidence that the requirements of the Resolutions have been satisfied with respect to the issuance of the Bonds;

(6) an approving opinion of Bond Counsel, dated the date of the Closing, in substantially the form included in Appendix D to the Official Statement;

(7) a supplemental opinion of Bond Counsel, dated the date of the Closing, in substantially the form and to the effect set forth in **Exhibit B** hereto;

(8) an opinion from the Corporation Counsel, dated the Closing Date, in substantially the form and to the effect set forth in **Exhibit C** hereto;

misleading, in each case without regard to any amendment or supplement to the Official Statement;

(ii) additional material restrictions not in force as of the date hereof shall have been imposed upon trading in securities generally by any governmental authority or by any national securities exchange, which in the Underwriter's reasonable opinion, materially adversely affects the marketability of the Bonds;

(iii) the United States shall have become engaged in hostilities, whether or not a war shall have been declared, or there shall have occurred an escalation of any hostilities involving the armed forces of any country, or any other national emergency or national calamity relating to the effective operation of the United States Government or of the financial community which, in the Underwriter's reasonable opinion, materially adversely affects the market price of the Bonds;

(iv) there shall have occurred a general suspension of or material limitation of trading on The New York Stock Exchange or other national securities exchange as the result of an event affecting the national economy, or minimum or maximum prices for trading shall have been established on any such exchange and be in force, or minimum or maximum ranges for prices for securities shall be in force on any such exchange;

(v) the New York Stock Exchange or other national securities exchange, or any governmental authority, shall have imposed, as to the Bonds or obligations of the general character of the Bonds, any material restrictions not now in force or being enforced, or have increased materially from those now in force or being enforced with respect to the extension of credit by, or the charge to the net capital requirements of, or financial responsibility requirements of, the Underwriter;

(vi) any rating of any revenue bonds of the Board shall have been downgraded or withdrawn by any rating service;

(vii) there shall have occurred any event materially and adversely affecting the Board or the transactions contemplated hereby which, in the reasonable opinion of the Board or of the Underwriter, is required to be set forth in an amendment or supplement to the Official Statement (whether or not the Official Statement shall have been amended or supplemented to set forth such event);

(viii) the market price of general credit or revenue obligations issued by states or political subdivisions thereof, or the market price of obligations of the character of the Bonds, shall (in the reasonable judgment of the Underwriter) have been materially and adversely affected by (1) a tentative decision with respect to legislation reached by a committee of the House of Representatives or Senate of the United States Congress or an official pronouncement by the Chairman of any such committee with respect to any such legislation, legislation introduced in or enacted by the Congress of the United States, or passed by either House of the Congress or recommended to the Congress for passage by the President of the United States or by the Secretary of the United States Treasury Department, or favorably reported for introduction or passage to either House of Congress by any committee of such House to which such legislation has been referred for consideration, or an official pronouncement by the

of Bond Counsel and Corporation Counsel, the fees charged by investment rating agencies with respect to the Bonds, and the fees and expenses any auditors retained by the Board in connection with the transactions contemplated herein. In addition, certain of the foregoing expenses, as determined by the Underwriter and the Board, may be paid by the Underwriter on behalf of the Board and deducted from the Purchase Price otherwise payable to the Board at Closing. To the extent that the Underwriter, in order to facilitate the transactions hereunder, has advanced funds to pay any expenses of the Board incidental to this Bond Purchase Contract and the transactions hereunder (including, but not limited to, transportation, lodging, meals and other ancillary costs of Board representatives associated with the financing), the Board shall reimburse the Underwriter for such advances as part of the expense component of the Underwriter's compensation hereunder.

(b) The Underwriter will pay or cause to be paid, as the expense component of the Underwriter's discount, the cost of preparing, printing and mailing any amendment or supplement to the Official Statement resulting from a determination by the Underwriter to change the initial offering prices or yields set forth in the Official Statement; all advertising costs and other expenses incurred by the Underwriter in connection with the sale of the Bonds and the qualification of the Bonds for sale under the blue sky and other securities laws of the several states; counsel for the Underwriter; the fees and expenses of DTC with respect to the deposit of the Bonds; and the charge of the CUSIP Service Bureau for the assignment of CUSIP numbers for the Bonds.

12. *[subject to bond counsel review]* Establishment of Issue Price. (a) The Underwriter agrees to assist the Board in establishing the issue price of the Bonds and shall execute and deliver to the Board at Closing an "issue price" or similar certificate, substantially in the form attached hereto as **Exhibit E**, together with the supporting pricing wires or equivalent communications, with such modifications as may be deemed appropriate or necessary, in the reasonable judgment of the Underwriter, the Board and Bond Counsel, to accurately reflect, as applicable, the sales price or prices or the initial offering price or prices to the public of the Bonds.

(b) Except for the maturities set forth in **Schedule A** attached to **Exhibit E** hereto, the Board represents that it will treat the first price at which 10% of each maturity of the Bonds (the "10% test") is sold to the public as the issue price of that maturity (if different interest rates apply within a maturity, each separate CUSIP number within that maturity will be subject to the 10% test). If, as of the date hereof, the 10% test has not been satisfied as to any maturity of the Bonds for which the Board has elected to utilize the 10% test, the Underwriter agrees to promptly report to the Board the prices at which Bonds of that maturity or maturities have been sold by the Underwriter to the public. That reporting obligation shall continue until the earlier of the date upon which the 10% test has been satisfied as to the Bonds of that maturity or maturities or the Closing Date.

(c) The Underwriter confirms that it has offered the Bonds to the public on or before the date of this Purchase Contract at the offering price or prices (the "initial offering price"), or at the corresponding yield or yields, set forth in the Official Statement. **Schedule A** attached to **Exhibit E** hereto also sets forth, as of the date of this Purchase Contract, the maturities, if any, of the Bonds for which the 10% test has not been satisfied and for which the Board and the

the Bonds that, to its knowledge, are made to a purchaser who is a related party to an underwriter participating in the initial sale of the Bonds to the public (each such term being used as defined below), and (C) acknowledge that, unless otherwise advised by the Underwriter, dealer or broker-dealer, the Underwriter shall assume that each order submitted by the dealer or broker-dealer is a sale to the public; and

(ii) any agreement among underwriters relating to the initial sale of the Bonds to the public, together with the related pricing wires, contains or will contain language obligating each underwriter that is a party to a third-party distribution agreement to be employed in connection with the initial sale of the Bonds to the public to require each broker-dealer that is a party to such third-party distribution agreement to (A) report the prices at which it sells to the public the unsold Bonds of each maturity allocated to it until it is notified by the Underwriter that either the 10% test has been satisfied as to the Bonds of that maturity or all Bonds of that maturity have been sold to the public and (B) comply with the hold-the-offering-price rule, if applicable, in each case if and for so long as directed by the Underwriter and as set forth in the related pricing wires.

(e) The Underwriter acknowledges that sales of any Bonds to any person that is a related party to an Underwriter shall not constitute sales to the public for purposes of this section. Further, for purposes of this section:

(i) “public” means any person other than an underwriter or a related party to an underwriter,

(ii) “underwriter” means (A) any person that agrees pursuant to a written contract with the Board (or with the lead underwriter to form an underwriting syndicate) to participate in the initial sale of the Bonds to the public and (B) any person that agrees pursuant to a written contract directly or indirectly with a person described in clause (A) to participate in the initial sale of the Bonds to the public (including a member of a selling group or a party to a third-party distribution agreement participating in the initial sale of the Bonds to the public),

(iii) a purchaser of any of the Bonds is a “related party” to an underwriter if the underwriter and the purchaser are subject, directly or indirectly, to (i) more than 50% common ownership of the voting power or the total value of their stock, if both entities are corporations (including direct ownership by one corporation of another), (ii) more than 50% common ownership of their capital interests or profits interests, if both entities are partnerships (including direct ownership by one partnership of another), or (iii) more than 50% common ownership of the value of the outstanding stock of the corporation or the capital interests or profit interests of the partnership, as applicable, if one entity is a corporation and the other entity is a partnership (including direct ownership of the applicable stock or interests by one entity of the other), and

(iv) “sale date” means the date of execution of this Bond Purchase Agreement by all parties.

(d) Notwithstanding the foregoing, the provisions of Section 20 hereof shall survive any termination of this Purchase Contract.

16. Parties in Interest. This Purchase Contract is made solely for the benefit of the Board and the Underwriter and will inure to the benefit of and be binding upon the parties hereto and their respective successors, and no other person shall acquire or have any right hereunder or by virtue hereof.

17. Effectiveness. This Agreement shall become effective and binding upon the respective parties hereto only upon the execution, acceptance and delivery hereof by the Board.

18. Governing Law. This Purchase Contract will be governed by and construed in accordance with the laws of the State of Hawaii.

19. Headings. The headings of the Sections of this Purchase Contract are inserted for convenience only and shall not be deemed to be a part hereof.

20. Counterparts; Electronic Signature. This Purchase Contract may be executed by the parties hereto in separate counterparts, each of which shall be regarded as an original (with the same effect as if the signatures thereto and hereto were upon the same document) and all of which shall together constitute one and the same document. The electronic signature of a party to this Purchase Contract shall be as valid as an original signature of such party and shall be effective to bind such party to this Purchase Contract. For purposes hereof: (i) "electronic signature" means a manually signed original signature that is then transmitted by electronic means; and (ii) "transmitted by electronic means" means sent in the form of a facsimile or sent via the internet as a portable document format (pdf) or other replicating image attached to an email or internet message.

21. Survival of Representations and Obligations. The representations, warranties and agreements of the Board set forth in or made pursuant to this Purchase Contract shall not be deemed to have been discharged, satisfied or otherwise rendered void by reason of, and shall remain operative and in full force regardless of (a) any investigation made by or on behalf of the Underwriter; (b) delivery of and payment of the Bonds hereunder; and (c) any termination of this Purchase Contract, except as expressly provided herein.

[Remainder of page intentionally left blank.]

EXHIBIT A

[Letterhead of Board of Water Supply]

February __, 2023

BofA Securities, Inc.
Los Angeles, California

Ladies and Gentlemen:

With respect to the proposed sale by the Board of Water Supply of the City and County of Honolulu (the "Board") of its Water System Revenue Bonds, Series 2023 to you as Underwriter of such Bonds, the Board has delivered to you a Preliminary Official Statement, dated the date hereof (the "Preliminary Official Statement"). The Board, for purposes of compliance with Rule 15c2-12 of the Securities Exchange Act of 1934, deems the Preliminary Official Statement to be final as of its date, except for the omission of no more than such items as are allowed to be omitted pursuant to said Rule 15c2-12.

**BOARD OF WATER SUPPLY OF THE CITY
AND COUNTY OF HONOLULU**

By: _____
Name: Ernest Y.W. Lau
Title: Manager and Chief Engineer

referred to in the third paragraph hereof. We have further assumed compliance with all covenants and agreements contained in such documents. In addition, we call attention to the fact that the rights and obligations under the Bonds, the Certificate, the Tax Certificate and the Purchase Contract and their enforceability may be subject to bankruptcy, insolvency, reorganization, receivership, arrangement, fraudulent conveyance, moratorium and other laws relating to or affecting creditors' rights, to the application of equitable principles, to the exercise of judicial discretion in appropriate cases and to the limitations on legal remedies against counties in the State of Hawaii. We express no opinion with respect to any indemnification, contribution, liquidated damages, penalty (including any remedy deemed to constitute or to have the effect of a penalty), right of set-off, arbitration, choice of law, choice of forum, choice of venue, non-exclusivity of remedies, waiver or severability provisions contained in the foregoing documents, nor do we express any opinions with respect to the state or quality of title to or interest in any assets described in or as subject to the lien of the Resolutions or the accuracy or sufficiency of the description contained therein of, or the remedies available to enforce liens on, any such assets. Finally, we undertake no responsibility for the accuracy, except as expressly set forth in numbered paragraph 3 below, completeness or fairness of the Official Statement dated March __, 2023 (the "Official Statement") or other offering material relating to the Bonds and express no opinion or conclusion relating thereto.

Based on and subject to the foregoing, and in reliance thereon, as of the date hereof, we are of the following opinions and conclusions:

1. The Bonds are not subject to the registration requirements of the Securities Act of 1933, as amended, and the Certificate is exempt from qualification pursuant to the Trust Indenture Act of 1939, as amended.

2. The Purchase Contract has been duly executed and delivered by, and constitutes a valid and binding obligation of, the Issuer enforceable against the Issuer in accordance with its terms.

3. The statements contained in the Official Statement under the captions "THE SERIES 2023 BONDS (excluding "—Book-Entry System" and any other references to Cede & Co., DTC, or book entry), "SECURITY FOR THE BONDS," "TAX MATTERS" and Appendix E – "SUMMARY OF CERTAIN PROVISIONS OF THE RESOLUTION," excluding any material that may be treated as included under such captions by cross reference or reference to other documents or sources, insofar as such statements expressly summarize certain provisions of the Certificate and the Resolutions, or set out in the form of our Bond Opinion, are accurate in all material respects.

EXHIBIT C

[Form of Opinion of Corporation Counsel]

[Closing Date]

BofA Securities, Inc.
Los Angeles, California

Re: Board of Water Supply of the City and County of Honolulu
Water System Revenue Bonds, Series 2023

Ladies and Gentlemen:

The Department of the Corporation Counsel of the City and County of Honolulu, Hawaii (the "City and County"), acts as counsel to the Board of Water Supply (the "Board") of the City and County. This opinion is delivered by the undersigned, in my capacity as Corporation Counsel of the City and County, pursuant to the requirements of Section 9(a)(8) of the Bond Purchase Contract, dated March __, 2023, (the "Purchase Contract"), by and between the Board and yourself, relating to the Bonds identified above (the "Bonds"). Terms used and not otherwise defined herein shall have the meanings assigned to them in the Purchase Contract. I am of the following opinions:

(1) The Board is the governing body of the Board of Water Supply of the City and County ("BWS"), with full power under the Constitution, the laws of the State, including the Act, to approve and adopt the Resolutions, to authorize, issue and deliver the Bonds, to approve the Preliminary Official Statement and authorize the execution and delivery of the Official Statement, to authorize the execution and delivery of the Series Certificate, the Purchase Contract and the Disclosure Certificate, and to perform its obligations under and contemplated by the foregoing.

(2) The Manager and Chief Engineer or Chief Financial Officer of the BWS has the power to execute, issue and deliver the Series Certificate and the Disclosure Certificate, and to issue and deliver the Bonds. The Manager and Chief Engineer or Chief Financial Officer of the BWS and the Director of Budget and Fiscal Services of the City and County have the power to execute and deliver the Purchase Contract.

(3) Based upon the information provided to me in the course of my participation in the preparation of the Official Statement and in reliance thereon, and without having undertaken to determine independently the accuracy or completeness of the statements contained in the Official Statement, I have no reason to believe that the Official Statement, under the captions "The Board of Water Supply," "The Water System," "Capital Improvement Program," "Financial Information," "Investments" and "Pending Litigation" (except for the financial and statistical data included therein and assumptions with respect thereto, as to which no opinion is expressed), as of its date contained, or as of the date hereof contains, any untrue statement of a material fact, or as of its date omitted or as of the date hereof omits, to state any

EXHIBIT D

[Form of Opinion of Underwriter's Counsel]

[Closing Date]

BofA Securities, Inc.
Los Angeles, California

Re: Board of Water Supply of the City and County of Honolulu
Water System Revenue Bonds, Series 2023

Ladies and Gentlemen:

We have acted as counsel for you as Underwriter in connection with your purchase from the Board of Water Supply of the City and County of Honolulu (the "Board") of its Board of Water Supply of the City and County of Honolulu Water System Revenue Bonds, Series 2023 in the aggregate principal amount of \$_____ (the "Bonds"), pursuant to the Bond Purchase Contract, dated March __, 2023 (the "Purchase Contract"), between you and the Board. The Bonds are issued pursuant to a Bond Resolution (the "Bond Resolution"), adopted by the Board on April 26, 2001, a Series Resolution (the "Series Resolution"), adopted by the Board on February __, 2023, and a Series Certificate of the Controller of the Board (the "Series Certificate") dated March __, 2023. Capitalized terms not otherwise defined herein shall have the meanings ascribed thereto in the Purchase Contract.

In that connection, we have reviewed the Purchase Contract, the Bond Resolution, the Series Resolution, the Series Certificate, the Disclosure Certificate, the Official Statement, the certificates and opinions referred to in Section 9(a) of the Purchase Contract, and such other records, opinions and documents, and we have made such investigations of law, as we have deemed appropriate as a basis for the opinions and conclusions hereinafter expressed.

In arriving at the opinions and conclusions hereinafter expressed, we are not expressing any opinion or view on, and with your permission are assuming and relying on, the validity, accuracy and sufficiency of the records, documents, certificates and opinions referred to above, including the accuracy of all factual matters represented and legal conclusions contained therein, including (without limitation) representations and legal conclusions regarding the due authorization, issuance, delivery, validity and enforceability of the Bonds and the exclusion of interest thereon from gross income for federal income tax purposes, and the legality, validity and enforceability of the Bond Resolution, the Series Resolution, the Series Certificate and the Disclosure Certificate. We have assumed that all records, documents, certificates and opinions that we have reviewed, and the signatures thereto, are genuine.

Based on and subject to the foregoing, and in reliance thereon, we are of the following opinions or conclusions:

EXHIBIT E

[Form of Issue Price Certificate]

[subject to bond counsel review]

\$ _____

City and County of Honolulu, Hawaii
Water System Revenue Bonds
Series 2023

The undersigned, BofA Securities, Inc. (the “Underwriter”), has heretofore entered into a Bond Purchase Contract dated March __, 2023 (the “Bond Purchase Contract”) with the Board of Water Supply of the City and County of Honolulu (the “Board”) for the purchase of the above-captioned bonds (the “Bonds”). Pursuant to the Bond Purchase Contract, the Underwriter certifies as set forth below with respect to the sale and issuance of the Bonds.

1. ***Sale of the General Rule Maturities.*** As of the date of this certificate, for each Maturity of the General Rule Maturities, the first price at which at least 10% of such Maturity was sold to the Public is the respective price listed in Schedule A.

2. ***Initial Offering Price of the Hold-the-Offering-Price Maturities.***

(a) The Underwriter offered the Hold-the-Offering-Price Maturities to the Public for purchase at the respective initial offering prices listed in Schedule A (the “Initial Offering Prices”) on or before the Sale Date. A copy of the pricing wire or equivalent communication for the Bonds is attached to this certificate as Schedule B.

(b) As set forth in the Bond Purchase Contract, the Underwriter has agreed in writing that, (i) for each Maturity of the Hold-the-Offering-Price Maturities, it would neither offer nor sell any of the unsold Bonds of such Maturity to any person at a price that is higher than the Initial Offering Price for such Maturity during the Holding Period for such Maturity (the “hold-the-offering-price rule”), and (ii) any selling group agreement shall contain the agreement of each dealer who is a member of the selling group, and any third-party distribution agreement shall contain the agreement of each broker-dealer who is a party to the third-party distribution agreement, to comply with the hold-the-offering-price rule. Pursuant to such agreement, no Underwriter (as defined below) has offered or sold any unsold Bonds of any Maturity of the Hold-the-Offering-Price Maturities at a price that is higher than the respective Initial Offering Price for that Maturity of the Bonds during the Holding Period.

3. ***Defined Terms.***

(a) ***General Rule Maturities*** means those Maturities of the Bonds listed in Schedule A hereto as the “General Rule Maturities.”

(b) ***Hold-the-Offering-Price Maturities*** means those Maturities of the Bonds listed in Schedule A hereto as the “Hold-the-Offering-Price Maturities.”

(c) ***Holding Period*** means, with respect to a Hold-the-Offering-Price Maturity, the

SCHEDULE A

Initial Offering Prices

General Rule Maturities

Serial Bonds

<u>Maturity Date</u>	<u>Par Amount</u>	<u>Rate</u>	<u>Yield</u>	<u>Price</u>
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Term Bonds

<u>Final Maturity</u>	<u>Par Amount</u>	<u>Rate</u>	<u>Yield</u>	<u>Price</u>
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Hold-the-Offering-Price Maturities

**SERIES CERTIFICATE
OF BOARD OF WATER SUPPLY
OF CITY AND COUNTY OF HONOLULU, HAWAII**

Dated [SALE DATE], 2023

RELATING TO

**[\$[PRINCIPAL]
WATER SYSTEM REVENUE BONDS,
SERIES 2023**

I, the undersigned, Joseph Cooper, being the Waterworks Controller of the Board of Water Supply (the "Board") of the City and County of Honolulu, Hawaii (the "City and County"), and in such capacity being an Authorized Officer of the Board pursuant to the terms of the Water System Revenue Bond Resolution, adopted by the Board on April 26, 2001 (the "Bond Resolution"), and the Series 2023 Resolution Authorizing Up To \$[NOT TO EXCEED] Series 2023 Bonds, adopted by the Board on [ADOPTION DATE], 2023 (the "Series 2023 Resolution" and, together with the Bond Resolution, the "Resolutions"), **DO HEREBY CERTIFY** as follows:

1. All capitalized terms used herein and not defined herein shall have the meanings, respectively, given to them in the Resolutions.

2. The Board's "Water System Revenue Bonds, Series 2023" (the "Series 2023 Bonds") shall be issued as provided herein pursuant to the terms, conditions and limitations established in the Resolutions.

3. I hereby determine to sell the Series 2023 Bonds, on a negotiated basis, to BofA Securities, Inc., as representative of the underwriters of the Series 2023 Bonds (the "Underwriter"), pursuant to the terms and conditions of the Bond Purchase Contract dated [SALE DATE], 2023 (the "Bond Purchase Agreement") by and between the Board and the Underwriter, at the contract price of \$_____, which contract price is not less than 90% of the principal amount of the Series 2023 Bonds.

4. The Series 2023 Bonds shall be dated the date of delivery of thereof (the "Closing"), and shall mature in the aggregate principal amounts, on July 1 in each of the years, and bear interest at the respective rates per annum set forth below:

of each year, commencing July 1, 20___. Interest shall be computed on the basis of a year of three hundred sixty (360) days consisting of twelve (12) months of thirty (30) days each. The Record Date for the mailing of an interest payment due on the Series 2023 Bonds shall be the fifteenth (15th) day (whether or not a Business Day) of the calendar month next preceding an interest payment date. The Record Date for the mailing of a redemption notice for any Series 2023 Bonds or portions of the Series 2023 Bonds to be redeemed shall be the forty-fifth (45th) day (whether or not a Business Day) next preceding the redemption date.

9. U.S. Bank Trust Company, National Association is hereby appointed as the Paying Agent for the Series 2023 Bonds. The principal, Sinking Fund Installments, if any, and Redemption Price of the Series 2023 Bonds shall be payable at the office of the U.S. Bank Trust Company, National Association, in Seattle, Washington. Interest on the Series 2023 Bonds shall be paid as provided in Section 4.01 of the Resolution; provided, however, that, at the option of the registered owner of at least one million dollars (\$1,000,000) in principal amount of the Series 2023 Bonds, interest may be paid by wire transfer to such registered owner at the wire transfer address in the continental United States to which such registered owner has not less than five (5) days prior to the Record Date for the Series 2023 Bonds, directed the Paying Agent to wire such interest payment.

10. The Series 2023 Bonds maturing on and prior to July 1, 20__ shall not be subject to redemption prior to maturity, at the option of the Board. The Series 2023 Bonds maturing on or after July 1, 20__ shall be subject to redemption prior to maturity, at the option of the Board, on or after July 1, 20__, in any order of maturity, as a whole or in part at any time and, if in part, by lot within a maturity, at a redemption price equal to 100% of the principal amount thereof, without premium, plus accrued interest, to the date of redemption.

The Series 2023 Bonds shall be subject to redemption prior to maturity, in part, on July 1 in each of the years set forth below through application of Sinking Fund Installments in the amounts set forth below, at the Redemption Price of one hundred percent (100%) of the principal amount of each such Bond or portion thereof to be redeemed, plus accrued interest, if any, to the date of redemption. Unless none of such Bonds shall then be Outstanding and, subject to the provisions of Section 6.03 of the Resolution permitting amounts to be credited to part or all of any one or more Sinking Fund Installments, there shall be due and the City and County shall be required to pay for the retirement of such Bonds, on July 1 of each of the years set forth in the following table, the amounts set forth in the following tables, and each said amount to be paid on each such date is hereby established as and shall constitute a Sinking Fund Installment for retirement of the Series 2023 Bonds:

12. Upon receipt of the proceeds of the Series 2023 Bonds, the Board shall apply the proceeds as follows:

Deposit to Improvement Fund	\$
Costs of Issuance.....	_____
Total	\$

13. The Improvements to be financed from the proceeds of the Series 2023 Bonds are general improvements to the Water System as more particularly described in the Tax Certificate; provided, however, other Improvements may be financed in lieu of the listed Improvements by a Written Certificate of the Board.

14. The Official Statement relating to the Series 2023 Bonds, dated [SALE DATE], 2023, and the distribution thereof, are hereby approved.

15. The form and provisions of the Series 2023 Bonds and the Paying Agent's Certificate of Authentication thereon shall be substantially as set forth in Exhibit A attached hereto.

16. The Series 2023 Bonds shall be Book-Entry Bonds, and The Depository Trust Company shall be the Depository therefor.

17. This certificate is a Series Certificate within the meaning of the Resolutions, and is executed by me pursuant to and in accordance with the delegation of the Board authorized by and contained in Section 2.03 of the Series 2023 Resolution.

EXHIBIT A

**UNITED STATES OF AMERICA
STATE OF HAWAII
CITY AND COUNTY OF HONOLULU**

No. [A]/[B]-_____

\$ _____

**BOARD OF WATER SUPPLY
WATER SYSTEM REVENUE BOND
SERIES 2023**

INTEREST RATE: MATURITY DATE: DATE OF BOND: CUSIP: _____
[CLOSING DATE],
2023

REGISTERED HOLDER: CEDE & CO.

PRINCIPAL SUM:

The Board of Water Supply (the "Board") of the City and County of Honolulu, State of Hawaii (the "City and County"), for value received, hereby promises to pay to the Registered Holder named above, or registered assigns, but solely from the revenues and funds hereinafter specified and not otherwise, derived by the Board from the water system of the City and County controlled by the Board (the "Water System"), the Principal Sum specified above, on the Maturity Date specified above (subject to the right of prior redemption hereinafter mentioned), upon presentation and surrender of this Bond, and to pay interest on said Principal Sum, but solely out of said revenues and funds hereinafter specified and not otherwise, until the payment of said Principal Sum in full, at the Interest Rate per annum specified above, payable on January 1 and July 1 in each year commencing July 1, 20__ . The interest on this Bond, when due and payable, shall be paid to the Registered Holder hereof of record as of the fifteenth (15th) day (whether or not a business day) of the month next preceding an interest payment date (a "Record Date") by check or draft mailed to such owner at his address last appearing on the bond registry of the Board; provided, however, that, at the option of the registered holder of at least one million dollars (\$1,000,000) in principal amount of the Series 2023 Bonds (hereinafter mentioned), interest on the Series 2023 Bonds may be paid by wire transfer to such registered owner at the wire transfer address in the continental United States to which such registered owner has not less than five (5) days prior to the Record Date, directed the Paying Agent (hereinafter mentioned) to wire such interest payment. The Principal Sum hereof and redemption price, if any, hereof are payable upon surrender hereof at the office of the U.S. Bank Trust Company, National Association, in Seattle, Washington, as Paying Agent, or its successor as paying agent. The principal and redemption price (if any) of, and interest on, this Bond are payable in any coin or currency of the United States of America which at the time of such payment is legal tender for public and private debts.

APP-1

supplemented with or without the consent of the holders of the Bonds; the rights and remedies of the Registered Holder hereof with respect hereto and thereto, including the limitations therein contained upon the right of a Registered Holder hereof to institute any suit, action or proceeding in equity or at law with respect hereto and thereto, including the limitations therein contained upon the right of a Registered Holder hereof to institute any suit, action or proceeding in equity or at law with respect hereto and thereto; the rights, duties and obligations of the Board thereunder; the terms and provisions upon which the liens, pledges, charges, trusts, assignments and covenants made therein may be discharged at or prior to the maturity or redemption of this Bond, and this Bond thereafter no longer be secured by the Resolution or be deemed to be outstanding thereunder, if moneys or certain specified securities shall have been deposited with the Paying Agent sufficient and held in trust solely for the payment hereof; and for the other terms and provisions thereof.

The Series 2023 Bonds shall be subject to redemption prior to maturity under the circumstances, at the times, with the notice, at the redemption prices, upon the other terms and conditions and with the effect set forth in the Series 2023 Certificate.

This Bond shall have all the qualities and incidents of negotiable instrument to the extent provided by the Uniform Commercial Code of the State of Hawaii and shall be transferable by the Registered Holder hereof or by such Registered Holder's authorized agent at the designated office of the Paying Agent upon surrender and cancellation of this Bond, and thereupon a new registered Bond or Bonds without coupons of the same aggregate principal amount in authorized denominations and of the same series, interest rate and maturity will be issued to the transferee as provided in the Resolution and upon payment of any transfer charge therein prescribed. The Board, the Paying Agents and any other person may treat the person in whose name this Bond is registered as the absolute owner hereof for the purpose of receiving payment hereof and for all purposes and shall not be affected by any notice to the contrary, whether this Bond be overdue or not.

The Series 2023 Bonds are issuable as registered Bonds without coupons in the denominations of \$5,000, or any multiple of \$5,000.

This Bond shall not be valid or obligatory for any purpose until the Certificate of Authentication shall have been signed by the Paying Agent.

It is hereby certified, recited and declared that all acts, conditions and things required by the Constitution and statutes of the State of Hawaii and the City Charter of the City and County to exist, to have happened and to have been performed precedent to and in the issuance of this Bond do exist, have happened and have been performed in due time, form and manner as prescribed by law, and that amount of this Bond, together with all other obligations or indebtedness of the Board, does not exceed any constitutional, statutory or other limitations of indebtedness prescribed by law for the Board.

ASSIGNMENT

For value received, the undersigned hereby sells, assigns and transfers unto

Please insert social security or other tax identifying number of assignee:

_____ (name and address of assignee)

_____ the within-mentioned bond and hereby irrevocably constitutes and appoints

_____ attorney-in-fact, to transfer the same on the registration books kept in the designated offices of the within-mentioned Paying Agent with full power of substitution in the premises.

Date: _____ (name of assignor)

Signature Guaranteed: _____ (address of assignor)

NOTE: The signature to this assignment must correspond with the name as written on the face of the within bond in every particular, without alteration or enlargement or any change whatsoever.

MATURITY SCHEDULE

\$XX,000,000*

**Board of Water Supply
City and County of Honolulu
Water System Revenue Bonds
Series 2023**

<u>Maturity Date</u> <u>(July 1)</u>	<u>Principal</u> <u>Amount</u>	<u>Interest Rate</u>	<u>Yield</u>	<u>Price</u>	<u>CUSIP†</u> <u>(438689)</u>
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\$[] []% Term Bonds due July 1, 20__, Priced: []* to yield []%, CUSIP† 438689__.

\$[] []% Term Bonds due July 1, 20__, Priced: [] to yield []%, CUSIP† 438689__.

* Preliminary, subject to change.

† Copyright, American Bankers Association. CUSIP Global Services ("CGS") is managed on behalf of the American Bankers Association by S&P Global Market Intelligence. Copyright, CUSIP Global Services. This data is not intended to create a database and does not serve in any way as a substitute for the CGS database. CUSIP numbers are provided for convenience of reference only. None of the Board, the Underwriter, or their agents or counsel assumes responsibility for the accuracy of such numbers.

The information contained in this Official Statement has been obtained from the Board of Water Supply of the City and County of Honolulu and other sources deemed reliable. No guaranty is made, however, as to the accuracy or completeness of such information. The Underwriters have provided the following sentence for inclusion in this Official Statement. The Underwriter has reviewed the information in this Official Statement in accordance with, and as part of, its responsibilities to investors under the federal securities laws as applied to the facts and circumstances of this transaction, but the Underwriter does not guarantee the accuracy or completeness of such information. This Official Statement, which includes the cover page and appendices, does not constitute an offer to sell the Series 2023 Bonds in any state to any person to whom it is unlawful to make such offer in such state. No dealer, salesman, or other person has been authorized to give any information or to make any representations, other than those contained in this Official Statement, in connection with the offering of the Series 2023 Bonds, and if given or made, such information or representations must not be relied upon. The information contained herein is subject to change without notice and neither the delivery of this Official Statement nor any sale hereunder at any time implies that the information contained herein is correct as of any time subsequent to its date.

THE SERIES 2023 BONDS HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, IN RELIANCE UPON AN EXEMPTION CONTAINED IN SUCH ACT. THE SERIES 2023 BONDS HAVE NOT BEEN REGISTERED OR QUALIFIED UNDER THE SECURITIES LAWS OF ANY STATE.

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including the City and County. See also “FINANCIAL INFORMATION—Recent Legislation and Legislative Proposals” herein. The BWS has approved a schedule of rate increases to become effective in each of the Fiscal Years 2019-2023. See “FINANCIAL INFORMATION—Rates and Charges” herein for further information regarding such rate increases.

The Water System services 171,307 separate accounts and a majority of the residential population of the island of Oahu, which has a total estimated residential population of 1,000,890. The Water System does not service, and the BWS is not responsible for, private or military water systems, the largest of which is Joint Base Pearl Harbor Hickam (JBPHH), but also includes Schofield Barracks and other military installations. The service area is approximately 597 square miles, and the customer base is 93.1% residential, 6.3% commercial and industrial, and 0.6% agricultural.

As previously noted, the BWS is responsible only for the Water System. The City and County’s Department of Facility Maintenance is responsible for managing, operating, and maintaining the City and County’s Stormwater System. The City and County’s Department of Environmental Services is responsible for managing, operating, and maintaining the City and County’s Wastewater System. The U.S. Navy has its own water system that provides water service to JBPHH facilities and residential housing from a groundwater aquifer at Red Hill that the BWS also uses to provide drinking water to the metropolitan Honolulu water system. The Navy has experienced fuel leaks into its water system from its bulk fuel storage tanks located at the Red Hill Bulk Fuel Storage Facility, which are located 100 feet above the aquifer, with the most recent leak occurring in late 2021. For more information on the Red Hill facility and a more detailed description of the BWS’s response, see “RED HILL BULK FUEL STORAGE FACILITY” herein.

This Official Statement contains brief descriptions of the BWS, the Water System, the BWS’s Capital Improvement Program, the terms of the Series 2023 Bonds, the Resolution, and other information. The description of the Book-Entry Only System has been obtained from The Depository Trust Company. The summaries of and references to all documents, statutes, reports, and other instruments referred to herein do not purport to be complete and each such document, statute, report, or instrument is qualified in its entirety by reference to each such document, statute, report or instrument, copies of which are available from the BWS. All references to the Series 2023 Bonds are qualified in their entirety by reference to the definitive forms thereof and the information with respect thereto contained in the Resolution. The capitalization of any word herein not conventionally capitalized indicates that such word is defined in the Resolution or this Official Statement.

PLAN OF FINANCE

The Series 2023 Bonds are being issued to fund or reimburse the BWS for the costs of certain improvements, betterments, and extensions of the Water System.

SOURCES AND USES OF PROCEEDS

The estimated sources and uses of the proceeds of the Series 2023 Bonds are set forth below:

Sources of Funds:	
Par Amount of Series 2023 Bonds.....	\$
[Plus/Less] Net Original Issue [Premium/Discount]..	\$
Reserve Account Release.....	
Total Sources of Funds.....	<u>\$</u>
 Uses of Funds:	
Deposit to Project Fund ¹	\$
Costs of Issuance ²	\$
Total Uses of Funds	<u>\$</u>

¹ To be used to fund or reimburse the BWS for the costs of certain improvements, betterments, and extensions of the Water System.

part, by lot within a maturity, at a redemption price equal to 100% of the principal amount thereof, without premium, plus accrued interest to the date of redemption.

Selection of Bonds for Redemption

If fewer than all of the Bonds of a series are called for redemption, the BWS will designate the maturities from which the Bonds of such series are to be redeemed. For so long as the Bonds are registered in book-entry form and DTC or a successor securities depository is the sole registered owner of such Bonds, if fewer than all of the Bonds of the same maturity and bearing the same interest rate are to be redeemed, the particular Bonds to be redeemed will be selected by lot within such maturity; provided that, so long as the Bonds are held in book-entry form, the selection for redemption of the Bonds will be made in accordance with the operational arrangements of DTC then in effect; and provided further that any such redemption must be performed such that all Bonds remaining outstanding will be in authorized denominations. See Appendix F – “Book-Entry System and Global Clearance Procedures.”

If the Series 2023 Bonds are not registered in the book-entry form and if fewer than all of the Series 2023 Bonds of the same maturity and bearing the same interest rate are to be redeemed, the particular Series 2023 Bonds of such maturity and bearing such interest rate to be redeemed will be selected by lot, provided that any such redemption must be performed such that all Series 2023 Bonds remaining outstanding will be in authorized denominations.

Notice of Redemption

The Paying Agent will mail notice of redemption not fewer than 30 days prior to the redemption date, by registered, certified or regular first-class mail, to the Holder of such Bond of record as of the 45th day (whether or not a Business Day) next preceding the date fixed for redemption at his address as it appears on the Bond Registry. Except as otherwise provided in the Resolution, at the sole option of the BWS, such notice may also be published in an Authorized Newspaper as provided in the Resolution not fewer than 30 days prior to the redemption date. Failure to receive such notice by any Holder of a Bond, or any defect in any notice so mailed, shall not affect the sufficiency of the proceedings for the redemption of any such Bonds.

Any notice of redemption may state that such redemption may be conditional upon the receipt by the Paying Agent on the date fixed for redemption of moneys sufficient to pay in full the redemption price of the Series 2023 Bonds proposed to be redeemed. If the notice contains such condition, and moneys sufficient to pay in full the redemption price of the Series 2023 Bonds proposed to be redeemed shall not be received on or prior to the date fixed for redemption, such notice of redemption shall be null and void and of no force and effect and the BWS shall not redeem or be obligated to redeem any Series 2023 Bonds. In the event of the failure to redeem, all Series 2023 Bonds surrendered for redemption shall be promptly returned to the holder or holders by the Paying Agent.

See Appendix F – “Book-Entry System and Global Clearance Procedures” for information regarding notices of redemption while DTC is acting as securities depository for the Series 2023 Bonds.

Book-Entry System

The Series 2023 Bonds will be delivered in book-entry form only, in denominations of \$5,000 or any integral multiple thereof, and, when issued and authenticated, will be registered in the name of Cede & Co., as nominee of DTC, which will act as securities depository for the Series 2023 Bonds. Individual purchases of the Series 2023 Bonds will be made only in book-entry form. Purchasers of the Series 2023 Bonds will not receive physical certificates representing their ownership interests in the Series 2023 Bonds purchased. Principal of and interest on the Series 2023 Bonds are payable directly to DTC by the Paying Agent. Upon receipt of payments of principal and interest, DTC will distribute such payments to brokers and dealers who are DTC participants who, in turn, will distribute payments to the beneficial owners of the Series 2023 Bonds. See Appendix F – “Book-Entry System and Global Clearance Procedures” attached hereto.

Funds and Accounts

The various funds and accounts established under the Resolution, the flow of Revenues through such funds and accounts, the rights and remedies of Bondholders under the Resolution, and other related matters are summarized in Appendix E – “Summary of Certain Provisions of the Resolution.”

The City and County has previously established in its Treasury the Board of Water Supply Operating Fund (the “Operating Fund”), into which all Revenues collected by the BWS have been and will continue to be deposited, and from which operating expenses of the BWS have been and will continue to be paid. The Resolution creates in the Operating Fund a Rate Stabilization Account, and a Rebate Account, and also creates, in addition to the Operating Fund, the following Funds and Accounts:

- Debt Service Fund, and the Payment Account, the Common Reserve Account and any Series Reserve Account therein;
- Subordinate Obligation Fund;
- Reimbursable Obligation Fund;
- Renewal and Replacement Fund;
- General Fund; and
- Improvement Fund, and any Series Improvement Account and any Series Capitalized Interest Account therein.

The Rate Stabilization Account, the Payment Account, the Renewal and Replacement Fund, the General Fund and the Improvement Fund are pledged as security for the payment of debt service on all Bonds, subject to the terms and provisions of and the exceptions provided in the Resolution. The Common Reserve Account is pledged as additional security for the payment of debt service on the Bonds of any Series designated at the time of issuance to be entitled to the benefit of the Common Reserve Account; and each Series Reserve Account is pledged as additional security for the payment of debt service on the Bonds of a Series designated at the time of issuance to be entitled to the benefit of such Series Reserve Account.

Debt service on Bonds is payable from the Payment Account in the Debt Service Fund. In the event of a deficiency in the Payment Account, debt service on a Bond is payable from the Common Reserve Account or the applicable Series Reserve Account, but only to the extent such Bond is entitled to the benefit of such reserve account, as more fully described below under “Reserve Accounts.”

Moneys deposited and retained in the Operating Fund may be maintained in an amount which is reasonably necessary for working capital and reserves. The Rate Stabilization Account is to be maintained in the amount provided for in the Annual Budget, is to be used to stabilize the rates and charges of the Water System, and is to be funded (i) from Net Revenues (after payment and provision for Operation and Maintenance Expenses), but only after all transfers to the other Funds and Accounts required by the Resolution, and (ii) from transfers from the General Fund. The Renewal and Replacement Fund is to be maintained in an amount provided for in the Annual Budget and is to be used to pay the costs of improvements and repairs to and renewals and replacements of the Water System, as provided in the Resolution, and to meet deficiencies in certain other Funds and Accounts. Amounts in the General Fund are to be used to meet deficiencies in certain other Funds and Accounts, to pay the Costs of Improvements, for transfer to the Rate Stabilization Account, to purchase Bonds, or for any other lawful purpose of the BWS.

The Rebate Account, the Subordinate Obligation Fund and the Reimbursable Obligation Fund are not pledged as security for the Bonds. Amounts in the Rebate Account are to be used to pay required amounts to the Department of the Treasury of the United States in respect of the Bonds. Amounts in the Subordinate Obligation Fund and the Reimbursable Obligation Fund are to be used to pay debt service on Subordinate Obligations and Reimbursable Obligations, respectively.

the event of a deficiency in the Payment Account to pay debt service on Bonds of a Series entitled to the benefit of a Series Reserve Account, the amounts held in such Series Reserve Account are to be used exclusively to pay such debt service. The amount to be maintained in any such Series Reserve Account for a Series of Bonds, and the credit quality of a Support Facility to be deposited in any such Series Reserve Account, are to be determined at the time such Bonds are authorized or sold. No Series Reserve Account has been established for the Series 2023 Bonds.

Transfers to Reserve Accounts. The Resolution requires that in each month, after paying and setting aside an amount sufficient to pay the Operation and Maintenance Expenses for such month, and after transfer to the Payment Account an amount equal to debt service to accrue on the Bonds in such month, amounts remaining on deposit in the Operating Fund are to be transferred pro rata to the Common Reserve Account and each Series Reserve Account in such amounts as are required so that the balances in such Accounts equal their respective reserve account requirements, or, at the election of the BWS, an amount sufficient to eliminate at least one-sixth of the deficiency in each such Account.

Rate Covenant

The BWS is required by the Resolution, among other things, to fix, charge, and collect such rates and other charges as are required in order that in each Fiscal Year the Net Revenues shall be not less than the Net Revenue Requirement for such Fiscal Year (the "Rate Covenant"). The Net Revenue Requirement means with respect to any Fiscal Year or any other period, an amount equal to the greater of: (i) the sum of the Aggregate Debt Service in such Fiscal Year or such period and the deposits required by the Resolution to be made into the Common Reserve Account, each Series Reserve Account, the Subordinate Obligation Fund and the Reimbursable Obligation Fund and to pay Support Facility Reimbursement Obligations in such Fiscal Year or such period, or (ii) 1.20 times the maximum Aggregate Debt Service in such Fiscal Year or such period plus 1.00 times the aggregate Support Facility Reimbursement Obligations outstanding at the end of such Fiscal Year or such period. Aggregate Debt Service means, for any period and as of any date of computation, the sum of the amounts of Debt Service for such period with respect to all Series of Bonds. Support Facility Reimbursement Obligations are obligations of the BWS to reimburse the issuer of a Support Facility or the counterparty of an Interest Rate Exchange Agreement for amounts paid under such Support Facility or such agreement. See Appendix E – "Summary of Certain Provisions of the Resolution" and "Certain Definitions" therein.

The Manager and Chief Engineer of the BWS (the "Manager") is required under the Resolution prior to the end of each Fiscal Year to complete a review of the financial condition of the BWS for the purpose of estimating whether the Net Revenues for such Fiscal Year and for the next succeeding Fiscal Year will be sufficient to comply with the Rate Covenant and must by Written Certificate make a determination with respect thereto. If the Manager determines that the Revenues may not be so sufficient, the Manager or the BWS shall forthwith make, or cause a consulting engineer to make, a study for the purpose of determining a schedule of fees, rates and charges which, in the opinion of the Manager, the BWS or the consulting engineer, will cause sufficient Revenues to be collected in the following Fiscal Year to comply with the Rate Covenant and will cause additional Revenues to be collected in such following and later Fiscal Years sufficient to eliminate the amount of any deficiency at the earliest practicable time. The BWS will as promptly as practicable, but no later than 120 days following such determination by the Manager or the BWS, or receipt of the consulting engineer's recommendation, adopt and place in effect such schedule of fees, rates and charges as so determined or recommended. Failure by the BWS to comply with the Rate Covenant in any Fiscal Year will not constitute an Event of Default under the Resolution, so long as the BWS promptly adopts the schedule of rates and charges as so determined or recommended. See "FINANCIAL INFORMATION—Historical and Projected Revenue, Expenses and Debt Service Coverage" for a discussion of the BWS's projected rates, revenues and expenses and rate-setting procedures.

Additional Bonds and Refunding Bonds

The Resolution permits the issuance of additional Series of Bonds (exclusive of Refunding Bonds) ("Additional Bonds") for any lawful use or purpose relating to the Water System, including, without limitation, payment of all or a portion of the Costs of Improvements, but only upon compliance as to each such Series with the conditions set forth in the Resolution, which conditions are summarized in Appendix E under "Additional Bonds and Refunding Bonds." Among other things, such conditions require delivery to the Director of Budget and Fiscal Services of a Written Certificate of the BWS demonstrating the satisfaction of certain Net Revenue requirements.

DEBT SERVICE REQUIREMENTS FOR THE BONDS

Fiscal Year Ending June 30¹	Outstanding Bonds Debt Service	Series 2023 Bonds			Total Bonds Debt Service	Subordinate Lien Obligations²	Total Debt Service
		Principal	Interest	Debt Service			
2023	\$	\$	\$	\$	\$	\$	\$
2024							
2025							
2026							
2027							
2028							
2029							
2030							
2031							
2032							
2033							
2034							
2035							
2036							
2037							
2038							
2039							
2040							
2041							
2042							
2043							
2044							
2045							
2046							
2047							
2048							
2049							
2050							
2051							
2052							
2053							
Total	\$	\$	\$	\$	\$	\$	\$

¹ Based on payments not on accruals.

² Consists of outstanding SRF loans.

In Hawaii, water is a public trust resource and the BWS serves its customers with this trust in mind. The mission of the BWS is to provide a safe, dependable, and affordable supply of water now and into the future.

Resource Sustainability (Safe) addresses the multiple areas of individual and community needs. Water must meet all statutory and regulatory compliance standards in providing water for consumption and other uses. Water must provide for public health and safety such as for firefighting and sanitation needs.

Operational Sustainability (Dependable) relies upon three factors:

- Sources of water must be sufficient and available now and into the future. The BWS ensures this through management of the watershed and groundwater supply, long range planning, and possible development of alternative sources of water.
- A Water System that is designed, constructed, and operated with system redundancy that continues delivery of water even with disruptions in the system.
- Employees of the BWS who are committed to providing their customers with high quality water and excellent service.

Financial Sustainability (Affordable) recognizes that affordable water delivery is primary. The BWS establishes programs for efficiency in water use through conservation, infrastructure installation, and Water System operations and maintenance. The BWS continually implements changes to its systems to deliver water at the most responsible cost to the customer.

To continue to efficiently and effectively fulfill this important mission, the BWS developed a three-year Strategic Plan in 2014. The BWS developed an updated five-year Strategic Plan in 2018 and is currently working on updating that plan. The Strategic Plan provides an internal and external perspective of the commitment of the BWS employees to deliver its mission through focus on three strategic goals—resource, operational, and financial sustainability. These three strategic goals are interrelated and coordinated with the three main points of the BWS's mission.

Resource Sustainability

Protect, conserve, and manage Oahu's water supplies and watersheds now and into the future through adaptive and integrated strategies.

Operational Sustainability

Build an effective organization that continuously works to improve dependable service.

Financial Sustainability

Implement sound fiscal strategies to provide safe, dependable and affordable water service.

In addition to the Strategic Plan, the BWS developed the Water Master Plan ("WMP"), a comprehensive program that looks ahead 30 years to evaluate the entire Water System, quantify future demands and source options, identify necessary improvements, and balance needs and costs of providing water to the community. The WMP's evaluations and recommendations are direct efforts to support the BWS's goals of resource sustainability and operational sustainability and to inform sustainable financial planning.

The 30-Year Infrastructure Investment Plan ("IIP") was developed to put the WMP into action. The IIP provides an analysis-based strategy for when specific water infrastructure projects should be implemented and prioritizes renewal and replacement of portions of the Water System, based on risk.

interaction with government officials, community leaders, business operators, and others, to serve and strengthen the visitor industry, as well as the community in general. He has been directly involved in passing many legislative measures that have shaped tourism today. Mr. Sword attended Punahou School and Peru State College in Peru, Nebraska.

Na‘alehu Anthony – Member. Na‘alehu Anthony was appointed to the Board in January 2021. Mr. Anthony attended Kamehameha Schools and received his BA in Hawaiian Studies and his MBA from the University of Hawaii. He is the director of the Hawaii Covid Collaborative, an award-winning independent filmmaker, and a strong proponent of education, land issues, and democratic governance. Mr. Anthony is a long time crew member of the Hokule‘a and was the director of photography for the Malama Honua Worldwide Voyage.

Edwin Sniffen – Director, Department of Transportation, Ex-Officio. Edwin Sniffen was appointed Director of the Hawaii Department of Transportation (DOT) on December 5, 2022, subject to Senate confirmation. As Director, Mr. Sniffen is responsible for State Transportation Infrastructure—Airports, Commercial Harbors, and Highways. As the Chief Executive for the DOT, Mr. Sniffen’s goals are improving the safety, preserving, and upgrading our transportation systems; ensuring efficiency and transparency in departmental operations, and pursuing opportunities and innovative strategies to leverage DOT resources and private partnerships to positively impact the highest goals of the State including housing, energy, food security, education, and climate adaptation to improve the quality of life for our residents and the experiences of our visitors.

Dawn Szewczyk – Director and Chief Engineer, Department of Facility Maintenance, Ex-Officio. Dawn Szewczyk joined the City in May 2021 after leaving her post as the Deputy Public Works Officer (DPWO) of the U.S. Department of the Navy – Naval Facilities Engineering Command Far East, Public Works Department Singapore. As the DPWO, Ms. Szewczyk served as the primary advisor to the Public Works Officer for all matters relating to public works, and was the recipient of two Navy Meritorious Civilian Service awards in 2018 and 2021. Prior to joining the City, Ms. Szewczyk had worked nearly 11 years with the U.S. Department of Defense (Navy, Air Force) and the preceding 12 years in the private sector. Ms. Szewczyk was selected as Hawaii’s Young Engineer of the Year in 2011 and has also been active in local engineering professional organizations, including serving as president of the American Society of Civil Engineers, Hawaii Section, and as a former chair for the Hawaii Council of Engineering Societies. Ms. Szewczyk currently serves as an officer for the Hawaii Chapter of the American Public Works Association. She was selected as a 2010 fellow for the Pacific Century Fellows Program, and selected as one of Pacific Business News’ Forty Under 40 honorees in 2011. Ms. Szewczyk was born and raised in Wahiawā, is a Punahou graduate and earned her Bachelor’s Degree in Science, Engineering from Loyola Marymount University in 1998.

Principal Officers

The BWS consists of nine divisions (Capital Projects, Customer Care, Field Operations, Finance, Information Technology, Land, Water Quality, Water Resources, and Water System Operations) and three support offices (Communications Office, Executive Support Office, and Human Resources Office) as a part of the Office of the Manager and Chief Engineer (OMCE) under the direction of the Manager.

The Manager is appointed and evaluated by the Board and may be removed by the Board. The Manager must be a registered engineer and must have a minimum of five years of training and experience in waterworks activities or related fields, at least three of which must have been in a responsible administrative capacity. The powers, duties and functions of the Manager include: (i) administering the affairs of the BWS, including the rules and regulations adopted by the Board; (ii) granting, suspending or revoking permits under conditions prescribed by the rules and regulations of the BWS; (iii) unless otherwise provided by the City Charter, signing all necessary contracts for the BWS; (iv) appointing and removing members of the staff; (v) making recommendations to the Board to create or abolish positions; (vi) preparing bills, collecting, and, by appropriate means including the discontinuance of service and civil action, enforcing the collection of charges for the furnishing of water and for water services; (vii) preparing payrolls and pension rolls; (viii) maintaining proper accounts in such manner as to show the true and complete financial status of the BWS and the results of management and operation thereof; (ix) preparing annual operating and capital budgets; (x) prescribing rules and regulations as are necessary for the organization and internal management of the BWS; and (xi) recommending rules and regulations for adoption by the Board.

(white collar non-supervisory employees), BU 04 (white collar supervisory employees), and BU 13 (professional and scientific employees).

The Hawaii Constitution grants public employees in the State the right to organize for the purpose of collective bargaining. HRS Chapter 89 provides for 15 recognized BUs for all public employees throughout the State. Each BU has a designated exclusive representative and negotiates with the relevant public employer(s), consisting of representatives from the State, the City and County, the counties of Hawaii, Maui and Kauai, and the Judiciary.

By statute, if an impasse in any negotiation is declared, the parties may attempt to resolve the impasse through mediation, fact finding, and, if mutually agreeable to the parties, final and binding arbitration. Although the statute characterizes arbitration as “final and binding,” it also provides that all cost items are subject to appropriations by the appropriate legislative bodies. If final and binding arbitration is not agreed upon, either party may take other lawful action to end the dispute, which, in the case of blue-collar workers, public school teachers, and university professors, could include an employee strike. In the case of the remaining bargaining units, strikes are prohibited by law and impasses are subject to mandatory final and binding arbitration, subject to appropriation of cost items by the appropriate legislative bodies. Certain employees are not party to formal labor contracts, including elected and appointed officials and certain contractual hires.

The status of negotiations and awards for wages and health benefits of BWS employees for the period of July 1, 2021 to June 30, 2025 are as follows:

BU 01 (blue-collar workers). In February 2022, the United Public Workers (“UPW”) ratified an amendment to extend the two-year (July 1, 2021–June 30, 2023) agreement through June 30, 2025. The amended agreement provides for a \$1,000.00 one-time lump sum payment effective July 1, 2021 to all employees who were employed on June 30, 2021 and continue to be employed; across-the-board wage increases of 3.72% effective October 1, 2022, 5.00% effective July 1, 2023, and 5.00% effective July 1, 2024; and increases to employer contributions to the Hawaii Employer-Union Health Benefits Trust Fund (the “Trust Fund” or “EUTF”) plans for both Fiscal Years 2022 and 2023. The parties agreed to meet to bargain in good faith on increases to employer contributions to the Trust Fund for Fiscal Years 2024 and 2025.

BU 02 (blue-collar supervisors). In April 2022, the Hawaii Government Employees Association (“HGEA”) ratified an amendment to extend the two-year (July 1, 2021–June 30, 2023) agreement through June 30, 2025. The amended agreement provides for a 1% one-time lump sum payment effective July 1, 2021, based on June 30, 2021 annual base pay for all employees who were employed on June 30, 2021 and continue to be employed; across-the-board wage increases of 3.72% effective July 1, 2022, 5.00% effective July 1, 2023, and 5.00% effective July 1, 2024; and increases to employer EUTF contributions for both Fiscal Years 2022 and 2023. The parties agreed to meet to bargain in good faith on increases to employer contributions to the Trust Fund for Fiscal Years 2024 and 2025.

BU 03 (white-collar workers). In April 2022, HGEA ratified an amendment to extend the two-year (July 1, 2021–June 30, 2023) agreement through June 30, 2025. The amended agreement provides for a \$1,000.00 one-time lump sum payment effective July 1, 2021 to all employees who were employed on June 30, 2021 and continue to be employed; across-the-board wage increases of 3.72% effective October 1, 2022, 5.00% effective July 1, 2023, and 5.00% effective July 1, 2024; and increases to employer EUTF contributions for both Fiscal Years 2022 and 2023. The parties agreed to meet to bargain in good faith on increases to employer contributions to the Trust Fund for Fiscal Years 2024 and 2025.

BU 04 (white-collar supervisors). In May 2022, HGEA ratified an amendment to extend the two-year (July 1, 2021–June 30, 2023) agreement through June 30, 2025. The amended agreement provides for a 1% one-time lump sum payment effective July 1, 2021, based on June 30, 2021 annual base pay for all employees who were employed on June 30, 2021 and continue to be employed; across-the-board wage increases of 3.72% effective July 1, 2022, 5.00% effective July 1, 2023, and 5% effective July 1, 2024; and increases to employer EUTF contributions for both Fiscal Years 2022 and 2023. The parties agreed to meet to bargain in good faith on increases to employer contributions to the Trust Fund for Fiscal Years 2024 and 2025.

Waialua-Kahuku. The Waialua-Kahuku water use district comprises 140 square miles of north-northwestern Oahu. Its ocean boundary traces an arc from the town of Kahuku north to Kahuku Point, then southwestward past Waimea Bay and Waialua Bay to Kaena Point. Its inland boundaries range from Malaekahana Valley and the crest of the Koolau Range in the east, along the boundary of the Waialua and Wahiawa Judicial Districts on the south, and westerly along the crest of the Waianae Range to Kaena Point. The Waialua Judicial District portion of this water use district has been designated the North Water Management Area.

Wahiawa. The Wahiawa water use district, located in central Oahu, is a 40 square mile landlocked rectangle, stretching west from the crest of the Koolau Range across the apex of the Schofield Plateau to the crest of the Waianae Range. The area has been designated the Central Water Management Area and is coextensive with the Wahiawa Judicial District.

Pearl Harbor. The Pearl Harbor water use district, in south-central Oahu, contains 105 square miles. The district extends from the crest of the Koolau Range westerly to Kunia Road and the shoreline of Pearl Harbor. It is bounded by the Wahiawa and Honolulu water use districts to the north and south. This district and the Ewa water use district together have been designated the Pearl Harbor Water Management Area.

Ewa. Located in the southwest quadrant of Oahu, the Ewa water use district covers an area of 69 square miles. Except for the southern slopes of the Waianae Range, which extend into the area, much of the land is gently sloping or nearly level. The Pearl Harbor and Ewa water use districts together have been designated the Pearl Harbor Water Management Area.

Waianae. The Waianae water use district, located on the west coast of Oahu, comprises 63 square miles and includes all of the area west of the crest of the Waianae Range to the sea coast. It terminates on the north at Kaena Point and includes Nanakuli Valley at its southernmost boundary. This area coincides with the Waianae Judicial District. This district is the only water use district that has not been designated a Water Management Area.

Description of Existing Facilities by Type

The Water System is comprised of source, storage, transmission, and distribution facilities for potable, non-potable, and recycled water.

Potable Water. The existing source facilities for potable water consist of 82 active potable water source stations with 196 source pumps. The current State-authorized permitted use of these facilities is 182.59 million gallons per day (“mgd”). The average pumpage, current permitted use, and pump capacity for each water use district for Fiscal Year 2022 are listed in the following table:

Table 1
Source Facilities
Fiscal Year 2022
(volumes in mgd)

<u>Water Use District</u>	<u>Average Pumpage</u>	<u>Current Permitted Use</u>	<u>Pump Capacity</u>
Honolulu	68.08	89.63	178.79
Windward	16.27	19.51	28.34
Pearl Harbor	37.97	56.27	136.84
Ewa	4.87	8.22	15.37
Waianae	4.24	0.00*	10.08
Wahiawa	3.07	4.27	14.62
Waialua-Kahuku	<u>3.78</u>	<u>4.69</u>	<u>11.59</u>
Total Oahu	138.28	182.59	395.63

Table 3

**Number of Services by Customer Class
Fiscal Years 2018-2022**

Customer Class	2018	2019	2020	2021	2022
Residential	157,591	157,986	158,369	159,580	159,500
Commercial/Industrial	11,365	11,415	11,389	10,806	10,826
Agricultural	<u>930</u>	<u>928</u>	<u>936</u>	<u>942</u>	<u>981</u>
Total	169,886	170,329	170,694	171,328	171,307

Table 4

**Water Sales and Revenues by Customer Class
Fiscal Years 2018-2022**

	2018	2019	2020	2021	2022
Water Sales (thousand gallons)					
Residential	26,568,411	26,231,973	26,495,208	27,842,469	27,281,994
Commercial	16,922,454	17,012,583	17,557,556	14,799,393	15,685,506
Industrial	2,948,688	3,386,715	3,010,469	3,280,565	2,991,927
Agricultural*	<u>1,054,659</u>	<u>884,591</u>	<u>857,787</u>	<u>900,534</u>	<u>955,554</u>
Total	47,494,212	47,515,862	47,921,020	46,822,961	46,914,981
Water Revenues					
Residential	\$139,810,918	\$137,863,583	\$141,738,646	\$152,117,007	\$155,786,242
Commercial	81,913,044	81,576,287	78,603,592	75,392,192	81,595,401
Industrial	5,650,072	6,665,531	6,190,239	6,272,531	6,301,065
Agricultural*	<u>2,140,887</u>	<u>1,814,757</u>	<u>1,774,146</u>	<u>1,870,966</u>	<u>2,066,197</u>
Total	\$229,514,922	\$227,920,157	\$228,306,623	\$235,652,696	\$245,748,905

*Agriculture decrease due to non-renewals of Ag contracts and increased scrutiny of Ag qualifications resulting in fewer agreements.

balance meeting maximum day and peak hour water demands, sustainable sources of supply and energy efficiency. Permanent and portable emergency generators are available if power outages occur.

The BWS performs routine preventive maintenance and provides trouble call response and emergency repair services for main breaks. In FY 2022, the BWS experienced 370 main breaks, 19 of which were detected using satellite imagery, and repaired before they could cause major damage or service disruption. To decrease the incidence of main breaks and leaks, the BWS has budgeted \$48.20 million in the Repair and Replacement Capital Improvement Program for Fiscal Year 2023, for the replacement of high-risk transmission and distribution pipelines, as determined by the recent condition assessment to reduce risk defined as the consequence of failure and the likelihood of failure. In addition, the BWS has budgeted \$52.35 million for Fiscal Year 2023 for the maintenance of existing pump stations, treatment plants, reservoirs, and support facilities. The American Water Infrastructure Act of 2018 (AWIA), Risk and Vulnerability Assessment identified additional facility improvements to increase the Water System’s resilience and security that will be addressed through the annual Repair and Replacement Capital Improvement Program.

The leak detection staff continuously surveys the Water System for leaks to reduce water loss and preventative repairs are conducted before those leaks become a disruptive main break. The BWS continues to replace its water meters and automatic meter reading (AMR) components to ensure meter reads continue to be accurate and timely. Maintenance performance metrics exist for the regular servicing of fire hydrants, valves, meters and laterals, pumps, motor control centers, electrical and mechanical systems, telemetry, fleet maintenance, and other support facilities.

Water Loss Rate

The infrastructure conservation program calculates non-revenue water loss (real and apparent) within the distribution system. Real losses refer to water lost from leaks and main breaks, while apparent losses come from source and revenue meter inaccuracies and timing to read all 176,000 meters on a monthly basis. The program involves water auditing and water loss control which determines the amount of non-revenue water by water system. Since 2018, the BWS has been compliant with the State of Hawaii, Commission on Water Resource Management’s requirements to complete and submit validated standardized American Water Works Association (AWWA) water audit. Under the infrastructure water loss program, the BWS conducts an annual water audit that breaks down the island into smaller systems to see where the most water loss is coming from. This annual water audit is a comprehensive mass balance analysis that takes into account the volume of water entering the system from all sources and through the customer’s water meters. The audited data allows the BWS to focus on those systems with the highest water loss.

A 2012 AWWA Benchmarking survey of water utilities listed a median non-revenue water of 8.2%. Because of inherent annual variations of source and metered consumption data, the WMP established a five-year average goal of <8%. The five-year non-revenue water loss for FY 2018-2022 was 14.91%, which is on an increasing trend. The following trend of water loss is provided for context:

5-Year Avg by FY	Potable Source Production Avg Day (mgd)	Potable Metered Consumption Avg Day(mgd)	Non-Revenue Water
2014-2018	138.60	120.51	13.05%
2015-2019	139.11	119.72	13.93%
2016-2020	137.96	118.76	13.91%
2017-2021	137.17	117.49	14.35%
2018-2022	137.53	117.02	14.91%

The BWS has undertaken several efforts to reverse the non-revenue water trend, which will take several years. In 2020, the BWS continued to expand its leak detection effectiveness with Asterra, an innovative technology

the implementation of those standards by all states. The standards consist of maximum limits for contaminants that may be found in drinking water and include specific monitoring, treatment, reporting, and enforcement requirements.

Public water system compliance with the national drinking water standards is administered primarily by states that have been given primary authority by the EPA to implement and enforce the SDWA within their jurisdictions. In Hawaii, the State Department of Health is the primary agency and the BWS is a public water system under the SDWA and State regulations.

Presently, the BWS complies with all federal and state drinking water regulations. Each year the BWS conducts more than 25,000 water quality tests on samples collected from its water sources, distribution system, and treatment facilities to ensure all water served is safe to drink. The BWS also monitors, assesses, and prepares for the impacts of proposed new regulations and keeps abreast of emerging contaminant issues of concern to its operations. Capital improvement projects, water treatment operations, design and construction of new water facilities are developed and implemented in consultation with the BWS's water quality division to ensure the BWS's compliance with the SDWA.

On December 22, 2020, the EPA finalized its revisions to the Lead and Copper Rule (LCR) that were published in the Federal Register on January 15, 2021. The final rule became effective December 16, 2021 and requires compliance with the rule provisions by October 16, 2024. The rule requires testing water from and the replacement of lead service laterals ("LSL"). Galvanized laterals that are, or were at any time, downstream of a lead service line or currently downstream of a lateral of unknown material will require replacement. The rule requires water utilities to prepare an inventory of all service lines connected to the water system regardless of ownership; prepare and implement an LSL replacement and funding plan; conduct tap water sampling from residential and commercial properties with LSLs, and test water samples from schools and childcare facilities every five years. These requirements are expected to cause significant changes to the BWS's capital improvement, Water System operation, and water testing programs through the replacement and funding of galvanized laterals on the utility and customer side of the meter.

Red Hill Bulk Fuel Storage Facility

The U.S. Navy's Red Hill Bulk Fuel Storage Facility ("Red Hill") consists of 20 steel-lined underground storage tanks that were built from 1940 to 1943. Each tank is 100 feet in diameter and 250 feet tall. Red Hill can store up to 250 million gallons of fuel. The tanks are located 100 feet above the groundwater aquifer that the Navy uses to provide water to Pearl Harbor and the BWS also uses to provide the drinking water to our metropolitan Honolulu water system that spans from Moanalua Valley to Hawaii Kai. Following the 27,000-gallon leak of jet fuel in January 2014, the Navy entered into an Administrative Order of Consent with the EPA and State Department of Health ("DOH") to conduct various studies to improve tank inspection, repair, maintenance practices, and better understand the condition of the tanks, identify upgrade alternatives, assess the risk of future leaks, determine the area's groundwater flow direction, and remediation of releases.

The Navy has its own water system that provides water service to Joint Base Pearl Harbor Hickam (JBPHH) facilities and residential housing. In response to receiving complaints of fuel odors in tap water from Navy housing residents, the Navy claimed it had stopped pumping from its Red Hill Shaft water source on Sunday, November 28, 2021. Since both the Red Hill Shaft and the BWS's Halawa Shaft get their water from the same aquifer, the BWS reduced its pumping from its Halawa Shaft on Tuesday, November 30, 2021 when informed by the DOH that the Navy had shut down pumping from the Red Hill shaft. On December 2, 2021, the Navy determined its Red Hill Shaft water source was contaminated with petroleum and was the source of fuel odors present in JBPHH housing tap water. That night, the BWS shut down the Halawa Shaft pumping station which delivers 20% of the water delivered to the metropolitan Honolulu water system to prevent any fuel contamination of the BWS's Honolulu water system.

On December 6, 2021, the DOH issued an Emergency Order that suspended fuel operations, ordered the Navy to submit a plan to safely defuel Red Hill within 30 days, ordered the Navy to install a drinking water treatment system at Red Hill, and take certain other corrective actions. The Navy challenged the Emergency Order on December 7, 2021. After holding evidentiary hearings on December 20, 2021 and December 21, 2021, the

Works Association issued guidelines for all water agencies to effectively inform their communities that the water is safe to drink and to use.

In response to the pandemic, the BWS developed procedures and protocols and implemented a variety of control measures designed to reduce the spread of COVID-19. As the pandemic has eased, mandatory controls such as masking and social distancing have become optional. Other measures, such as flexible work schedules, continue because we have found them to increase the efficiency and resilience of our operations. The BWS also physically modified workstations and remodeled the customer lobby of the Public Service Building (“PSB”) to provide a higher level of security for our staff. Although the emergency orders have ended, the BWS still maintains many of these social distancing measures when possible in an effort to protect staff. Additionally, since the introduction and availability of the multiple booster shots for COVID-19 vaccinations, the BWS has provided incentives, including paid time off and onsite vaccination clinics, in an effort to encourage staff to obtain booster vaccinations.

Despite the unprecedented economic impacts of COVID-19, residential and commercial delinquency rates remain low. That being said, the BWS has taken a proactive approach to addressing the economic impacts on its customers in several ways. So that customers would not have to worry about having access to clean, safe water, the BWS discontinued water shutoffs from March 15, 2020 until July 31, 2021. For customers experiencing financial hardship due to the pandemic, the BWS has been actively monitoring delinquency rates among the various customer classes and has dedicated staff members whose focus is on contacting customers with delinquent accounts to work with them on payment plans and options. The BWS receives payment from several relief assistance programs such as those provided by the Rental and Utility Relief Program, Catholic Charities, the Council for Native Hawaiian Advancement, and others to address those delinquent accounts. The BWS has received over 1,400 payments totaling nearly \$2,000,000. The BWS completed the update of the LRFP in February 2021 which focused specifically on the impacts of the pandemic, allowing the BWS to make informed decisions about rates, operating costs, and capital program investments. The BWS takes a conservative approach to budgeting in an effort to mitigate the economic impacts of the pandemic and has pressed forward with capital improvement projects that will support economic growth and keep the community working.

To date, the BWS has not experienced any material adverse impact on its operations or finances from COVID-19, and the BWS does not expect significant decreases in revenues as a result of the COVID-19 pandemic. As discussed above, the BWS is allowing payment deferrals and working with its customers to develop payment plans, but it is not waiving fees. Although the BWS believes COVID-19 will not materially adversely impact its operations or revenues, the ultimate impact of COVID-19 on the operations and finances of the City and County and the BWS is unknown at this time. Additionally, the BWS cannot predict to what extent additional customer assistance measures or deferrals, forbearances, adjustments, or other changes may be necessary in the future and the effect of any such measures on its operations or revenues. The BWS will consider the effects of the COVID-19 pandemic as it develops its budget for Fiscal Year 2024 and as it conducts a cost of service study to set its next five-year rate schedule beginning in January 2024.

The BWS received approximately \$902,000 in Coronavirus Aid, Relief, and Economic Security (CARES) Act funding in Fiscal Year 2021. The BWS did not receive CARES funding in Fiscal Year 2022. The BWS will receive \$50.3 million in Coronavirus State and Local Fiscal Recovery Funds (SLFRF) as part of the American Rescue Plan Act (ARPA) in Fiscal Year 2023.

Climate Change and Natural Disasters

Utilities face unpredictable climate-related risks to their water supplies and infrastructure. Long-range water resource planning must account for a changing climate, in addition to historical weather patterns and population growth, to realistically plan for the future.

The State and the City and County have made considerable progress over the last several years planning and preparing for climate change mitigation, resilience, and adaptation. The BWS has been an active participant in these efforts. In 2016, the BWS adopted its Water Master Plan (WMP), a 30-year infrastructure and capital improvement program that evaluated the entire Water System in light of climate change, identified necessary improvements, and proposed contingency planning to address uncertainties. The BWS plans to update the WMP in 10-year cycles. In 2018, the BWS adopted its LRFP, which includes 10- and 30-year financial plans and strategies

Water concept (integrated water resources of freshwater, stormwater, wastewater, recycled water, etc.) institutionalizing collaboration among city agencies and others, for example, to prioritize coastal infrastructure and elevate streets and private developments to adapt to forecasted sea level rise. Many progressive cities are embracing the One Water integrated resources framework, but this ordinance is the first in the nation to memorialize in greater detail in a multi-agency MOU and institutionalize collaboration for climate resilience because climate change adaptation is such a significant challenge that no one agency or entity can address alone. Only by working together and in manageable directed increments over the next several decades can Honolulu affordably adapt to sea level rise where nuisance flooding will become an issue by mid-century.

The BWS has completed the development of a risk and vulnerability assessment of each Water System and an update of its Emergency Response Plans in accordance with the American Water Infrastructure Act of 2018, (“AWIA”). The AWIA vulnerability assessment evaluated and prioritized strengths and threats to the entire Water System (aquifers, shafts, tunnels, wells & pumps, pumps, pipelines, reservoirs, GAC treatment, meters and services, hydrants, non-potable system), electrical and communications systems (business enterprise, financial system, process control, security systems), use, storage, and handling of chemicals, monitoring practices, financial infrastructure (financial programs and virtual network) operations and maintenance (base yards, Water System operations, field operations) including critical staffing and succession plans. The emergency response plans evaluated natural and man-made disasters, pandemics, climate change and sea level rise, cyber-attack and contamination. The vulnerability assessment found that the BWS’s existing infrastructure has significant resilience components already built in. Additional risk management and resiliency goals and objectives were identified and are being programmed for mitigation and enhancement in the CIP.

The One Water climate adaptation policy and City One Water Panel were established through City Ordinance 20-47 from a research project initiated by the BWS, community and agency inputs to and City Council adoption of the Oahu Resilience Strategy, and a subsequent guidance document produced by the City’s Climate Change Commission. One Water Honolulu is an inter-agency collaboration between eight City departments: the BWS, the Departments of Environmental Services, Facility Maintenance, Parks and Recreation, Transportation Services, Design and Construction, Planning and Permitting, and the Office of Climate Change, Sustainability and Resilience. One Water Honolulu is a critical piece in implementing Oa, Oahu’s resiliency strategy, developed by the Office of Climate Change, Sustainability and Resilience. One Water Honolulu recognizes that climate impacts are water related, too much or too little of it and therefore, holistic water resource management in the face of climate change must involve all forms of water; stormwater, wastewater, freshwater, graywater, recycled water and sea water.

Although “One Water” is an emerging concept in other leading cities, defining One Water Honolulu in the context of the island of Oahu is inherently distinct. For one, managing Oahu’s water—drinking water, stormwater, wastewater, recycled water—as one interconnected resource is simply a way of linking back to the island’s indigenous management roots, where land, water, food, and people are part of an interconnected system. Second, in the present, Hawaii’s state laws recognize all water to be in the public trust, where beneficial use is to be balanced with traditional and customary practices, wildlife and ecosystem needs, and scenic beauty. Finally, facing the future, it is clear for each of the eight City agencies partnering in One Water Honolulu that climate change impacts cannot be separated from water management and planning for the island.

One Water Honolulu creates a space for City agencies to work in concert with one another on climate change adaptation across water infrastructure and water-impacted infrastructure. It creates resource and financial efficiencies to address climate change impacts and preserve and conserve precious freshwater resources. The partners are especially seeking out ways to collaborate where there is strong value-added while not adding to these agencies’ already full workloads. Each of the agencies exhibit strong leadership and their dedication to public service on their own. Collectively, the agencies working together will advance collective solutions. Moreover, collaboration within the City and with key partners will enable better engagement with external stakeholders, including the state, federal government, and the private sector, through a clear and consistent approach.

Security Measures

The BWS maintains full compliance with Section 2013(b) of the AWIA and made significant updates to its Emergency Response Plan in 2020. The BWS continues to implement enhancements to harden its facilities. For example,

Table 7
Capital Improvement Program
New Projects Funded
Fiscal Years 2023-2027
(Dollars in Thousands)

Project Description	2023	2024	2025	2026	2027	Total
Potable Water Projects						
General*	\$ 18,128	\$ 24,690	\$ 14,350	\$ 21,175	\$ 19,850	\$ 98,193
Source	68,171	92,595	124,100	49,400	57,445	391,711
Storage	8,500	625	3,300	8,820	1,800	23,045
Transmission	47,700	18,210	40,520	67,755	55,545	229,730
Treatment	<u>1,500</u>	<u>4,500</u>	<u>10,500</u>	<u>810</u>	<u>810</u>	<u>18,120</u>
Subtotal	\$144,000	\$140,620	\$192,770	\$147,960	\$135,450	\$760,800
Non-Potable Water Projects	--	--	--	--	--	--
Recycled Water Projects	<u>500</u>	<u>19,860</u>	--	--	<u>2,000</u>	<u>22,360</u>
Total Estimated Costs	\$144,500	\$160,480	\$192,770	\$147,960	\$137,450	\$783,160
Construction Cost Index Adjustment	18,127	13,475	17,469	10,516	12,172	71,759
Contract Adjustment Account	<u>21,450</u>	<u>15,000</u>	<u>15,000</u>	<u>15,000</u>	<u>15,000</u>	<u>81,450</u>
Total (with Adjustments)	\$184,076	\$188,955	\$225,239	\$173,476	\$164,622	\$936,368

* Includes research and development projects (e.g., monitoring wells, construction and project management, and master planning), facilities repair and replacement projects (e.g., transponder replacement, security fencing, slope stabilization, dam improvements, and building renovations), and facilities capital expenditures (e.g., desalination facility, xeriscape garden improvements, and building and parking structure).

In addition to these new projects, the capital improvement program includes an additional \$392 million of projects already in progress that are scheduled for completion during this five-year period, for a total of approximately \$1,328 billion.

Based on the construction and payment cycles for the BWS's projects (typically, a four-year cycle), it is anticipated that a portion of the projects commenced during the Fiscal Year 2023-2027 period will not be fully completed during the period. As a result, it is expected that capital expenditures for the new and ongoing projects will total approximately \$845 million during this period. The remaining project costs will be paid in subsequent years as the work on continuing projects proceeds to completion. The following table presents the BWS's anticipated capital improvement program expenditures over the five-year period.

Table 9
Ten Largest Users
(as of June 30, 2022)

<u>Name of User</u>	<u>Estimated Revenues</u>	<u>% of Total Revenues</u>	<u>Annual Water Sales (1,000s gals.)</u>	<u>% of Total Water Sales</u>
City & County of Honolulu	\$ 13,976,340	5.69%	3,356,631	7.15%
State of Hawaii	13,382,796	5.45	2,551,484	5.44
United States Government	5,823,421	2.37	1,120,910	2.39
Hilton Hawaiian Village Lessee LLC	1,505,948	0.61	290,913	0.62
Par Hawaii Refining LLC	880,998	0.36	143,242	0.31
Kalaeloa Partners LP	871,563	0.35	168,747	0.36
Tesoro Hawaii Corp	823,915	0.34	171,849	0.37
A E S Hawaii Inc.	677,313	0.28	109,822	0.23
Hawaiian Cement	673,197	0.27	135,870	0.29
GGP Ala Moana LLC	<u>652,514</u>	<u>0.25</u>	<u>119,845</u>	<u>0.26</u>
Total	\$39,241,007	15.97%	8,169,322	17.41%

Rates and Charges

The BWS is budgeted as a self-sustaining enterprise fund for the purpose of determining costs associated with providing water services. Through the adoption of the annual operating budget process, the revenue requirements and water rates are reviewed to determine the adequacy of revenues. The BWS has the power to fix and adjust reasonable rates and charges for the furnishing of water and for water services so that the revenues derived therefrom are sufficient to make the Water System self-supporting. Rates and charges are determined on the basis of a recommendation by the Manager, subject to approval by the Board. Such rates are not subject to regulation by any governmental body or authority, including the City and County. See also “FINANCIAL INFORMATION—Recent Legislation and Legislative Proposals” herein.

The BWS began a Cost of Service and Rate Making Study in October 2022 to develop and implement a revised Schedule of Rates and Charges for the Furnishing of Water and Water Service. The public and its customers will be engaged in this process through the BWS’s Stakeholder Advisory Group, its Commercial Stakeholder Advisory Group, public meetings, and neighborhood board meetings where the BWS will solicit feedback and gather input on the proposed changes to the water rates and charges. The BWS will take such feedback and input into due consideration and subsequently present the revision to the Schedule of Rates and Charges for the Furnishing of Water and Water Service to the Board for its approval. The revised Schedule will be effective from January 1, 2024 through June 30, 2029 and will adjust the water rates to better align revenue with the costs to serve different customer classes, incentivize efficient use of water, provide affordable water to meet essential household needs, support local agriculture, and encourage the use of recycled and non-potable water resources.

In addition, when total electricity costs to the BWS exceed the amount used in calculating the annual schedule of rates and charges, then the quantity charge may be increased \$0.01 per 1,000 gallons for every \$500,000 incremental overage, or any fraction thereof, in the following fiscal year rate. The quantity charge also may be increased \$0.01 per 1,000 gallons for each \$500,000 or fraction thereof of additional costs that the BWS is required to incur to comply with any federal or state environmental law or regulation. These adjustment factors are included in the BWS’s schedule of rates and charges for Fiscal Years 2019 through 2023.

In support of ongoing efforts to provide affordable and homeless housing, the BWS may continue to waive the Water System Facilities Charges and new meter costs for qualified on-site affordable and homeless dwelling units, up to 500 units per year, subject to Board approval.

Collections

The BWS's uncollectible accounts from operating revenues for the past five fiscal years, together with such accounts' percentage of total operating revenues, are reflected in the following table:

Table 11

**Aggregate Dollar Amount of Uncollectible Accounts
Fiscal Years 2018-2022**

<u>Fiscal Year</u>	<u>Aggregate Dollar Amount of Uncollectible Accounts</u>	<u>Percentage of Total Operating Revenues</u>
2018	\$463,343	0.20%
2019	472,481	0.21
2020	795,382	0.34
2021	352,042	0.15
2022	613,477	0.25

Water Rates in the Four Counties

The following table shows the average monthly residential water bills in the four counties in the State based on rates in effect as of July 1, 2022. No conclusions regarding operations in a particular community or comparisons between communities should be drawn from such table.

Table 12

**Average Residential Monthly Water Bills
in the Four Counties of the State**

Kauai County	\$61.95
Hawaii County	68.47
Maui County	45.65
City and County of Honolulu	59.56

Note: Assumes monthly consumption of 9,000 gallons.

Other Charges

Water System Facilities Charges are levied against all new developments requiring water supplies from the Water System or additional water supplies from existing water services except those where the developer installs, at its own cost, a complete water system including source, transmission, and daily storage facilities. Developers pay the Water System Facilities Charges before water services are made available to the developments. Such Water System Facilities Charges are deposited in the Special Expendable Fund and do not constitute Revenues subject to the pledge of the Resolution.

Consumers may be assessed an On-Site Distribution Tariff for BWS maintenance of property piping if they elect to have the BWS provide such service. Maintenance shall be limited to repair and renewal of "after the meter" service appurtenances eligible for coverage.

Outstanding Debt

As of December 31, 2022, the Outstanding Bonds under the Resolution consisted of \$144,985,000 of Series 2014A Bonds and Series 2014B Bonds, of which \$33,255,000 remain outstanding, \$106,635,000 of Series 2020A Bonds and Series 2020B Bonds, of which \$102,545,000 remain outstanding, \$93,535,000 of Series 2021A Bonds and Series 2021B Bonds, of which \$92,620,000 remain outstanding, and \$135,260,000 of Series 2022A Bonds and Series 2022B Bonds, of which \$134,720,000 remain outstanding. The aggregate outstanding amount of Bonds issued under the Resolution as of December 31, 2022 was \$363,140,000.

All previously issued general obligation bonds of the City and County which were reimbursable from revenues of the Water System have been paid or defeased, and all previously issued revenue bonds of the BWS, other than the Bonds currently outstanding under the Resolution, have been refunded and defeased. Except for approximately \$121,714,148 of outstanding State revolving fund loans as of December 31, 2022, incurred as Subordinate Obligations, and approximately \$466,014 of outstanding notes payable to other lenders, no other outstanding debt has been issued for purposes of the Water System. Interest rates are fixed for all of the BWS's outstanding debt and the BWS has no exposure to any auction rate, derivative or structured investments. The BWS currently has no outstanding private or direct placements or bank debt secured by revenues of the Water System.

The Resolution provides, as a condition to the incurrence of Subordinate Obligations (including State revolving fund loans), that the resolution, indenture or governing instrument for such Subordinate Obligations must contain a provision to the effect that, in the absence of bankruptcy, insolvency, or other similar proceedings with respect to the BWS or its property, if such Subordinate Obligations are declared due and payable prior to maturity as a result of an event of default or otherwise, the holders of Outstanding Bonds issued under the Resolution would be entitled to receive payment in full of all principal and interest on their Bonds before the holders of the Subordinate Obligations would be entitled to receive any accelerated payment of principal or interest on such Subordinate Obligations from the Net Revenues or any funds held under the Resolution. The Master Resolution 741,2004 of the Board, which provides for the incurrence of State revolving fund loans as Subordinate Obligations, contains such a provision. The approximately \$121,714,148 of outstanding State revolving fund loans referenced above are the only Subordinate Obligations currently outstanding.

Lease Obligations

The BWS has entered into a Space Lease dated as of September 16, 2005 with the University of Hawaii to operate and maintain a seawater cooling system for the provision of chilled water service to the University's John A. Burns School of Medicine and other customers. The term of the lease is 20 years, with the option to extend the lease for two additional periods of five years each. The BWS's annual rent obligation under the lease is \$158,556. The BWS has no other capital lease obligations.

Employee Benefits

Set forth below is certain information regarding health care benefits, pension benefits, and other post-employment benefits for which BWS employees are eligible. The information included under the captions "Pensions" and "Other Post-Employment Benefits" below relies on information produced by the Employees' Retirement System of the State (the "System" or "ERS") and the Hawaii Employer-Union Health Benefits Trust Fund (the "Trust Fund" or "EUTF"), respectively. Actuarial assessments are "forward-looking" information that reflect the respective judgments of the fiduciaries of the System and the Trust Fund. Such actuarial assessments are based upon a variety of assumptions, one or more of which may prove to be inaccurate or be changed in the future, and will change with the future experiences of the System and the Trust Fund.

The Trust Fund operates as an agent multiple-employer plan, meaning separate accounts are maintained for each employer. Although assets are pooled for investment purposes, the contributions of each employer, such as the

("2022 EUTF Valuation Report"), the Trust Fund's actuarial consultant calculated the Annual Required Contributions for the fiscal years ending June 30, 2024 and 2025 and provided an estimate of the actuarial accrued OPEB liabilities under GASB 45 for each participating employer. The BWS's actuarial accrued liability was estimated to be \$149.9 million, its unfunded actuarial accrued liability was estimated to be \$35.3 million, with a funded ratio of 76.5%. The actuarial calculations for the BWS assumed full prefunding of its obligation and a discount rate of 7%.

The BWS reported a net OPEB unfunded actuarial accrued liability of \$35.3 million as of July 1, 2022, compared with \$56.3 million as of July 1, 2021. Based on this valuation, the BWS's consulting actuary determined the BWS's annual required contribution ("ARC") is estimated to be approximately \$8.3 million for Fiscal Year 2024 and \$8.4 million for Fiscal Year 2025 with full prefunding, compared to \$8.2 million for Fiscal Year 2023. The BWS's annual OPEB ARC was \$8.9 million for Fiscal Year 2022 and \$8.5 million for Fiscal Year 2021.

Transfers to the Trust Fund to prefund the BWS's OPEB obligations are determined on a year-by-year basis. For Fiscal Years 2018-2022, the BWS transferred the following respective amounts to the Trust Fund for this purpose: \$8.9 million, \$7.9 million, \$8.2 million, \$8.5 million, and \$8.9 million.

Act 268, Session Laws of Hawaii 2013, requires the Trust Fund to establish and administer a separate trust fund account for each public employer for the purpose of receiving irrevocable employer contributions to prefund OPEB benefit costs. The BWS's previous pre-funding contributions and related net investment earnings were transferred to its OPEB Trust account. Act 268 requires all public employers within the State to contribute annually to the Trust Fund the full amount of their actuarially-determined contributions beginning in Fiscal Year 2019, and obligates the State finance director to use the transient accommodations tax and other revenues collected by the State on behalf of a county to supplement deficient county contributions. The Act's full-funding requirement was phased in over a five-year period, with employers required to contribute 20% of their actuarially-determined contributions in Fiscal Year 2015, 40% in Fiscal Year 2016, 60% in Fiscal Year 2017, 80% in Fiscal Year 2018 and 100% in Fiscal Year 2019. The Trust actuary determines the contributions required under Act 268 by first establishing the amount of the full actuarially-determined ARC, then deducting the amount estimated to be paid by the employer to cover pay-as-you-go benefits, then applying the required payment percentage (e.g., 80% for FY 2018) to the remaining portion of the full ARC.

The Governor issued a Fourteenth Supplementary Proclamation Related to the COVID-19 Emergency on October 13, 2020, which suspended specific provisions of law, including (i) Sections 87A-42(b) to (f), HRS, other post-employment benefits trust; (ii) Section 87A-43, HRS, payment of public employer contributions to the other post-employment benefits trust; and (iii) Section 237-31(3), HRS, remittances, related to the requirement for public employers to pay the ARC to the EUTF in the fiscal year ending June 30, 2021. The 2021 Legislature subsequently enacted Act 229, SLH 2021, which extends such suspension for the fiscal years ending June 30, 2022, and June 30, 2023. As a result, for the fiscal years ending June 30, 2021 and June 30, 2022, the State and counties were only required to contribute, and for the fiscal year ending June 30, 2023, will only be required to contribute, their share of the monthly pay-as-you-go health benefit premiums and claims expenses.

The following table shows the BWS's ARC, actual contributions, and contribution requirements of Act 268 for Fiscal Years 2014 to 2022.

Dental	4.00%
Vision	2.50%
Medicare Part B	5.00% initial, declining to 4.25% after 22 years
Life Insurance	0.00%

In June 2015, GASB approved new accounting and financial reporting standards for state and local government OPEB. Statement No. 74, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans (GASB 74) applies to OPEB plans. Statement No. 75, Accounting and Financial Reporting for Postemployment Benefits Other Than Pensions (GASB 75) applies to state and local employers that sponsor OPEB. Generally, the new OPEB standards parallel those applied to defined-benefit pension plans and participating employers by GASB 67 and 68, respectively. The new standards introduce new procedures for measuring OPEB liabilities and costs, require employers to report a net OPEB liability on their financial statements, and require more extensive disclosure in plan and employer financial statements. GASB 74 will be effective for plans with fiscal years beginning after June 15, 2016. The Trust Fund has implemented GASB 75 for fiscal years beginning July 1, 2016, and July 1, 2017, and has prepared its GASB 75 report for the fiscal year ended June 30, 2018. The BWS implemented Statement 75. The implementation resulted in a restatement of \$1.7 million to the net position of the BWS for the fiscal year ended June 30, 2016.

Pensions

All eligible employees of the BWS are covered under the Employees' Retirement System of the State (the "System" or "ERS"), a cost-sharing, multiple-employer defined benefit pension plan that provides retirement, disability, and death benefits funded by employee contributions and by employer contributions. This section contains certain information relating to the System, derived primarily from information produced by the System, its independent accountant, and its actuary. The BWS has not independently verified the information provided by the System, its independent accountant, or its actuary and makes no representations nor expresses any opinion as to the accuracy of such information. The comprehensive annual financial report of the System and most recent valuation report of the System may be obtained by contacting the System. The comprehensive annual financial reports of the System are also available on the State's website at <http://portal.hawaii.gov>, and other information about the System is available on the System's website at <http://ers.hawaii.gov>. Such documents and other information are not incorporated herein by reference.

The System uses a variety of assumptions to calculate the total pension liability, net pension liability, annual pension expense, and other actuarial calculations and valuations of the System and, in turn, to attribute a share of its liabilities and costs to participating employers, including the BWS. No assurance can be given that any of the assumptions underlying such calculations and valuations will reflect the actual results experienced by the System. Actuarial assessments are "forward-looking" information that reflect the judgment of the fiduciaries of the pension plans, and variances between the assumptions and actual results may cause an increase or decrease in, among other things, the System's total pension liability, net pension liability or funded ratio and, in turn, the BWS's share of the System's costs and liabilities. Actuarial assessments will change with the future experience of the pension plans. See "*General Information*" and "*Actuarial Valuation*" herein for more information on the actuarial assumptions used by the System.

General Information. The System began operation on January 1, 1926. The statutory provisions of Chapter 88, HRS govern the operation of the System. Responsibility for the general administration of the System is vested in a Board of Trustees, with certain areas of administrative control being vested in the State Department of Budget and Finance. The Board of Trustees consists of eight members: the Director of Finance of the State, ex officio; four members of the System (two general employees, one teacher, and one retiree) who are elected by the members of the System; and three citizens of the State (one of whom shall be an officer of a bank authorized to do business in the State, or a person of similar experience) who are appointed by the Governor and may not be employees of the State or any county. All contributions, benefits, and eligibility requirements are established by statute, under Chapter 88, HRS, and may only be amended by legislative action.

The System provides retirement, disability, and death benefits that are covered by the provisions of the noncontributory, contributory, and hybrid retirement plans. The three plans provide a monthly retirement allowance equal to the benefit multiplier (generally 1.25% or 2%) multiplied by the average final compensation ("AFC")

required to contribute 6.0% of their salary. Hybrid plan members hired after June 30, 2012 are required to contribute 8.0% of their salary.

Table 17

Schedule of Employer Pension Contributions

Fiscal Year (June 30)	Statutorily Required Contribution	Actual Contributions Recognized by the Plan	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a % of Covered Payroll
2014	\$5,931,238	\$5,931,238	\$ --	\$32,202,276	18.4%
2015	6,686,641	6,686,641	--	33,412,761	20.0
2016	6,647,884	6,647,884	--	34,536,085	19.2
2017	6,885,401	6,885,401	--	35,912,898	19.2
2018	7,561,614	7,561,614	--	36,816,067	20.5
2019	7,387,857	7,387,857	--	38,390,927	19.2
2020	9,411,347	9,411,347	--	39,537,387	23.8
2021	10,642,688	10,642,688	--	41,699,341	25.5
2022	10,978,412	10,978,412	--	39,674,737	27.7

The following table presents the sensitivity of the BWS's proportionate share of the net pension liability, recorded at June 30, 2022, calculated using the discount rate of 7.00%, as well as the BWS's proportionate share of the net pension liability if it were calculated using a discount rate that is 1-percentage-point lower (6.00%) or 1-percentage-point higher (8.00%):

Table 18

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
BWS's share of net pension liability (\$000)	\$145,621,000	\$106,764,000	\$74,728,000

The total pension liability in the 2021 ERS Valuation Report was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.50%
Payroll growth rate	3.50% per annum
Investment rate of return	7.00% per annum

The same rates were applied to all periods. There were no changes to ad hoc postemployment benefits including COLA. Post-retirement mortality rates were based on the 2019 Public Retirees of Hawaii mortality table, generational projection using the BB projection table from the year 2019 and with multipliers based on plan and group experience. Pre-retirement mortality rates were based on multiples of the employee tables in the Pub-2010 Public Retirement Plans Mortality Tables Report.

The actuarial assumptions used in the 2021 ERS Valuation Report were based on the results of the actuarial experience study dated July 30, 2019. ERS updates the experience study every five years.

The long-term expected rate of return on pension plan investments was determined using a "top down approach" of the Bespoke Client-Constrained Simulation-based Optimization Model (a statistical technique known as "re-sampling with replacement" that directly keys in on specific plan-level risk factors as stipulated by the ERS Board) in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

actuarial value of assets. Based on the assumptions used in preparing the 2022 ERS Valuation Report and the future contribution rates established by the Legislature effective July 1, 2017, the actuary determined that, as of the 2022 ERS Valuation Report, the remaining amortization period is 24 years. Thus, the current contribution rate is sufficient to eliminate UAAL over a period of 30 years or less as mandated by Section 88-122(e)(1), HRS.

Funding Policy

Act 17, SLH 2017, which became effective July 1, 2017, established the employer contribution rates set forth below. These contributions rates were increased to bring the System’s funding period within 30 years:

Table 20

Employer Contribution effective starting	Police Officers and Firefighters (% of total payroll)	Other Employees (% of total payroll)
July 1, 2017	28.0%	18.0%
July 1, 2018	31.0	19.0
July 1, 2019	36.0	22.0
July 1, 2020	41.0	24.0

Under the contributory plan, police officers, firefighters, and corrections officers are required to contribute 12.2% of their salary to the plan and most other covered employees are required to contribute 7.8% of their salary. Under the Hybrid Plan, covered employees are generally required to contribute 6.0% of their salary to the plan, with sewer workers in specified classifications, water safety officers and emergency medical technicians required to contribute 9.75% of their salary. Effective July 1, 2012, contribution rates for newly hired employees covered under the contributory and Hybrid Plan increased by 2% pursuant to Act 163, SLH 2011, such that the corresponding contribution rates for new employees as discussed in this paragraph became 14.2%, 9.8%, 8.0% and 11.75%, respectively. Employees covered under the noncontributory plan do not make contributions.

Actuarial Methods

The System’s actuary uses the individual entry age normal cost method. The most recent valuation was performed for the fiscal year beginning July 1, 2021 and ending June 30, 2022.

Since the State statutes governing the System establish the current employee and employer contribution rates, the actuarial valuation determines the number of years required to amortize (or fund) the UAAL. For the June 30, 2022 valuation, this determination was made using an open group projection to reflect both the increasing contribution rates and the changes in benefits for members hired after June 30, 2012, which projection assumes that the number of active members will remain constant and that there will be no actuarial gains or losses on liabilities or investments.

Because of this amortization procedure, any change in the unfunded actuarial accrued liability due to (i) actuarial gains and losses, (ii) changes in actuarial assumptions or (iii) amendments, affects the funding period.

On an aggregate basis with regard to the contributory, Hybrid, and noncontributory plans, the total normal cost for benefits provided by the System for the fiscal year ended June 30, 2022 was 14.60% of payroll, which was 18.54% of payroll less than the total contributions required by law (26.00% from employers plus 6.59% in the aggregate from employees). Since only 8.01% of the employers’ 26.00% contribution is required to meet the normal cost (6.59% comes from the employee contribution), it is intended that the remaining 18.54% of payroll will be used to amortize any unfunded actuarial accrued liabilities over a period of years in the future, assuming that pay for new entrants increases by 3.50% per year. Due to the changes enacted in 2011 (increases in the employer contribution rates and new benefits and contribution rates for members hired after June 30, 2012), the percentage of payroll available to amortize the unfunded actuarial liabilities is expected to increase each year for the foreseeable future.

Table 22
Schedule of Funding Progress
(Dollar amounts in millions)

Fiscal Year (June 30)	Actuarial Value of Assets (a)	Actuarial Accrued Liability (b)	Unfunded Actuarial Accrued Liability (b)-(a)	Funded Ratio (a)/(b)	Annual Covered Payroll (c)	UAAL as a Percentage of Payroll (b)-(a)/(c)
2013	12,748.8	21,243.7	8,494.9	60.0	3,906.7	217.4
2014	13,641.8	22,220.1	8,578.3	61.4	3,991.6	214.9
2015*	14,463.7	23,238.4	8,774.7	62.2	4,171.4	210.4
2016*	14,998.7	27,439.2	12,440.5	54.7	4,258.9	292.1
2017	15,720.6	28,648.6	12,928.0	54.9	4,265.0	303.1
2018	16,512.7	29,917.4	13,404.7	55.2	4,383.7	305.8
2019*	17,322.2	31,396.4	14,074.3	55.2	4,519.7	311.4
2020	18,084.4	32,691.8	14,607.4	55.3	4,630.2	315.5
2021	19,909.8	34,139.2	14,229.4	58.3	4,783.8	297.5
2022*	21,317.8	34,822.8	13,504.9	61.2	4,614.0	292.7

* New assumption effective on valuation date.

Source: 2022 ERS Valuation Report

The following table shows a comparison of the actuarial value of assets (“AVA”) to the market values, the ratio of the AVA to market value and the funded ratio based on AVA compared to funded ration based on market value assets:

Table 24
Actuarial Value of Assets

Fiscal Year (ending June 30)	Actuarial Value of Assets (in millions)	Market Value of Assets (in millions)	Market Value as Percentage of AVA	Funded Ratio (AVA)	Funded Ratio (Market Value)
2013	\$12,748.8	\$12,357.8	96.9%	60.0%	58.2%
2014	13,641.8	14,203.0	104.1	61.4	63.9
2015	14,463.7	14,505.5	100.3	62.2	62.4
2016	14,998.7	14,070.0	93.8	54.7	51.3
2017	15,720.6	15,698.3	99.9	54.9	54.8
2018	16,512.7	16,598.4	100.5	55.2	55.5
2019	17,322.2	17,227.0	99.5	55.2	54.9
2020	18,084.3	17,385.5	96.1	55.3	53.2
2021	19,909.8	21,935.8	110.2	58.3	64.3
2022	21,317.8	21,854.8	102.5	61.2	62.8

Source: 2013-2022 ERS Valuation Reports

As of June 30, 2022, the UAAL of the System was \$13.505 billion, a decrease from \$14.229 billion as of June 30, 2021. The following table shows the normal cost (which means the annual cost of providing retirement benefits for services performed by today’s members) as a percentage of payroll, employee contribution rate and effective employer normal cost rate for the two groups of covered employees for Fiscal Years 2021 and 2022:

Table 25
Normal Cost

	June 30,					
	2021			2022		
	Police and Firefighters	Other Employees	All Employees	Police and Firefighters	Other Employees	All Employees
Normal cost as % of payroll:	26.20%	12.43%	14.06%	27.31%	12.96%	14.60%
Employee contribution rate:	12.67	5.66	6.49	12.75	5.79	6.59
Effective employer normal cost rate:	13.53	6.77	7.57	14.56	7.17	8.01

Source: 2022 ERS Valuation Report

The following table shows the annual actual contributions as of the last ten valuation dates. Employer contribution rates are set prospectively by the statute and, accordingly, may be greater or less than the ARC in any given year.

Employer Contribution Rate

The schedule which follows shows the total actuarially determined employer contribution rate for all employees based on the last five annual actuarial valuations.

Table 28
Employer Contribution Rates

Actuarial Valuation as of June 30	Total Calculated Employer Contribution Rate for all Employees (% of total payroll)*	Funding Period (Years)
2018	20.36	25.0
2019	23.61	26.0
2020	26.00	26.0
2021	25.94	24.0
2022	25.92	24.0

* Reflects Act 181, SLH 2004, which amended Sections 88-105, 88-122, 88-123, 88-124, 88-125, 88-126, Hawaii Revised Statutes, and Act 163, SLH 2011.

As previously noted, the current funding period for paying off the UAAL of the ERS is 24 years—the same as the prior year’s funding period. Normally, the funding period is expected to decrease by one year each year if all assumptions are met. While this result may seem surprising given the actuarial gains on both the assets and liabilities of the System in Fiscal Year 2022, one of the reasons for the liability gains was a sizeable decrease in the covered payroll of the System. Since the contributions to the System are a fixed percentage of payroll, a decrease in the covered payroll implies a smaller contribution stream in future years, meaning smaller payments towards the unfunded liabilities of the System. As such, even though the total unfunded liabilities decreased from Fiscal Year 2021, the period over which the unfunded liabilities are to be paid off remained the same. Despite the lack of change in funding period between FY 2021 and 2022, the funding period is still less than the statutorily required minimum of 30 years and the ERS remains on track to achieve full funding in the same timeframe as originally set by the Legislature when passing the current contribution rates in 2017.

Summary of Actuarial Certification Statement

A summary of the actuarial certification of the System as of June 30, 2021 and June 30, 2022 is set forth below:

Table 30
Historical Revenues, Expenses and Debt Service Coverage
Fiscal Years 2018-2022

	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
Operating revenues:					
Water sales*	\$ 229,526,599	\$ 226,347,969	\$ 228,467,575	\$ 235,431,118	\$245,739,167
Other operating revenues	<u>3,303,197</u>	<u>2,697,545</u>	<u>3,565,485</u>	<u>3,283,179</u>	<u>2,524,401</u>
Total operating revenues:	\$ 232,829,796	\$ 229,045,514	\$ 232,033,060	\$ 238,714,297	\$248,263,568
Operating expenses (excluding depreciation):					
Administrative and general	\$ 70,493,764	\$ 72,030,601	\$ 71,190,600	\$ 81,821,963	\$63,969,337
Maintenance	12,663,811	11,430,094	14,839,903	16,624,691	16,531,707
Power and pumping	32,064,982	35,139,272	35,044,263	32,573,830	39,465,297
CASE fees	3,300,000	3,300,000	3,300,000	3,300,000	3,300,000
Transmission and distribution	21,106,882	23,717,484	31,313,386	30,864,070	22,070,474
Customer accounting and collection	4,022,619	4,287,336	4,154,640	4,694,915	4,065,097
Water reclamation	5,164,896	5,313,092	4,986,298	4,851,947	5,890,727
Source of supply	<u>4,418</u>	<u>—</u>	<u>384,146</u>	<u>153,090</u>	<u>319</u>
Total operating expenses:	\$148,821,372	\$155,217,879	\$165,213,236	\$174,884,506	\$155,292,658
Operating income:	\$ 84,008,424	\$ 73,827,635	\$ 66,819,824	\$ 63,829,791	\$ 92,970,929
Non-operating revenues:					
Interest income	<u>\$ 6,097,077</u>	<u>\$ 7,549,495</u>	<u>\$ 7,994,046</u>	<u>\$ 7,792,266</u>	<u>\$ 7,860,531</u>
Total non-operating revenues:	<u>\$ 6,097,077</u>	<u>\$ 7,549,495</u>	<u>\$ 7,994,046</u>	<u>\$ 7,792,266</u>	<u>\$ 7,860,531</u>
Net revenues:	\$ 90,105,501	\$ 81,377,130	\$ 74,813,870	\$ 71,622,057	\$100,831,460
Annual debt service:**					
Senior debt (revenue bonds)	\$ 17,844,248	\$ 17,875,798	\$ 18,464,913	\$ 20,460,975	\$ 23,380,141
Junior debt (SRF loans)***	13,803,000	3,984,946	5,126,292	7,160,936	8,540,438
Debt Service Coverage:					
Senior debt coverage	5.05	4.55	4.05	3.50	4.31
All-In Coverage	2.85	3.72	3.17	2.59	3.16

* Water rates increased by 0.0% in FY 2018 and FY 2019; 2.0% in FY 2020 and FY 2021; and 4.0% in FY 2022 and FY 2023.

** The BWS's fiscal year begins on July 1 and ends on June 30. Debt service payments are due on January 1 and July 1 each year and it is the BWS's practice to set aside and reserve amounts due monthly in advance. Accordingly, annual debt service totals shown in the table above include amounts reserved for payment in the fiscal year indicated but not actually paid until July 1 of the following fiscal year, and similarly exclude amounts reserved for payment in the prior fiscal year but not actually paid until July 1 of the indicated fiscal year.

*** The debt service for SRF loans in FY 2018 includes an early retirement payment of principal and interest of \$9,756,000.

- Administrative and general decreased by \$17.8 million in Fiscal Year 2022. The decrease is due to decreases in health benefits for the retirees, proportionate share of pension expenses per GASB 68, and transportation distribution charges.
- Power and pumping increased by \$6.9 million in Fiscal Year 2022, at the total of \$39.5 million compared to \$32.6 million in Fiscal Year 2021. Such increase is due to increase in utility costs.
- Other operating expenses decreased by \$8.4 million during Fiscal Year 2022 mainly due to the decrease in transmission and distribution costs and customers' accounting and collection. Such decrease was offset by an increase in water reclamation.
- Contributions in aid of construction result from Water System Facilities Charges (WSFC) that are levied against all new developments and residential properties requiring water from the BWS's systems, except those developments that have paid for and installed a complete water system, including sources, transmission, and daily storage facilities. In addition, contributions of capital assets from governmental agencies, developers, and customers are recorded as contributions in aid of construction at their cost. The BWS realized contributions in aid of construction of \$19.5 million in Fiscal Year 2022 compared to \$15.1 million in Fiscal Year 2021. The increase was primarily due to increases in contributions by private developers of \$7.5 million, and decreases of \$2.4 million in WSFC collections. During the year ended June 30, 2022, the major developments were Ho'opili Development Phase 2, Backbone Roadway Improvements, Ewa by Gentry Area 31 Site Improvements, Increment 2, and Koa Ridge Road "A" Phase 1.

The BWS's current assets were 3.4, 3.0, and 3.4 times its related current liabilities as of June 30, 2022, 2021, and 2020, respectively. The ratio increase at June 30, 2022 was due to increase in cash and cash equivalents by \$20 million and investments by \$14 million. The ratio decrease at June 30, 2021 was due to a decrease in cash and cash equivalents by \$49 million, offset by an increase in investments of \$21 million.

Noncurrent restricted and other assets increased by \$69 million in Fiscal Year 2022. The increase was primarily due to the receipt of \$93.4 million of Series 2022A Bonds net proceeds during Fiscal Year 2022. Noncurrent restricted and other assets increased by \$55.7 million in Fiscal Year 2021. The increase is primarily due to the receipt of \$61 million of Series 2021A Bonds net proceeds during Fiscal Year 2021.

Net position increased \$30.8 million in Fiscal Year 2022, compared to the \$17.7 million increase in Fiscal Year 2021. Total assets were \$2.0 billion in Fiscal Year 2022 and \$1.9 billion in Fiscal Year 2021, which exceeded liabilities by \$1.3 billion as of June 30, 2022 and \$1.2 billion as of June 30, 2021.

The BWS's unrestricted current assets at June 30, 2022 were 5.9 times its related current liabilities, compared to 4.6 times at June 30, 2021. The BWS's debt to equity ratio was 40.8% and 35.4% at June 30, 2022 and 2021, respectively, indicating the continuance of capacity to issue additional debt.

Recent Legislation

Act 040, Session Laws of Hawaii (SLH) (2019) appropriated \$1,000,000 in general obligation bond funds to the State Department of Land and Natural Resources ("DLNR") under Item No. LNR141 (17) – Water and Land Development for the Honolulu Board of Water Supply. A Memorandum of Agreement between the BWS and the DLNR was fully executed in 2021 and the BWS received the funds in May 2022. These bond funds shall offset the costs for the plans, design, construction, and equipment for an exploratory well in Kunia; ground and site improvements; new construction, infrastructure development, improvements, refurbishments, and development; equipment and appurtenances for one of four exploratory water wells proposed by the BWS for the proposed Kunia Wells IV pump station, which will provide additional water supply for growth, including diversified agriculture.

In the aggregate, lawsuits and claims pending as of January 31, 2023 made against the BWS have the potential to surpass the amount paid for claims in the Fiscal Year ending June 30, 2022. Ongoing cases filed against the BWS involve allegations that BWS water main breaks caused or contributed to landslides and erosion that damaged properties located in Palolo Valley. Another case involves a claim that the BWS breached a license agreement regarding usage of the BWS's abandoned water mains. Other pending cases involve construction contract disputes, personal property damages or bodily injuries.

These cases are in various stages of litigation, and liability has not been established at this time. The BWS intends to vigorously defend itself in these cases.

In the opinion of BWS management, based on an analysis of the known claims and litigation, there is no present or pending litigation that would materially impair the financial position of the BWS.

The City and County's Department of the Corporation Counsel reports that there is no controversy or litigation now pending or, to the best of its actual knowledge, threatened, which seeks to restrain or enjoin the execution, issuance, sale, or delivery of the Series 2023 Bonds or that in any way contests the validity of the Series 2023 Bonds; or any proceedings of the BWS taken with respect to the authorization, sale, or issuance of the Series 2023 Bonds, the pledge or application of any moneys provided for the payment of or security for the Series 2023 Bonds.

FINANCIAL STATEMENTS

The City Charter provides that the accounts and financial status of the BWS shall be examined annually by a certified public accountant whose services shall be contracted for by the BWS. The BWS's current independent auditor is Accuity LLP. The financial statements of the BWS as of and for the Fiscal Year ended June 30, 2022, included in Appendix B to this Official Statement, have been audited by Accuity LLP, as stated in their report therein. Accuity LLP has not performed any procedures relating to information included in this Official Statement.

RATINGS

Fitch Ratings ("Fitch") and S&P Global Ratings ("S&P") have assigned ratings of "___" (___ outlook) and "___" (___ outlook) respectively, to the Series 2023 Bonds. The rating agencies may have obtained and considered information and material which has not been included in this Official Statement. Generally, the rating agencies base their rating on information and material furnished and on investigations, studies and assumptions made by them.

Such ratings reflect only the respective views of such organizations, and an explanation of the significance of such ratings may be obtained from the rating agency furnishing the same, at the following addresses: Fitch, One State Street Plaza, New York, New York 10004; and S&P, One California Street, 31st Floor, San Francisco, California 94111. There is no assurance that such ratings will continue for any given period of time or that they will not be revised or withdrawn entirely by such rating agencies, if in the judgment of such rating agencies, circumstances so warrant. Any such downward revision or withdrawal of such ratings may have an effect on the market price of the Series 2023 Bonds.

UNDERWRITING

The Series 2023 Bonds are being purchased by BofA Securities, Inc. as Underwriter. The Underwriter has agreed to purchase the Series 2023 Bonds at an aggregate purchase price of \$[_____] (equal to \$[_____] principal amount of Series 2023 Bonds, [plus/less] a net original issue [premium/discount] of \$[_____] , less the underwriter's discount of \$[_____]). The bond purchase contract with respect to the Series 2023 Bonds provides that the Underwriter will purchase all the Series 2023 Bonds if any are purchased, the obligation to make such purchase being subject to certain terms and conditions set forth in the purchase contract, the approval of certain legal matters by Bond Counsel and certain other conditions. The initial public offering prices are set forth on the inside cover pages of this Official Statement. The Underwriter may offer and sell the Series 2023 Bonds to certain dealers (including depositing the Series 2023 Bonds into investment trusts) and others at prices lower than the initial

respect to the tax consequences of ownership of Series 2023 Bonds with original issue discount, including the treatment of Beneficial Owners who do not purchase such Series 2023 Bonds in the original offering to the public at the first price at which a substantial amount of such Series 2023 Bonds is sold to the public.

Series 2023 Bonds purchased, whether at original issuance or otherwise, for an amount higher than their principal amount payable at maturity (or, in some cases, at their earlier call date) ("Premium Bonds") will be treated as having amortizable bond premium. No deduction is allowable for the amortizable bond premium in the case of obligations, like the Premium Bonds, the interest on which is excluded from gross income for federal income tax purposes. However, the amount of tax-exempt interest received, and a Beneficial Owner's basis in a Premium Bond, will be reduced by the amount of amortizable bond premium properly allocable to such Beneficial Owner. Beneficial Owners of Premium Bonds should consult their own tax advisors with respect to the proper treatment of amortizable bond premium in their particular circumstances.

The Code imposes various restrictions, conditions and requirements relating to the exclusion from gross income for federal income tax purposes of interest on obligations such as the Series 2023 Bonds. The Board has made certain representations and covenanted to comply with certain restrictions, conditions and requirements designed to ensure that interest on the Series 2023 Bonds will not be included in federal gross income. Inaccuracy of these representations or failure to comply with these covenants may result in interest on the Series 2023 Bonds being included in gross income for federal income tax purposes, possibly from the date of original issuance of the Series 2023 Bonds. The opinion of Bond Counsel assumes the accuracy of these representations and compliance with these covenants. Bond Counsel has not undertaken to determine (or to inform any person) whether any actions taken (or not taken), or events occurring (or not occurring), or any other matters coming to Bond Counsel's attention after the date of issuance of the Series 2023 Bonds may adversely affect the value of, or the tax status of interest on, the Series 2023 Bonds. Accordingly, the opinion of Bond Counsel is not intended to, and may not, be relied upon in connection with any such actions, events or matters.

Although Bond Counsel is of the opinion that interest on the Series 2023 Bonds is excluded from gross income for federal income tax purposes and that the Series 2023 Bonds and the income therefrom are exempt from all taxation by the State of Hawaii or any county or other political subdivision thereof, except inheritance, transfer, estate and certain franchise taxes, the ownership or disposition of, or the accrual or receipt of amounts treated as interest on, the Series 2023 Bonds may otherwise affect a Beneficial Owner's federal, state or local tax liability. The nature and extent of these other tax consequences depends upon the particular tax status of the Beneficial Owner or the Beneficial Owner's other items of income or deduction. Bond Counsel expresses no opinion regarding any such other tax consequences.

Current and future legislative proposals, if enacted into law, clarification of the Code or court decisions may cause interest on the Series 2023 Bonds to be subject, directly or indirectly, in whole or in part, to federal income taxation or to be subject to or exempted from state income taxation, or otherwise prevent Beneficial Owners from realizing the full current benefit of the tax status of such interest. The introduction or enactment of any such legislative proposals or clarification of the Code or court decisions may also affect, perhaps significantly, the market price for, or marketability of, the Series 2023 Bonds. Prospective purchasers of the Series 2023 Bonds should consult their own tax advisors regarding the potential impact of any pending or proposed federal or state tax legislation, regulations or litigation, as to which Bond Counsel expresses no opinion.

The opinion of Bond Counsel is based on current legal authority, covers certain matters not directly addressed by such authorities, and represents Bond Counsel's judgment as to the proper treatment of the Series 2023 Bonds for federal income tax purposes. It is not binding on the Internal Revenue Service ("IRS") or the courts. Furthermore, Bond Counsel cannot give and has not given any opinion or assurance about the future activities of the Board, or about the effect of future changes in the Code, the applicable regulations, the interpretation thereof or the enforcement thereof by the IRS. The Board has covenanted, however, to comply with the requirements of the Code.

Bond Counsel's engagement with respect to the Series 2023 Bonds ends with the issuance of the Series 2023 Bonds, and, unless separately engaged, Bond Counsel is not obligated to defend the Board or the Beneficial Owners regarding the tax-exempt status of the Series 2023 Bonds in the event of an audit examination by the IRS. Under current procedures, Beneficial Owners would have little, if any, right to participate in the audit examination process. Moreover, because achieving judicial review in connection with an audit examination of tax-exempt bonds

Additional information may be obtained, upon request, from the Manager.

All quotations from, and summaries and explanations of, the State Constitution and laws referred to herein do not purport to be complete, and reference is made to the State Constitution and laws for full and complete statements of their provisions. Any statements made in this Official Statement involving matters of opinion or estimates, whether or not so expressly stated, are set forth as such and not as representations of fact, and no representation is made that any of the estimates will be realized. Neither this Official Statement nor any statement which may have been made orally or in writing is to be construed as a contract with the holders of any of the Series 2023 Bonds.

**BOARD OF WATER SUPPLY OF THE CITY AND
COUNTY OF HONOLULU**

Ernest Y.W. Lau, Manager and Chief Engineer

APPENDIX A

Economic and Demographic Factors

APPENDIX A

ECONOMIC AND DEMOGRAPHIC FACTORS

Introduction

The City and County of Honolulu, which includes the entire island of Oahu and a number of small outlying islands, is a major metropolitan city with a resident population of 1,000,890 (approximately 69% of the state's population) as of July 1, 2021. Honolulu's underlying economy is supported by several diversified areas, which include tourism, the federal government and military operations, State and local governments, manufacturing, construction, real estate, education, research and science, trade and services, communications, finance, and transportation. A material deterioration in domestic or global economic conditions, including as a result of the COVID-19 outbreak, have had a negative effect on the local economy.

Oahu is situated between 21 degrees and 22 degrees north latitude, just below the Tropic of Cancer. The climate has an average mean winter temperature of 70.2 degrees and an average mean summer temperature of 78.6 degrees. Average rainfall varies widely from one area of Oahu to another. Rainfall is comparatively light in the leeward coastal area where the larger part of the population is located. Waikiki, located on the leeward side of Oahu, has a dry climate with annual precipitation averaging about 27 inches; precipitation in the upper reaches of the Ko'olau mountains averages about 400 inches a year and provides an adequate supply of water for irrigation use and retention in large subterranean reservoirs for household and industrial uses.

Oahu is one of the oldest of the Hawaiian Islands. It has no active volcanos, and the last volcanic eruptions, which were minor, are believed to have occurred more than 70,000 years ago. The last major volcanic eruption on Oahu was Ko'olau which is believed to have ended approximately 1.8 million years ago.

The following material pertaining to economic factors in the City and County has been excerpted from the Hawaii State Department of Business, Economic Development and Tourism ("DBEDT") Fourth Quarter 2022 Quarterly Statistical Economic Report ("QSER") or from other materials prepared by DBEDT, some of which may be found at <http://dbedt.hawaii.gov/>. Certain visitor industry statistics have been excerpted from Hawaii Tourism Authority publications.

The COVID-19 pandemic has materially adversely affected Hawaii's economy and has impacted the significance of certain historical information presented for periods prior to the outbreak of the COVID-19 pandemic in March 2020.

Certain Economic Indicators

Employment. The following table presents certain annual employment statistics for the City and County for 2018 through 2021 and the third quarters of 2021 and 2022. In the third quarter of 2022, the unemployment rate in the City and County was 3.4%, down 1.7% from the unemployment rate of 5.1% in the same quarter in 2021. While the unemployment rate continues to be higher because of the economic impacts of COVID-19, the decrease of 1.7% continues to present a promising and encouraging downward trend. In the third quarter of 2022, the City and County gained 11,800 non-agricultural wage and salary jobs compared to the same quarter in 2021. Jobs increased the most in Food Services & Drinking Places, which gained 5,600 jobs, followed by Accommodation, which gained 3,500 jobs, and Professional & Business Services, which gained 1,200 jobs. Financial Activities lost 1,200 jobs in the third quarter of 2022, compared to the same quarter in 2021.

State and County Governments

With Honolulu as the State capital, most State government activity is concentrated on the Island of Oahu. As reported by DBEDT, in the third quarter of 2022, the state employed approximately 46,600 persons, and the City and County employed approximately 12,000 persons.

Federal Government and Military

The federal government plays an important role in Hawaii's economy. According to the most recent U.S. Bureau and Economic Analysis ("BEA") data, the total compensation of employees ("COE") of military and civilian federal employees in Hawaii was approximately \$9.35 billion in 2021, which accounted for about 18.2% of Hawaii's total COE in 2021. Between 2009 and 2021, the annual average compounded growth rate for COE was 3.1% for federal civilian personnel and 0.2% for military personnel in Hawaii. The military personnel accounted for 52.3% of the total federal COE in 2021. The federal government accounted for about 11.4% of State GDP in Hawaii in 2021, a majority of which is defense related. The most recent BEA data also shows that the earnings of federal government employees in the first quarter of 2022 increased 2.3% over the same period of 2021. In 2021, the earnings of federal government employees increased 2.2% from the previous year. Over 90% of the U.S. military presence in Hawaii is on Oahu.

The Hawaii-based Indo-Pacific Command is one of six geographic combatant commands defined by the Department of Defense's ("DoD") Unified Command Plan (UCP) and is responsible for over 50% of global command activity and is essential to national security. The Indo-Pacific Command area of responsibility (AOR) encompasses about half of the earth's surface, stretching from the waters off the west coast of the U.S. to the western border of India, and from Antarctica to the North Pole. There are few regions as culturally, socially, economically, and geo-politically diverse as the Asia-Pacific region and the 36 nations comprising the Asia-Pacific region are home to more than 50% of the world's population. Approximately 375,000 U.S. military and civilian personnel are assigned to the Indo-Pacific Command area of responsibility.

According to DBEDT's Hawaii Defense Economy Project, the defense sector is the second largest sector of the State's economy and accounts for 8.3% of State GDP. According to the DoD, Hawaii is ranked second in the United States for the highest defense spending as a share of state GDP. The defense industry provides over 59,000 jobs with an annual payroll totaling \$5.3 billion.

The Pearl Harbor Naval Shipyard and Intermediate Maintenance Facility is the largest industrial/repair complex and employer in Hawaii, with a workforce of more than 7,100 civilian, military, and contractor employees, and an economic impact of approximately \$1 billion, accounting for more than 13% of defense spending in the State. About \$731 million of Pearl Harbor's total spending funds workforce salaries. The primarily civilian workforce is largely comprised of long-term residents of Oahu compared to military members who typically relocate every few years. Additionally, Pearl Harbor's surface ship maintenance efforts are primarily accomplished through private sector contracts.

Hawaii continues to host RIMPAC (Rim of the Pacific Exercise) held during even-numbered years, to enhance interoperability between Pacific Rim Armed Forces. Due to the COVID-19 pandemic, RIMPAC 2020 was a sea-only exercise, developed to ensure the safety of military forces participating, and Hawaii's population, by minimizing shore-based contingents, while striking a balance between combating future adversaries and the COVID-19 threat. RIMPAC 2022 saw the exercise return to its former scale, with 26 nations, 38 surface ships, 4 submarines, 9 national land forces, more than 30 unmanned systems, approximately 170 aircraft, and more than 25,000 personnel participating in training and operations exercises from June 29, 2022 to August 4, 2022.

Future levels of federal funding (including defense funding) in Hawaii are subject to potential spending cutbacks and deferrals that may be implemented to reduce the federal budget deficit. The federal budget sequestration has not had a material adverse effect on the City and County or the State.

authorizations for private buildings for the City and County and for the State as a whole for the last five years and the third quarters of 2021 and 2022.

Table IV
Estimated Value of Building Permits
(Dollars in Thousands)

Year	State	Change from Prior Year	City & County of Honolulu	Change from Prior Period
2017	\$3,127,828	-3.5%	\$2,007,815	-6.2%
2018	3,268,292	4.5%	1,985,648	-1.1%
2019	3,221,446	-1.4%	2,063,293	3.9%
2020	3,108,490	-3.5%	1,186,672	-12.0%
2021	3,747,106	20.5%	2,254,312	90.0%
2021 Q3	937,445	11.2%	563,456	-2.5%
2022 Q3	782,906	-16.5%	384,767	-31.7%

*Source: State of Hawaii Department of Business, Economic Development and Tourism
(compiled from data collected by county building departments).*

Significant development projects which were recently completed, are currently under construction, or are in the later planning stages on the island of Oahu include:

- The Airports Division’s modernization program (AMP), which commenced in 2013, is ongoing. As part of the AMP, the State has been making significant capital improvements to all of the airports in the State, with notable improvements to the Daniel K. Inouye International Airport (HNL) announced or in process including: expansions of existing terminals, construction of a consolidated rental car facility, installation of energy-saving equipment, and construction of an approximately 800,000 square foot Diamond Head concourse. The new Diamond Head Concourse is anticipated to add 12-14 wide body gates in the initial phase (expandable up to 21 gates), a new Customs and Border Protection facility, and improved security and baggage screening facilities for the Transportation Security Administration. Additionally, the new Mauka Concourse, one of the original long-term projects identified in the AMP, opened in August 2021.
- The University of Hawaii completed construction of its 70,000 square foot state-of-the-art Life Sciences Building. The Life Sciences Building, which opened in the Fall 2020 semester, houses teaching, laboratory, and office support spaces for the College of Natural Sciences’ biology, botany, and microbiology departments, along with the Pacific Biosciences Research Center. In April 2022, the US Green Building Council awarded the Life Sciences Building a Silver Award for leadership in energy and environmental design (LEED). The University of Hawaii began construction of its Residences for Innovative Student Entrepreneurs (RISE) development in January 2022. The project involves redeveloping the site of the former Atherton YMCA into an innovation and entrepreneurship center and student housing facility. Scheduled to be completed in 2023, the \$70 million facility is anticipated to have 7,263 square feet of multi-purpose co-working, meeting, lab, and classroom space, as well as 374 student housing beds for undergraduate and graduate students.
- The Howard Hughes Corporation is developing a master-planned community on 60 acres in Kakaako known as Ward Village. The development as approved to date includes several mixed-use high-rise residential buildings, six of which are completed—Waiea, Anaha, Ae’o, Ke Kilohana, ‘A’ali’i, and Kō’ula (opened in September 2022)—and more than one million square feet of retail and commercial space, including Merriman’s restaurant and a multi-story Whole Foods supermarket. Three other towers—Victoria Place, The Park Ward Village, and Ulana Ward Village—are currently in development. Howard Hughes broke ground on The Park Ward Village and Ulana Ward Village projects in October 2022 and December 2022, respectively. Plans for Kalae, Hughes’s tenth residential tower, have also been approved.

Trade and Services

The economy of both the City and County and the State as a whole is heavily trade and service oriented, largely because of the heavy volume of purchases by visitors to the State. According to the State's Department of Taxation, the State's general excise and use tax base for trade activities exceeded \$36.36 billion and for service activities exceeded \$16.66 billion in 2019. Of the City and County's 438,000 non-agricultural jobs in the third quarter of 2022, retail and wholesale trade together accounted for 53,800 jobs, and health care and social assistance, professional and business services, natural resources, mining, and construction, and financial activities were other major employment sectors. As of the third quarter of 2022, health care and social assistance accounted for approximately 12.2% of jobs in the City and County, professional and business services accounted for approximately 12.4% of jobs, retail trade for 9.5%, natural resources, mining, and construction for 6.0%, and federal, state, and county government for 20.8% of non-agricultural jobs.

Agriculture and Diversified Manufacturing

Agriculture and manufacturing are relatively small sectors in the State's and the City and County's economy. Agricultural sales on Oahu totaled \$151 million in 2017, accounting for approximately 27% of the State's agricultural production. About 20% of the land on Oahu is zoned for agriculture, which in 2017 consisted of 927 farms encompassing 71,795 acres. With the decline of the sugar and pineapple industries, agricultural lands are returning to an era of small farms growing diversified agricultural products. For example, Hawaii aquaculture sales totaled \$76.4 million in 2017, according to the USDA's National Agricultural Statistics Service.

Manufacturing on Oahu consists principally of producing cement (one plant), refining oil (two refineries), and converting oil into synthetic natural gas (one plant). Other activities include the manufacturing of garments, plastic and concrete pipe, jewelry and gift items, and the processing and packaging of tropical fruits, nuts and other food items. In 2019, there were 1,025 manufacturers statewide, employing an annual average of 13,977 workers, and with an average annual compensation of \$46,520. The State Department of Taxation reported that the cumulative total of the General Excise and Use Tax Base for manufacturing during the period of 2020 to 2021 was \$522.5 million, with tax collections of \$2.6 million. In 2017, the High Technology Development Corporation's INNOVATE Hawaii program was awarded a five-year \$2.5 million federal contract with the National Institute of Standards and Technology (NIST) Manufacturing Extension Partnership. In 2019, that contract was increased to \$3.05 million and another \$1 million Manufacturing Workforce Development Grant was also awarded in 2019. The program strives to make Hawaii manufacturers more competitive, reducing imports and increasing exports from the State.

Energy

Hawaii was the first state in the nation to enact a renewable portfolio standard ("RPS"), requiring the use of renewable sources to generate the equivalent of 100% of electricity sales by 2045, with interim requirements of 15% in 2015, 30% in 2020, 40% in 2030, and 70% in 2040. In 2020, the State's RPS was 36.07%, exceeding its statewide goal by 6.07%.

Hawaii's electricity production and costs are still heavily reliant on oil, but renewable energy has been increasing in all counties. According to the most recent data available from the Hawaiian Electric Company (HECO), approximately 38% of Hawaii's electricity is generated from renewable sources, the primary sources being solar, wind, biomass, and geothermal. According to DBEDT's Hawaii State Energy Office, as of February 2021, the Island of Oahu has 46 existing/operational energy projects over 500 kilowatts, including 6 fossil fuel plants (AES Hawaii Coal Power Plant, Island Energy Services, HECO Kahe Power Plant, Kalaeloa Partners, Par Hawaii Refinery, and the HECO Waiuu Power Plant); 5 biofuels facilities (DOT Emergency Power Facility, Campbell Industrial Park Generating Station, Schofield Generating Station, Pacific Biodiesel Honolulu Plant, and the Honouliuli Wastewater Treatment Plant biogas project); 27 solar PV projects; 2 feedstock productions (PVT Bioconversion Feedstock and TerViva Pongamia Feedstock Demonstration); 2 wind (TerraForm Power Kahuku Wind Farm and Kawaiola Wind/D.E. Shaw Renewable); 1 energy storage (Campbell Industrial Park Generating Station Flywheel); and 1 waste to energy plant (City & County of Honolulu H-Power).

quarantine. Under the Safe Travels Program, eligible travelers were subject to a required temperature screening at all Hawaii airports upon arrival and a mandatory five-day quarantine, unless the travelers provided proof of the negative pre-travel test or met the vaccination exception. Travelers not participating in the Safe Travels Program were required to quarantine for five days or until the traveler's departure, whichever was sooner.

The number of visitor arrivals to the State increased after the implementation of the Safe Travels, particularly with visitors traveling to and from the US mainland. From June 2021 to August 2021, 2,394,091 visitors traveled to the State, compared to 63,663 during the same period in 2020. Of the 2,394,091, 2,376,312 were domestic arrivals from the US mainland. The Safe Travels Program expired on March 25, 2022 and there are currently no COVID-19-related requirements for domestic or international passengers arriving in the State.

Foreign travel, primarily to and from Asia, has started to recover as certain countries in Asia have also begun to lift or lessen travel and quarantine restrictions. International flight arrivals increased 1,171.7% in the third quarter of 2022 compared to the third quarter of 2021, and 1,480.6% in the first three quarters of 2022 compared to the same period in 2021.

In the third quarter of 2022, 1,334,072 people visited Oahu, a 24.9% increase from the third quarter of 2021. The hotel occupancy rate in Honolulu in the third quarter of 2022 was 81.5%, up from 68.8% in the same quarter of 2021. The State's average daily visitor census was 215,359 for domestic visitors and 27,288 for international visitors in the third quarter of 2022, up from 207,587 domestic visitors and 3,241 international visitors in the third quarter of 2021.

Visitor expenditures (by air and cruise ship) totaled \$13.127 billion in 2021. Visitor expenditures (by air and cruise ship) totaled \$5.120 billion in the third quarter of 2022, up from \$4.020 billion in the same quarter in 2021.

Total airline capacity, as measured by the number of available seats flown to Hawaii, was 3,258,168 in the third quarter of 2022. As of the third quarter in 2022, total airline capacity for 2022 to date was 9,570,270. While the number of domestic seats decreased in the third quarter of 2022, international seats increased 344.6% compared to the same quarter in 2021. Additionally, international seats increased 361.0% in the first three quarters of 2022 as compared to the same period in 2021.

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"Participating Underwriters" means any of the original underwriters of the Bonds required to comply with the Rule in connection with the offering of the Bonds.

"Rule" means Rule 15c2-12(b)(5) adopted by the Securities and Exchange Commission under the Securities Exchange Act of 1934, as the same may be amended from time to time.

Section 3. *Provision of Annual Reports.*

(a) The BWS shall, or shall cause the Dissemination Agent to, not later than 270 days after the end of each fiscal year of the BWS (presently June 30), commencing with the report for the fiscal year ending June 30, 2022, provide to the MSRB an Annual Report that is consistent with the requirements of Section 4 of this Disclosure Certificate. The Annual Report must be submitted in electronic format, accompanied by such identifying information as is prescribed by the MSRB, and may cross-reference other information as provided in Section 4 of this Disclosure Certificate; provided that the audited financial statements of the BWS may be submitted separately from the balance of the Annual Report and later than the date required above for the filing of the Annual Report if they are not available by that date. If the BWS's fiscal year changes, the BWS, upon becoming aware of such change, shall give notice of such change in the same manner as for a Listed Event under Section 5(c). The Annual Report shall be submitted on a standard form in use by industry participants or other appropriate form and shall identify the Bonds by name and CUSIP number.

(b) In a timely manner prior to the date set forth in subsection (a) above, the BWS shall provide the Annual Report to the Dissemination Agent (if other than the BWS). If the BWS is unable to provide to the MSRB an Annual Report by the date required in subsection (a), the BWS shall send a notice to the MSRB in substantially the form attached as Exhibit A. The audited financial statements of the BWS may be submitted separately from the balance of the Annual Report and later than the date required above for the filing of the Annual Report if they are not available by that date.

(c) The Dissemination Agent shall (if the Dissemination Agent is other than the BWS) file a report with the BWS certifying that the Annual Report has been provided pursuant to this Disclosure Certificate, stating the date it was provided to the MSRB.

Section 4. *Content of Annual Reports.*

(a) The Annual Report shall contain or incorporate by reference the following information:

(i) Audited financial statements of the BWS for the prior fiscal year, prepared in accordance with generally accepted accounting principles as promulgated to apply to governmental entities from time to time by the Governmental Accounting Standards Board. If the BWS's audited financial statements are not available by the time the Annual Report is required to be provided to the MSRB pursuant to Section 3(a), the Annual Report shall contain unaudited financial statements in a format similar to the financial statements contained in the Official Statement relating to the Bonds, and the audited financial statements shall be provided to the MSRB in the same manner as the Annual Report when they become available; and

(ii) The financial information and operating data with respect to the BWS for each fiscal year of the BWS of the type included in the Official Statement under the headings "FINANCIAL INFORMATION," and "PENDING LITIGATION." The BWS regularly updates such financial and operating data and may disclose additional data, display data in a different format, or eliminate data that are no longer material.

(b) Information contained in an Annual Report for any fiscal year containing any modified operating data or financial information for such fiscal year shall explain, in narrative form, the reasons for such modification and the effect of such modification on the Annual Report being provided for such fiscal year. If a change in accounting principles is included in any such modification, such Annual Report shall present a comparison between the financial statements or information prepared on the basis of modified accounting principles and those prepared on the basis of former accounting principles.

or the termination of a definitive agreement relating to any such actions, other than pursuant to its terms;

- vii. Appointment of a successor or additional trustee or the change of name of a trustee; or
- viii. Incurrence of a Financial Obligation of the BWS, or agreement to covenants, events of default, remedies, priority rights, or other similar terms of a Financial Obligation of the BWS, any of which affect security holders.

(c) The BWS shall give, or cause to be given, in a timely manner, notice of a failure to provide the annual financial information on or before the date specified in Section 4, as provided in Section 4.

(d) Whenever the BWS obtains knowledge of the occurrence of a Listed Event described in Section 5(b), the BWS shall determine if such event would be material under applicable federal securities laws.

(e) If the BWS learns of the occurrence of a Listed Event described in Section 5(a), or determines that knowledge of a Listed Event described in Section 5(b) would be material under applicable federal securities laws, the BWS shall within ten business days of occurrence file, or cause the Dissemination Agent to file, a notice of such occurrence with the MSRB in electronic format, accompanied by such identifying information as is prescribed by the MSRB. Notwithstanding the foregoing, notice of the Listed Event described in subsections (a)(vii) or (b)(iii) need not be given under this subsection any earlier than the notice (if any) of the underlying event is given to Holders of affected Bonds pursuant to the Resolution.

(f) The BWS intends to comply with the Listed Events described in Section 5(a)(x) and Section 5(b)(viii), and the definition of "Financial Obligation" in Section 2, with reference to the Rule, any other applicable federal securities laws and the guidance provided by the Securities and Exchange Commission in Release No. 34-83885 dated August 20, 2018 (the "2018 Release"), and any further amendments or written guidance provided by the Commission or its staff with respect the amendments to the Rule effected by the 2018 Release.

Section 6. *Termination of Reporting Obligation.* The BWS's obligations under this Disclosure Certificate shall terminate upon the legal defeasance, prior redemption or payment of amounts fully sufficient to pay and discharge the Bonds, or upon delivery to the BWS or the Dissemination Agent (if other than the BWS) of an opinion of nationally recognized bond counsel to the effect that continuing disclosure is no longer required. If such termination occurs prior to the final maturity of the Bonds, the BWS shall give notice of such termination in the same manner as for a Listed Event under Section 5(c).

Section 7. *Dissemination Agent.* From time to time, the BWS may appoint or engage a Dissemination Agent to assist it in carrying out its obligations under this Disclosure Certificate, and may discharge any such Agent, with or without appointing a successor Dissemination Agent. If at any time there is not any other designated Dissemination Agent, the BWS shall be the Dissemination Agent. The initial Dissemination Agent shall be the BWS. The sole remedy of any party against the Dissemination Agent shall be nonmonetary and specific performance. The Dissemination Agent shall not be responsible for the form or content of any Annual Report, notice of Listed Event, or other document furnished to the Dissemination Agent by the BWS. The Dissemination Agent shall receive reasonable compensation for its services provided hereunder. The Dissemination Agent may resign at any time by providing at least 60 days' notice to the BWS.

Section 8. *Amendment Waiver.* Notwithstanding any other provision of this Disclosure Certificate, the BWS may amend this Disclosure Certificate, and any provision of this Disclosure Certificate may be waived, provided that all of the following conditions are satisfied:

(a) If the amendment or waiver relates to the provisions of Sections 3(a), 4, or 5(a), it may only be made in connection with a change in circumstances that arises from a change in legal (including regulatory) requirements, change in law (including rules or regulations) or in interpretations thereof, or change in the identity, nature or status of an obligated person with respect to the Bonds, or the type of business conducted;

Date: March __, 2023

Ernest Y.W. Lau, Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu

The above and foregoing certificate is hereby approved as to form and legality this __ day of March, 2023:

Dana M.O. Viola
Corporation Counsel
City and County of Honolulu

APPENDIX D

Proposed Form of Opinion of Bond Counsel

THESE DOCUMENTS ARE UNCLASSIFIED

PROPOSED FORM OF OPINION OF BOND COUNSEL

[To be provided by Bond Counsel]

REPORT OF THE COMMISSION ON THE STATE OF TEXAS

The Commission on the State of Texas was organized on July 1, 1991, by the Governor of Texas, George W. Bush. The Commission was charged with the task of studying the state's political, economic, and social conditions and recommending ways to improve them. The Commission's report is being submitted to the Governor and the Legislature.

George W. Bush

The Commission's report is divided into three main parts: the first part discusses the state's political conditions, the second part discusses the state's economic conditions, and the third part discusses the state's social conditions. The Commission believes that these three areas are the most important for the state's future success.

The Commission believes that the state's political conditions are the most important for the state's future success. The Commission believes that the state's political conditions are the most important for the state's future success.

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with such agreement. With respect to the Bonds described in clause (i) of the preceding sentence, an Authorized Officer of the Board shall certify or cause the Remarketing Agent for Such Series of Variable Rate Bonds or other qualified person to certify such Assumed Long-Term Fixed Rate on the issue date of such Bonds, taking into account such market factors as such Authorized Officer of the Board or such Remarketing Agent or such qualified person shall deem necessary or appropriate.

"Authorized Officer" means the Manager, the Chief Financial Officer or other officer designated by resolution of the Board.

"Balloon Indebtedness" means indebtedness having an original maturity greater than one year or renewable at the option of the Board for a period of greater than one year from the date of original incurrence or issuance thereof, 25% or more of the original principal of which becomes due (either by maturity or mandatory redemption) or may be tendered for purchase or payment at the option of the holder during any period of 12 consecutive months, which portion of the principal is not required by the documents governing such indebtedness to be amortized below 25% by mandatory redemption prior to such date.

"Bond Anticipation Notes" means obligations issued in anticipation of the subsequent issuance of Bonds, as provided in the Resolution.

"Bond Counsel" means an attorney or a firm of attorneys, selected by the City and County or the Board, of nationally recognized standing in the field of law relating to obligations of states and political subdivisions.

"Bondholder" or *"Holder of a Bond"* or *"Holder"* means the registered owner of any Bond which at the time shall be registered other than to bearer, or such holders' duly authorized attorney in fact, representative or assigns.

"Build America Bonds" means any bonds or other obligations issued as Build America Bonds under Section 54AA of the Code, or under any other provision of the Code that creates a substantially similar direct-pay subsidy program.

"Calculation Agent" means, for the purposes of the definition of "LIBOR," any Person, financial institution or financial advisory firm appointed by the Board to serve as Calculation Agent for the applicable Series of Bonds.

"Capital Appreciation Bond" means any Bond as to which interest is compounded as provided in the Resolution and is payable only at the maturity or prior redemption thereof.

"Chief Financial Officer" means the officer or deputy officer of the Board charged with the responsibility for managing and supervising the financial and fiscal matters of the Board.

"Code" means the Internal Revenue Code of 1986, any successor statutes thereto and any applicable regulations issued thereunder.

"Consulting Engineer" means any engineer or engineering firm or corporation retained from time to time by or on behalf of the Board pursuant to the Resolution to perform the acts and carry out the duties provided for such Consulting Engineer in the Resolution.

"Costs" means all costs of any Improvement and shall include, but shall not be limited to, all costs and estimated costs of the issuance of the Bonds, all architectural, engineering, inspection, financial and legal expenses, the cost of causing the payment of the principal or interest or both of the Bonds to be insured or guaranteed, the initial cost of any Support Facility or Interest Rate Exchange Agreement obtained or permitted

issuance of such Bond, after which interest accruing on such Bond shall be payable on the interest payment dates established in such Series Resolution or Series Certificate.

"Interest Rate Exchange Agreement" means an agreement entered into by the Board relating to Bonds of one or more Series which provides that during the term of such agreement the Board is to pay to the Counterparty an amount based on the interest accruing at a fixed or variable rate per annum on a notional amount and that the Counterparty is to pay to the Board either (i) an amount based on the interest accruing on such notional amount at a fixed, capped or variable rate per annum, in each case computed according to a formula set forth in such agreement, or that one shall pay to the other any net amount due under such agreement, or (ii) an amount based on the amount by which the rate at which such Bonds bear interest exceeds a rate stated in such agreement.

"Interest Subsidy Bonds" means (a) Build America Bonds, (b) Recovery Zone Economic Development Bonds, or (c) any other any bonds or other obligations issued under any provision or provisions of the Code that create substantially similar direct-pay subsidy programs to such programs with respect to Build America Bonds and Recovery Zone Economic Development Bonds.

"Investment Agreement" means an agreement for the investment of moneys with a Qualified Financial Institution.

"Investment Securities" means any of the following, if and to the extent that the same are legal for the investment of funds of the Board:

- (i) Government Obligations;
- (ii) Investment Agreements;
- (iii) direct obligations and fully guaranteed certificates of beneficial interest of the Export-Import Bank of the United States; consolidated debt obligations and letter of credit-backed issues of the Federal Home Loan Banks; participation certificates and senior debt obligations of the Federal Home Loan Mortgage Corporation ("FHLMCs"); debentures of the Federal Housing Administration; mortgage-backed securities (except stripped mortgage securities which are valued greater than par on the portion of unpaid principal) and senior debt obligations of the Federal National Mortgage Association ("FNMA's"); participation certificates of the General Services Administration; guaranteed mortgage-backed securities and guaranteed participation certificates of the Government National Mortgage Association ("GNMA's"); guaranteed participation certificates and guaranteed pool certificates of the Small Business Administration; debt obligations and letter of credit-backed issues of the Student Loan Marketing Association; local authority bonds of the U.S. Department of Housing & Urban Development; guaranteed Title XI financings of the U.S. Maritime Administration; guaranteed transit bonds of the Washington Metropolitan Area Transit Authority; Resolution Funding Corporation securities.
- (iv) direct obligations of any state or territory of the United States of America or any subdivision or agency thereof whose unsecured, uninsured and unguaranteed general obligation debt is rated, at the time of purchase, in one of the two highest Rating Categories by any two of Fitch, Moody's and S&P, or any obligation fully and unconditionally guaranteed by any state, subdivision or agency whose unsecured, uninsured and unguaranteed general obligation debt is rated, at the time of purchase, in one of the two highest Rating Categories by any two of Fitch, Moody's and S&P;
- (v) commercial paper (having original maturities of not more than 270 days) rated, at the time of purchase, any two of the following: "F-1" by Fitch, "P-1" by Moody's and "A-1" by S&P;

"LIBOR" means the rate for deposits in U.S. dollars with one month maturity as published by Reuters (or such other service as may be nominated by the Intercontinental Exchange, for the purpose of displaying London interbank offered rates for U.S. dollar deposits) as of 11:00 a.m., London time, two London Banking Days prior to the Index Reset Date. If at any time LIBOR is permanently or indefinitely unavailable or unascertainable, or ceases to be published by the LIBOR administrator or its successor, a commercially reasonable taxable short-term index generally accepted by interest rate swap market participants as a replacement for LIBOR as a short-term taxable index, shall be used. As part of such substitution, the Calculation Agent will, in its discretion, after consultation with the Board and Bond Counsel, make any technical, administrative or operational changes (including changes to the definitions for each interest rate period hereunder, timing and frequency of determining rates and making payments of interest and other administrative matters), as well as the business day convention, interest determination dates and related provisions and definitions, in each case that are consistent with accepted market practice for the use of such Alternative Rate for the Bonds. Any replacement rate must be an interest based index, variations in the value of which can reasonably be expected to measure contemporaneous variations in the costs of newly borrowed funds in United States Dollars.

"Moody's" means Moody's Investors Service, Inc., its successors and their assigns, and, if such corporation shall for any reason no longer perform the functions of a securities rating agency, "Moody's" shall be deemed to refer to any other nationally recognized rating agency, if any, designated by the Board.

"Net Revenue Requirement" means with respect to any Fiscal Year or any other period, an amount equal to the greater of: (i) the sum of (a) the Aggregate Debt Service in such Fiscal Year or such period and (b) the Required Deposits for such Fiscal Year or such period; or (ii) 1.20 times the maximum Aggregate Debt Service in such Fiscal Year or such period plus 1.00 times the aggregate Support Facility Reimbursement Obligations outstanding as of the end of Fiscal Year or such period.

"Net Revenues" means, with respect to any period, the Revenues during such period less amounts required to pay Operation and Maintenance Expenses.

"Operating Fund" means the Board of Water Supply Operating Fund previously established in the City and County Treasury, as described in the Resolution.

"Operation and Maintenance Expenses" means the costs and expenses of operating and maintaining the Water System, including, without limiting the generality of the foregoing, (i) all expenses includable in the operation and maintenance expense accounts of the Board relating to the Water System according to generally accepted accounting principles, exclusive of depreciation and amortization of property values or losses, (ii) to the extent not included in the preceding clause (i) or paid from Bond proceeds or otherwise, the Board's share of the costs and expenses of operating and maintaining any plants and properties jointly owned with others, and (iii) any Rebate Amounts.

"Opinion Of Counsel" means with respect to the Board a written opinion of counsel selected by the City and County or the Board, which, with respect to federal income tax law and securities law relating to obligations issued by state and local governmental units, is Bond Counsel. Any Opinion of Counsel may be based (insofar as it relates to factual matters or information which is in the possession of the Board) upon a Written Certificate of the Board unless such counsel knows, or in the exercise of reasonable care should have known, that such Written Certificate is erroneous.

"Outstanding" or *"outstanding"* when used with reference to Bonds means, as of any date, Bonds theretofore or thereupon issued or authorized pursuant to the Resolution, except: (a) any Bonds canceled by a Paying Agent or paid at or prior to such date; (b) Bonds in lieu of or in substitution for which other Bonds shall have been delivered pursuant to the Resolution; (c) Bonds deemed to be no longer outstanding as provided in the Resolution; and (d) Option Bonds tendered or deemed tendered in accordance with the provisions of the Series Resolution or Series Certificate providing for the issuance of such Bonds which have been purchased by

States of America or any state, the District of Columbia or possession thereof in the capacity as custodian, the maturing principal of and interest on which Government Obligations shall be sufficient to pay, when due, the principal of and interest on such Exempt Obligations.

"Reimbursable Obligations" means reimbursable general obligation bonds issued and delivered or to be hereafter issued and delivered by the City and County to finance certain costs related to the Water System, the debt service on which the Board is required by State law to reimburse the City and County's General Fund.

"Reimbursable Obligation Requirement" means with respect to any period of time, the amount required to be credited to the Reimbursable Obligation Fund pursuant to the ordinances and resolutions of the City Council providing for the issuance and delivery of Reimbursable Obligations.

"Required Deposits" means, for any period, the amounts, if any, required (i) to be paid into the Common Reserve Account, each Series Reserve Account, the Subordinate Obligation Fund and the Reimbursable Obligation Fund; and (ii) to pay Support Facility Reimbursement Obligations.

"Resolution" means the First Bond Resolution adopted by the Board on April 26, 2001, as from time to time amended or supplemented by one or more Supplemental Resolutions.

"Revenue Bond Index" means the 30-year Revenue Bond Index of *The Bond Buyer*, a publication in New York, New York, or any successor publication maintaining such Index or in the event *The Bond Buyer* or any successor publication does not maintain such Index, an equivalent index with the same or similar components as the Revenue Bond Index.

"Revenues" means the moneys collected, including any moneys collected from the City and County or any department thereof, except the Board, derived by the Board from the rates, rentals, fees and charges prescribed for the use and services of, and the facilities and commodities furnished by, the Water System, including, without limiting the generality of the foregoing, (i) all income, receipts, profits, and other moneys derived from the sale of water and from the furnishing or supplying of the services, facilities and commodities through the Water System; (ii) all income from investments of moneys held under the Resolution including investment income on the Improvement Fund but not including any earnings on the Rebate Account, the Subordinate Obligation Fund and the Reimbursable Obligation Fund; (iii) all payments made by Counterparties pursuant to Interest Rate Exchange Agreements; and (iv) moneys and Investment Securities transferred from the Rate Stabilization Account to the Operating Fund within 90 days following the end of a Fiscal Year. "Revenues" shall not include, (i) deposits subject to refund until such deposits have become the property of the Board; (ii) contributions in-aid-of construction and assessment, impact and other similar fees imposed and collected by the Board which are targeted to pay the Costs of specific Improvements; (iii) income, fees, charges, receipts, profits or other moneys derived by the Board from its ownership or operation of any separate utility system; or (iv) any gifts, grants, donations or other moneys received by the Board from any state or federal agency or other person if such gifts, grants, donations or other moneys are the subject of any limitation or reservation: (a) imposed by the donor or grantor; (b) imposed by law or administrative regulation to which the donor or grantor is subject, limiting the application of such funds; (v) amounts retained in the Operating Fund for working capital and operating reserves pursuant to the Resolution; or (vi) moneys and Investment Securities transferred from the Operating Fund to the Rate Stabilization Account within 90 days following the end of a Fiscal Year.

"S&P" means Standard & Poor's, a division of The McGraw-Hill Companies, its successors and their assigns, and, if such corporation shall for any reason no longer perform the functions of a securities rating agency, S&P shall be deemed to refer to any other nationally recognized rating agency designated by the Board.

"Serial Bonds" means Bonds which mature serially and which are not Term Bonds.

"Term Bonds" means Bonds the retirement or the redemption of which shall be provided for from moneys credited to the Payment Account pursuant to the Resolution.

"Variable Rate Bonds" means any Bonds issued bearing interest at a rate per annum subject to adjustment from time to time based on the terms thereof, based upon an index, or otherwise calculated in a manner which precludes the actual rate for the entire term of such Bonds from being ascertainable in advance (*i.e.*, a "variable rate"); provided, however, that a Bond the interest rate on which shall have been fixed for the remainder of the term thereof shall constitute a Fixed Rate Bond and no longer a Variable Rate Bond; provided, further, however, that in the case where a Bond bears a variable rate and is dated and has the same maturity as a Bond bearing a rate that is a constant rate minus the rate borne by the first bond (*i.e.*, an "inverse variable rate"), both Bonds shall constitute Fixed Rate Bonds and no longer Variable Rate Bonds.

"Water System" means all plants and properties, both real and personal and tangible and intangible, now or hereafter existing, of the Board, used for or pertaining to the supplying, purification, filtration, transmission and distribution of water or incidental or necessary to the preservation of the Board's wells and water supply and the integrity thereof. Without limiting the generality of the foregoing, said term shall include: (1) the existing plants and properties comprising the Water System of the Board, as of the date of adoption of the Resolution; and (2) all Improvements hereafter constructed or otherwise acquired, including, without limitation, water properties acquired by annexations or water properties acquired through the Board's participation in any regional water system, purchase of water or water rights, conservation or reclamation projects and appliances.

Pledge Made in the Resolution

The Bonds are limited special obligations of the Board payable solely from and secured by the funds pledged therefor by the Board pursuant to the Resolution. The Board has pledged as security for the payment of the principal and Redemption Price (if any) of, and interest on, the Bonds in accordance with their terms and the provisions of the Resolution, subject only to the provisions of the Resolution permitting the application thereof for the purposes and on the terms and conditions set forth in the Resolution: (i) the proceeds of sale of the Bonds pending application thereof in accordance with the provisions of the Resolution or of a Series Resolution or a Series Certificate; (ii) the Net Revenues; (iii) all Funds and Accounts held under the Resolution other than the Rebate Account, the Subordinate Obligation Fund and the Reimbursable Obligation Fund; (iv) with respect to any Series of Bonds not entitled to the benefit of a Series Reserve Account, such Series Reserve Account; and (v) with respect to any Series of Bonds not entitled to the benefit of the Common Reserve Account, the Common Reserve Account, including the investments, if any, in such pledged Funds and Accounts; and the Bondholders shall have a lien on, and a security interest in, such proceeds, Net Revenues and Funds and Accounts for such purpose and subject to such provisions of the Resolution. Such lien and security interest for the payment of Bonds are prior and superior to any lien and security interest for the payment of Subordinate Obligations and Reimbursable Obligations.

The Resolution provides that each of the obligations, duties, limitations and restraints imposed upon the Board by the Resolution shall be deemed to be a covenant between the Board and every holder of the Bonds, and the Resolution and every provision and covenant thereof shall be deemed to be and shall constitute a continuing contract and agreement between the Board and the holders from time to time of the Bonds issued thereunder, to secure the full and final payment of the principal and Redemption Price of and interest on all Bonds which may from time to time be issued, executed, and delivered under the Resolution. The covenants and agreements set forth in the Resolution to be performed by the Board shall be for the equal and proportionate benefit, security and protection of all holders of the Bonds without preference, priority or distinction as to payment or security or otherwise of any of the Bonds over any of the others for any reason or cause whatsoever except as expressly provided in the Resolution, in a Series Resolution, a Series Certificate or a Supplemental Resolution or in the Bonds.

Variable Rate Bonds that are not Tax-exempt Bonds, the average interest rate of LIBOR over the preceding 12-month period at the time of calculation.

(2) Bond Anticipation Notes then Outstanding are to be treated as Bonds. In determining Debt Service on such Bond Anticipation Notes, such Bond Anticipation Notes are assumed to mature in 30 years resulting in level annual debt service and bear interest equal to the Revenue Bond Index at the time of calculation.

(3) Subordinate Obligations and Reimbursable Obligations originally issued as Bond Anticipation Notes with a maturity of five years or less are assumed to mature in 30 years resulting in level annual debt service and bear interest equal to the Revenue Bond Index at the time of calculation.

(4) In determining Debt Service on Balloon Indebtedness then Outstanding and Balloon Indebtedness then proposed to be issued for purposes of the Additional Bonds Requirement, the Board, at its option, may assume that such Balloon Indebtedness is to be amortized over 30 years beginning on the date of maturity of such Balloon Indebtedness or such earlier date as may be specified by the Board, assuming level debt service and the rate of interest on such Balloon Indebtedness.

(5) In preparing any certificate required by the *Basic Test* described above, the Authorized Officer or Consulting Engineer, as applicable, may make adjustments to the Net Revenues as follows:

a. If any changes have been made in the schedule of rates and charges imposed by the Board on sales of water and services furnished by the Water System which are in effect at the time of adoption of the Series Resolution providing for the issuance of the Bonds then being issued and were placed into effect subsequent to the start of the Fiscal Year or the 12-month period selected pursuant to clause (1) under the *Basic Test* described above, the Authorized Officer may, if such changes result in increases in such rates and charges, and shall, if such changes result in reductions in such rates and charges, adjust the Net Revenues for such period to reflect any change in such Net Revenues which would have occurred if the schedule of rates and charges in effect at the time of the adoption of the Series Resolution authorizing the issuance of such Bonds had been in effect during the portion of such period in which such schedule was not in effect.

b. If customers are being served by the Board at the time of adoption of the Series Resolution authorizing the issuance of the Bonds then being issued and who were added to the Water System subsequent to the start of the Fiscal Year or the 12-month period selected pursuant to clause (1) under the *Basic Test* described above, the Authorized Officer may adjust the Net Revenues for such period to reflect any change in such Net Revenues which would have occurred if the additional customers had been served during the portion of the period in which such customers were not served.

c. If residential, commercial, industrial or institutional customers which are in existence are not then served by the Water System at the time of adoption of the Series Resolution authorizing the issuance of the Bonds then being issued, but are then expected to be served following completion of the Improvements during the five Fiscal Years covered by such certificate, the Costs of which are financed from the proceeds of such Bonds, the Authorized Officer or Consulting Engineer, as applicable, shall estimate the effect which such new customers would have had on the Net Revenues for the period selected pursuant to clause (1) under the *Basic Test* described above, if such new customers had been served during the entire period and shall adjust the Net Revenues for such period to give effect to such new customers. Any such estimate shall be based upon the operating experience and records of

Resolution for the issuance of Bonds other than Refunding Bonds are expected to be complied with at the time of issuance of such Series of Bonds. The maximum maturity of such Bond Anticipation Notes, including the renewals thereof, must not exceed five years from the date of the original Bond Anticipation Note. The principal of such Bond Anticipation Notes may be paid from the proceeds of such notes (or any renewal thereof) or from the proceeds of the Bonds in anticipation of which such notes were issued. The interest on such notes may be secured by a lien on and pledge of, and be paid from, the Net Revenues on a parity with the lien on and pledge of the Net Revenues created in the Resolution for the payment and security of the Bonds. The principal of such Bond Anticipation Notes shall be secured by a lien on and pledge of the proceeds of the Bonds in anticipation of which such notes were issued and any such pledge will have priority over any other pledge of such proceeds created by the Resolution. Bond Anticipation Notes are treated as Bonds for all purposes of the Resolution, including the Additional Bonds tests, and are payable from the Debt Service Fund except to the extent that the principal of any such Bond Anticipation Note is paid from the proceeds of other Bond Anticipation Notes or from proceeds of Bonds.

Subordinate Obligations

The Board may issue Subordinate Obligations which are payable out of, and which may be secured by a pledge of, such amounts in the Subordinate Obligation Fund as may from time to time be available for the purpose of payment. The Board may, by resolution, provide for various priorities in the liens and pledges securing Subordinate Obligations, and nothing in the Resolution shall be construed so as to require that the payment of, or pledges securing, Subordinate Obligations be on a parity *inter se*.

The Board may also issue Subordinate Obligations: (i) to refund any Subordinate Obligations issued as provided in the Resolution; (ii) to refund Outstanding Bonds; or (iii) to refund any Reimbursable Obligations. Such Subordinate Obligations issued for refunding purposes may be payable out of, and may be secured by a pledge of, such amounts in the Subordinate Obligation Fund or General Fund as may from time to time be available therefor.

The Resolution requires that the resolution, indenture or other instrument securing or evidencing each issue of Subordinate Obligations must contain provisions (which shall be binding on all holders of such Subordinate Obligations) not more favorable to the holders of such Subordinate Obligations than those provided in the Resolution to holders of Bonds with respect to payment, claim on Revenues and other matters.

Reimbursable Obligations

The obligation for the payment of Reimbursable Obligations shall be: (i) after and inferior to the lien and security interest for the payment of Bonds and those Subordinate Obligations which are payable from the Subordinate Obligation Fund; and (ii) prior and superior to the lien and security interest for the payment of those Subordinate Obligations which are payable from the General Fund. Reimbursable Obligations are payable from the Reimbursable Obligation Fund.

Support Facilities and Interest Rate Exchange Agreements

In connection with the issuance of any Series of Bonds and to the extent permitted by law, the Board may obtain or cause to be obtained from one or more Support Facility Providers or one or more Support Facilities providing for payment of all or a portion of the purchase price or principal, premium, if any, or interest due or to become due on specified Bonds of such Series, or providing for the purchase of such Bonds or a portion thereof by the Support Facility Provider, or providing, in whole or in part, for the funding of the Common Reserve Account or a Series Reserve Account pursuant to the Resolution. In connection with the issuance of any Series of Bonds or to improve the management of its assets and liabilities, to the extent permitted by law, the Board may enter into with one or more Counterparties one or more Interest Rate Exchange Agreements; provided that no such Interest Rate Exchange Agreement shall adversely affect the

Renewal and Replacement Fund;
General Fund; and
Improvement Fund and any Series Improvement Account and any Series Capitalized Interest Account.

Operating Fund

Revenues are to be collected by the Board and are to be deposited into the Operating Fund. From the amounts deposited in the Operating Fund, the Board will pay the current Operation and Maintenance Expenses of the Board, including any transfer to the Rebate Account of such amount as is necessary to pay the Rebate Amount or to set aside a reserve for such payment, and shall make the transfers to other Funds and Accounts as prescribed in the Resolution. In addition, there shall be deposited in the Operating Fund all other amounts required by the City Charter and the Resolution to be so deposited.

In each month, the Board shall, after paying the Operating and Maintenance Expenses for such month and setting aside an amount sufficient to pay the Operating and Maintenance Expenses expected to be incurred for the balance of such month, retain, apply or transfer on the 5th day before the end of each month, unless otherwise provided in the Resolution, a sufficient amount of moneys in the Operating Fund in the following order of priority:

First, to the Payment Account, if and to the extent required so that the balance in the Payment Account shall equal the Accrued Debt Service for all Bonds Outstanding on said date and the interest accrued on all Bond Anticipation Notes Outstanding on said date;

Second, (a) to the Common Reserve Account, if and to the extent required either (i) an amount so that the balance in the Common Reserve Account shall equal the Common Reserve Account Requirement on said date, or (ii) an amount such that if the same amount were deposited in each month, the amount of any deficiency in the Common Reserve Account will be eliminated at the end of the 6th month following the first credit; and (b) to each Series Reserve Account, if and to the extent required either (i) an amount such that the balance in each Series Reserve Account will equal the Series Reserve Account Requirement for each Series Reserve Account on said date, or (ii) an amount such that if the same amount were deposited in each month the amount of any deficiency in each Separate Series Common Reserve Account will be eliminated at the end of the 6th month following the first credit; provided, however, that such transfers will be pro rata, based on the proportion of the Common Reserve Account Requirement and each Series Reserve Account Requirement to the sum of the Common Reserve Account Requirement and all Series Reserve Account Requirements;

Third, in the Operating Fund, a reasonable and necessary amount for working capital and operating reserves;

Fourth, to the Subordinate Obligation Fund, an amount equal to all Subordinate Obligation Requirements, if any, theretofore accrued and unpaid and not met from any other source and to accrue and become payable during the succeeding calendar month and not met from any other source;

Fifth, to the Reimbursable Obligation Fund an amount equal to all Reimbursable Obligation Requirements, if any, payable on such day and not met from any other source;

Sixth, to the Renewal and Replacement Fund, an amount equal to 1/12th of the amount provided in the Annual Budget of the Board to be credited to such Fund during such Fiscal Year, provided that if any such monthly allocation to the Renewal and Replacement Fund shall be less than the required amount, the amount of the next succeeding monthly payment shall be increased by the amount of such deficiency;

redeemed pursuant to the Resolution which the Board has applied as a credit against such Sinking Fund Installment. The Board will pay out of the Payment Account to the appropriate Paying Agents, on or before the redemption date, the amount required for the redemption of the Bonds so called for redemption, and such amount will be applied by such Paying Agents to such redemption.

The amount, if any, credited to the Payment Account from a Series Capitalized Interest Account will be applied to the payment of interest on the Bonds as the same becomes due and payable as provided in the Resolution.

Upon any purchase or redemption pursuant to the Resolution of Bonds of any Series and maturity for which Sinking Fund Installments have been established: (i) if the principal amount of the Bonds so purchased is less than or equal to the next succeeding Sinking Fund Installment for such Series there will be credited to the next such Sinking Fund Installment an amount equal to the principal amount of the Bonds of such Series so purchased; and (ii) if the principal amount of the Bonds so purchased is greater than the next succeeding Sinking Fund Installment, there will be credited toward each such Sinking Fund Installment thereafter to become due an amount bearing the same ratio to such Sinking Fund Installment as the total principal amount of such Bonds so purchased or redeemed bears to the total principal amount of all such Sinking Fund Installments to be so credited or, at the option of the Board, an amount equal to the next succeeding Sinking Fund Installment. The portion of any such Sinking Fund Installment remaining after the deduction of any such amounts credited toward the same (or the original amount of any such Sinking Fund Installment if no such amounts shall have been credited toward the same) will constitute the unsatisfied balance of such Sinking Fund Installment for the purpose of calculation of Sinking Fund Installments due on a future date.

Debt Service Fund - Common Reserve Account. If on the day preceding any principal or interest payment date the amount in the Payment Account is less than Accrued Debt Service for all Bonds then Outstanding which are entitled to the benefit of the Common Reserve Account, the Board will pay out of the Common Reserve Account to each Paying Agent for such Bonds the amount necessary to satisfy the deficiency for payment to the holders of such Bonds. Amounts so applied will be derived first, from cash or Investments Securities on credit to the Common Reserve Account and second, from draws or demands on Support Facilities held in the Common Reserve Account upon the terms and conditions set forth in any such Support Facility.

Whenever the amounts on deposit in the Common Reserve Account exceed the Common Reserve Account Requirement, the Board will withdraw the amount of such excess and deposit such excess to the credit of the Payment Account or the Operating Fund, as the Board shall determine.

Whenever the amount (exclusive of Support Facilities) in the Common Reserve Account, together with the amount in the Payment Account attributable to Bonds entitled to the benefit of the Common Reserve Account, is sufficient to pay in full the principal or Redemption price, if any, of interest on all such Outstanding Bonds in accordance with their terms, the funds on credit to the Common Reserve Account will be transferred to the Payment Account. Prior to such transfer, all Investment Securities held in the Common Reserve Account will be liquidated by the Board to the extent necessary to provide for timely payment of the principal or Redemption Price, if any, of and interest on such Bonds.

When a Series of Bonds entitled to the benefit of the Common Reserve Account are refunded in whole or in part or are otherwise paid, moneys may be withdrawn from the Common Reserve Account for such Series to pay or provide for the payment of such Bonds or refunded Bonds, as the case may be; provided that immediately after such withdrawal or transfer there must be on credit to the Common Reserve Account an amount equal to the Reserve Account Requirement for the Bonds then Outstanding which are entitled to the benefit of the Common Reserve Account, after taking into account such refunding or payment.

The Common Reserve Account Requirement is to be calculated or recalculated: (i) at the time of issuance of a Series of Bonds (or Bond Anticipation Notes); (ii) at the time a Series of Bonds is retired in its

General Fund. The Board will transfer from the General Fund: (i) to the Payment Account, the Common Reserve Account and each Series Reserve Account the amount necessary (or all the moneys in the General Fund if less than the amount necessary) to satisfy any deficiencies in payments to such Accounts required by the Resolution; (ii) in the event of any transfer of moneys from the Common Reserve Account or any Series Reserve Account to the Payment Account, to the Common Reserve Account or such Series Reserve Account the amount of any resulting deficiency in such Account; (iii) provided that all transfers referred to in clauses (i) and (ii) above have been made, to the Renewal and Replacement Fund the amount, if any, necessary to satisfy the deficiency in such Fund; (iv) such amount as the Board may, in its discretion, determine to set aside in reserve for meeting the deficiencies referred to in clauses (i) through (iii) above; (v) provided that all transfers and reserves therefor referred to in clauses (i) through (iv) above have been made, to the Subordinate Obligation Fund the amount, if any, necessary to satisfy any deficiency in meeting the Subordinate Obligation Requirement; and (vi) provided that all transfers and reserves therefor referred to in clauses (i) through (v) above have been made, to the Reimbursable Obligation Fund, the amount, if any, necessary to satisfy any deficiency in meeting the Reimbursable Obligation Requirement.

Amounts in the General Fund not required to meet a deficiency referred to in the preceding paragraph may be applied to any of the following purposes:

- (1) the Costs of Improvements, or the provision of one or more reserves therefor;
- (2) for transfer to the Rate Stabilization Account in the Operating Fund such amounts as may be provided in the Annual Budget for the purpose of stabilizing rates and charges.
- (3) the purchase at such price or prices as the Board may deem advisable or redemption of any Bonds and expenses of such purchase or redemption or, at any time; or
- (4) for any other lawful purpose of the Board.

Improvement Fund. The Series Resolution or Series Certificate providing for the issuance of any Series of Bonds (exclusive of Refunding Bonds) may create and establish one or more separate special series improvement accounts (a "Series Improvement Account") in the Improvement Fund. In the event any interest on such Bonds is to be capitalized from the proceeds of such Bonds, there will be created in the Improvement Fund a special series account (a "Series Capitalized Interest Account") with such designation as may be appropriate.

Moneys credited to any Series Capitalized Interest Account will be used for the purpose of paying interest on the Bonds of the related designated Series. On or before the 5th day preceding the end of the month next preceding the maturity of an installment of interest on the Bonds for the payment of which moneys have been credited to a Series Capitalized Interest Account, the Board will transfer from such Series Capitalized Interest Account for credit to the Payment Account an amount which, together with any moneys theretofore held in the Payment Account, will be sufficient to pay such next maturing installment of interest on such Bonds.

Investment of Funds

Moneys in the Payment Account shall, to the fullest extent practicable and reasonable, be invested and reinvested by the Director of Budget and Fiscal Services (at the Written Direction of an Authorized Officer) solely in noncallable Investment Securities which are Government Obligations, FNMA's or FHLMC's (as such terms are defined in the definition of Investment Securities) which mature or are subject to redemption at the option of the holder on or prior to the respective dates when the moneys in Payment Account will be required for the purposes intended.

Each Depositary and Paying Agent, other than the Director of Budget and Fiscal Services, must be a bank or trust company organized under the laws of any state of the United States of America or a national banking association, in each case having capital stock, surplus and undivided earnings of \$5,000,000 or more and willing and able to accept such office on reasonable and customary terms and authorized by law to act in accordance with the provisions of the Resolution.

Concerning Paying Agents and Depositaries

Paying Agents and Depositaries May Buy, Hold, Sell or Deal in Bonds. Each Paying Agent and each Depositary, and its respective directors, officers, employees or agents, may in good faith buy, sell, own, hold and deal in any of the Bonds or coupons, if any, issued under the provisions of the Resolution and may join any action which any holder of a Bond may be entitled to take, with like effect as if such depositary were not a Paying Agent or Depositary under the Resolution.

Reimbursement of Paying Agents and Depositaries. Each Paying Agent and Depositary is entitled to reasonable fees and to reimbursement by the Board for all expenses and charges reasonably incurred by it in the performance of its duties under the Resolution.

Covenants

The Board has covenanted and agreed in the Resolution with the holders of all Bonds issued pursuant to the Resolution as follows:

Maintenance of the Water System; Keeping the System in Good Repair. The Board will: (i) maintain, preserve and keep, or cause to be maintained, preserved and kept, the properties of the Water System and all additions and betterments thereto and extensions thereof, and every part and parcel thereof in good repair, working order and condition, (ii) from time to time make, or cause to be made, all necessary and proper repairs, renewals, replacements, additions, extensions and betterments thereto, so that at all times the business carried on in connection therewith will be properly and advantageously be conducted, and (iii) comply, or cause to be complied with the terms and conditions of any permit or license for the Water System or any part thereof issued by any federal or State governmental agency or body and with any federal or State law or regulation applicable to the construction, operation, maintenance and repair of the Water System or requiring a license, permit or approval therefor.

Rates and Charges. The Board will fix, charge and collect such rates and other charges as will be required in order that in each Fiscal Year the Net Revenues will be not less than the Net Revenue Requirement for such Fiscal Year ("*Rate Covenant*"). The failure in any Fiscal Year to comply with the Rate Covenant does not constitute an Event of Default if the Board complies with requirements described in the next paragraph.

Prior to the end of each Fiscal Year the Manager will complete a review of the financial condition of the Board for the purpose of estimating whether the Net Revenues for such Fiscal Year and for the next succeeding Fiscal Year will be sufficient to comply with the *Rate Covenant* described in the preceding paragraph and will by a Written Certificate make a determination with respect thereto. Such review will take into consideration the completion of any uncompleted Improvement and the issuance of future Series of Bonds if necessary to finance the completion of such Improvements. Such Written Certificate setting forth a reasonably detailed statement of the actual and estimated Revenues, Operation and Maintenance Expenses, Aggregate Debt Service, and any other estimates or assumptions upon which such determination was based, must be filed with the Board on or before July 1 in each year. If the Manager determines that the Revenues may not be so sufficient, the Manager or the Board shall forthwith make a study for the purpose of determining a schedule of fees, rates and charges which, in the opinion of the Manager or the Board, will cause sufficient Revenues to be collected in the following Fiscal Year to comply with the *Rate Covenant* described in the preceding paragraph and will cause additional Revenues to be collected in such following and later Fiscal

the extent available at reasonable cost with responsible insurers, with policies payable to the Board, against risks of direct physical loss, damage to or destruction of the Water System, or any part thereof, at least to the extent that similar insurance is usually carried by utilities operating like properties against accidents, casualties or negligence, including liability insurance and worker's compensation insurance; provided, however, that any time while any contractor engaged in constructing any part of the Water System is fully responsible therefor, the Board is not required to keep such part of the Water System insured. All policies of insurance must be for the benefit of the holders of the Bonds and the Board as their respective interests may appear. In the event of any loss or damage to the properties of the Water System covered by insurance, the Board will: (1) with respect to each such loss, promptly repair and reconstruct to the extent necessary to the proper conduct of the operations of the Water System the lost or damaged portion thereof and shall apply the proceeds of any insurance policy or policies covering such loss or damage for that purpose to the extent required therefor, unless, in case of loss or damage involving \$250,000 or more, the Board will determine that such repair and reconstruction not be undertaken, and (2) if the Board will not use the entire proceeds of such insurance to repair or reconstruct such lost or damaged property, the proceeds of such insurance policy or policies or any portion thereof not used for such repair or reconstruction, as the case may be, will be paid into the Operating Fund.

The Board may elect to self-insure. If the Board elects to self-insure differently from other utilities in the same business, or fails to carry insurance against any of the risks normally insured against by operators of facilities similar to the Water System, it must secure the concurrence of an independent insurance consultant. In making its decision whether to concur in such self-insurance, the independent insurance consultant must: (i) make an estimate of the added financial risks, if any, assumed by the Board as a result of the self-insurance, (ii) consider the availability of commercial insurance, the terms upon which such insurance is available and the costs of such available insurance, and the effect of such terms and costs upon the Board's costs and charges for its services, and (iii) determine whether the added financial risk, if any, being assumed by the Board is prudent in light of the savings to be realized from such self-insurance or in light of the general availability of insurance.

All the insurance required under the Resolution may be maintained as part of a blanket insurance policy by the City and County.

Consulting Engineer. The Board may from time to time retain and appoint, as Consulting Engineer, an independent consulting engineer or engineering firm or corporation having special skill, knowledge and experience in analyzing the operations of water systems, preparing rate analyses, forecasting the loads and revenues of water systems, preparing feasibility reports respecting the financing of water systems and advising on the operation of water facilities, who shall be available to advise the Board, upon request, and to make such investigations and determinations as may be necessary from time to time under the provisions of the Resolution.

Books of Account; Annual Audit. The Board will maintain and keep proper books of account relating to the Water System and in accordance with generally accepted accounting principles. Within 180 days after the end of each Fiscal Year, the Board will cause such books of account to be audited by an independent certified public accountant. The audit may be part of a comprehensive audit of the City and County, provided that the Water System in such audit is treated as an "enterprise fund" and the revenues and expenses of the Water System are stated in a manner which permits identification by category of the sources and uses of the Revenues. A copy of each audit report in conformity with generally accepted accounting principles must be filed promptly with the Board and sent to any Bondholder filing with the Manager a written request for a copy thereof and to each Rating Agency.

To Pay Bonds Punctually. The Board will duly and punctually pay, or cause to be paid, but only from the Revenues and income specified in the Resolution, the principal and Redemption Price (if any) of, and interest on each and every Bond on the dates and at the places, and in the manner provided in the Bonds according to the true intent and meaning thereof, and the Board will faithfully do and perform and at all times

Every preliminary budget, Annual Budget and amended Annual Budget must: (i) set forth in reasonable detail amounts required for repair, replacement or reconstruction of the Water System and major or extraordinary repairs, renewals or replacements of the Water System, if any, for the period to be covered by such budget, (ii) specify the amounts to be deposited in the Renewal and Replacement Fund, the Subordinate Obligation Fund, the Reimbursable Obligation Fund and the General Fund, the amounts to be maintained in the Operating Fund for working capital and operating reserves and in the Rate Stabilization Account for rate stabilization purposes, if any, for such purposes for such period, (iii) specify the amounts to be transferred from the General Fund to the Rate Stabilization Account and to other Funds and Accounts, and (iv) project the amounts required for such purposes for the next five Fiscal Years in such format as the Manager shall determine. A copy of each such report will be filed and maintained in the records of the Board.

Events of Default

Each of the following events constitutes an Event of Default under the Resolution:

(a) if payment of the principal and Redemption Price (if any) of any Bond is not punctually made when due and payable, whether at the stated maturity thereof or upon proceedings for the redemption thereof (whether by voluntary redemption or a mandatory sinking fund redemption or otherwise);

(b) if payment of the interest on any Bond is not punctually be made when due;

(c) if the provisions of any Series Resolution with respect to mandatory Sinking Fund Installment payments or the redemption of Term Bonds therefrom, as the case may be, are not punctually complied with at the time and in the manner specified in such Series Resolution;

(d) if the Board fails to duly and punctually perform or observe any other of the covenants, agreements or conditions contained in the Resolution or in the Bonds, on the part of the Board to be performed, and such failure continues for 90 days after written notice thereof from the holders of not less than 20% of the Bonds then Outstanding; provided that, if such failure is such that it cannot be corrected within such 90-day period, it will not constitute an Event of Default if corrective action is instituted within such period and diligently pursued until the failure is corrected; or

(e) if the Board: (i) admits in writing its inability to pay its debts generally as they become due; or (ii) files a petition in bankruptcy or seeking a composition of indebtedness under the provisions of any federal or State bankruptcy or similar law; or (iii) makes an assignment for the benefit of its creditors; or (iv) files a petition or any answer seeking relief under the provisions of any federal or State bankruptcy or similar law; or (v) consents to the appointment of a receiver of the whole or any substantial part of the Water System; or (vi) consents to the assumption by any court of competent jurisdiction under the provisions of any other law for the relief or aid of debtors of custody or control of the Board, or of the whole or any substantial part of the Water System.

Notice to Bondholders of Event of Default

Immediately after the occurrence of an Event of Default, or within 30 days after any Paying Agent knows of any Event of Default, the Paying Agent or Paying Agents will give to the Bondholders, all other Paying Agents, and all Support Facility Providers, and each Rating Agency, in the manner provided in the Resolution, notice of all Events of Default known to the Board, unless such Events of Default have been cured before the giving of such notice.

(1) Unless the principal of all of the Bonds have become due and payable,

First, to the payment of all necessary and proper Operating and Maintenance Expenses and all other proper disbursements or liabilities made or incurred by the receiver;

Second, to the payment to the persons entitled thereto of all installments of interest then due (including any interest on overdue principal) in the order of the maturity of such installments, earliest maturities first, and if the amounts available shall not be sufficient to pay in full any installment or installments of interest maturing on the same date, then to the payment thereof ratably, according to the amount due thereon, to the persons entitled thereto, without any discrimination or preference; and

Third, to the payment to the persons entitled thereto of the principal and premium, if any, due and unpaid upon the Bonds at the time of such payment without preference or priority of any Bond over any other Bonds, ratably, according to the amounts due respectively for principal and redemption premium, without any discrimination or preference.

(2) If the principal of all of the Bonds have become due and payable,

First, to the payment of all necessary and proper Operation and Maintenance Expenses and all other proper disbursements or liabilities made or incurred by the receiver; and

Second, to the payment of the principal and interest then due and unpaid upon the Bonds without preference or priority of principal over interest or of interest over principal, or of any installment of interest over any other installment of interest, or of any Bond over any other Bond, ratably, according to the amounts due respectively for principal and interest, to the persons entitled thereto without any discrimination or preference.

Whenever moneys are to be applied pursuant to the foregoing paragraphs, such moneys shall be applied by the receiver, at such times, and from time to time, as it in its sole discretion shall determine, having due regard to the amount of such moneys available for application and the likelihood of additional moneys becoming available for such application in the future.

If and whenever all overdue installments of interest on all Bonds, together with the reasonable and proper charges, expenses, and liabilities of the holders of the Bonds, their respective agents and attorneys, and all other sums payable by the Board under the Resolution including the principal and Redemption Price (if any) on all Bonds which are then payable, will either be paid in full by or for the account of the Board or provision satisfactory to the receiver will be made for such payment, and all defaults under the Resolution or the Bonds has been made good and secured to the satisfaction of the receiver or provision deemed by the receiver to be adequate therefor, the receiver will pay over to the Board all of its moneys, securities, funds and Revenues then remaining unexpended in the hands of the Bondholders' Committee, described below (except moneys, securities, funds or Revenues deposited or pledged, or required by the terms of the Resolution to be deposited or pledged, with the Director of Budget and Fiscal Services), control of the business and possession of the property of the Board will be restored to the Board, and thereupon the Board will be restored to its former positions and rights under the Resolution, and all Revenues will thereafter be applied as provided in the Resolution as if no default had occurred. No such payment over to the Board or resumption of this application of Revenues, as provided in the Resolution, will extend to or affect any subsequent default under the Resolution or impair any right consequent thereon.

Resolution to be qualified under the Trust Indenture Act of 1939 of the United States of America; or (iii) if the Board determines that the rights of the holders of the Bonds then Outstanding shall not be materially adversely affected thereby, for any one or more of the following purposes:

1. to make any changes or corrections in the Resolution as to which the Board shall have been advised by counsel that the same are verbal corrections or changes or are required for the purpose of curing or correcting any ambiguity or defective or inconsistent provision or omission or mistake or manifest error contained in the Resolution, or to insert in the Resolution such provisions clarifying matters or questions arising under the Resolution as are necessary or desirable;
2. to add additional covenants and agreements of the Board for the purpose of further securing the payment of the Bonds;
3. to surrender any right, power or privilege reserved to or conferred upon the Board by the terms of the Resolution;
4. to confirm as further assurance any lien, pledge or charge, or the subjection to any lien, pledge, or charge, created or to be created by the provisions of the Resolution;
5. to grant or to confer upon the holders of the Bonds any additional rights, remedies, powers, authority or security that lawfully may be granted to or conferred upon them; and
6. to modify in any other respect any of the provisions of the Resolution.

(B) Except for Series Resolutions authorizing the issuance of Bonds pursuant to the Resolution, the Board shall not adopt any Supplemental Resolution authorized by the foregoing provisions unless in the Opinion of Counsel to the effect that the adoption of such Supplemental Resolution is permitted by the foregoing provisions and the provisions of such Supplemental Resolution do not adversely affect the rights of the holders of the Bonds then Outstanding.

Amendment of Resolution With Consent of Holders of Bonds. With the consent of the holders of not less than a majority of the Bonds then Outstanding, the Board may from time to time and at any time adopt a Supplemental Resolution amending or supplementing the Resolution for the purpose of adding any provisions to, or changing in any manner or eliminating any of the provisions of, the Resolution, or modifying or amending the rights and obligations of the Board under the Resolution, or modifying or amending in any manner the rights of the holders of the Bonds then Outstanding. For purposes of the preceding sentence, the written consent of each Support Facility Provider providing a Support Facility for any Bonds shall constitute consent of the Holders of such Bonds.

Without the specific consent of the holder of each such Bond which would be affected thereby, no Supplemental Resolution amending or supplementing the provisions of the Resolution will:

- (1) change the fixed maturity date for the payment of the principal of any Bond or the dates for the payment of interest thereon or the terms of the redemption thereof, or reduce the principal amount of any Bond or the rate of interest thereon or the Redemption Price (including any premium) payable upon the redemption or prepayment thereof;
- (2) reduce the aforesaid percentage of Bonds, the holders of which are required to consent to any Supplemental Resolution amending or supplementing the provisions of the Resolution;
- (3) give to any Bond or Bonds any preference over any other Bond or Bonds secured by the Resolution;

7/19/1981

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RESEARCH REPORT - STATE OF TEXAS

The following information is provided for your information. The information is based on the data provided in the report. The information is provided for your information and is not intended to be used for any other purpose. The information is provided for your information and is not intended to be used for any other purpose. The information is provided for your information and is not intended to be used for any other purpose.

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THE STATE OF TEXAS

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To facilitate subsequent transfers, all Series 2023 Bonds deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of Series 2023 Bonds with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Series 2023 Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such Series 2023 Bonds are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of the Series 2023 Bonds may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Series 2023 Bonds, such as redemptions defaults, and proposed amendments to the Series 2023 Bond documents. For example, Beneficial Owners of the Series 2023 Bonds may wish to ascertain that the nominee holding the Series 2023 Bonds for their benefit has agreed to obtain and transmit notices to Beneficial Owners. In the alternative, Beneficial Owners may wish to provide their names and addresses to the Paying Agent and request that copies of notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all of the bonds within an issue are being redeemed, DTC's practice is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

Neither DTC nor Cede & Co. (nor any other DTC nominee) will consent or vote with respect to the Series 2023 Bonds unless authorized by a Direct Participant in accordance with DTC's MMI Procedures. Under its usual procedures, DTC mails an Omnibus Proxy to the BWS as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts Series 2023 Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Redemption proceeds, distributions and dividend payments on the Series 2023 Bonds will be made to Cede & Co., or such other nominee as may be requested by an authorized representative of DTC. DTC's practice is to credit Direct Participants' accounts upon DTC's receipt of funds and corresponding detail information from the Paying Agent, on the payable date in accordance with their respective holdings shown on DTC's records. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC or its nominee, the Paying Agent, or the BWS, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds, distributions and dividend payments to Cede & Co. (or such other nominee as may be requested by an authorized representative of DTC) is the responsibility of the BWS or the Paying Agent, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

DTC may discontinue providing its services as depository with respect to the Series 2023 Bonds at any time by giving reasonable notice to the BWS or the Paying Agent. Under such circumstances, in the event that a successor depository is not obtained, Series 2023 Bond certificates are required to be printed and delivered.

The BWS may decide to discontinue use of the system of book-entry transfers through DTC (or a successor securities depository). In that event, Series 2023 Bond certificates will be printed and delivered to DTC.

NEITHER THE BWS NOR THE PAYING AGENT WILL HAVE ANY RESPONSIBILITY OR OBLIGATION TO DIRECT PARTICIPANTS, INDIRECT PARTICIPANTS OR THE PERSONS FOR WHICH THEY ACT AS NOMINEES WITH RESPECT TO THE SERIES 2023 BONDS, OR FOR ANY PRINCIPAL OF OR INTEREST PAYMENT THEREON.

The BWS and the Paying Agent may treat DTC (or its nominee) as the sole and exclusive registered owner of the Series 2023 Bonds registered in its name for the purposes of payment of the principal of, or interest on, the

European international clearing system by the counterparty in the system in accordance with its rules and procedures and within its established deadlines in European time.

The relevant European international clearing system will, if the transaction meets its settlement requirements, deliver instructions to its depository to take action to effect final settlement on its behalf by delivering or receiving securities in DTC, and making or receiving payment in accordance with normal procedures for same day funds settlement applicable to DTC. Clearstream participants or Euroclear participants may not deliver instructions directly to the depositories.

The BWS will not impose any fees in respect of holding the Series 2023 Bonds; however, holders of book-entry interests in the Series 2023 Bonds may incur fees normally payable in respect of the maintenance and operation of accounts in DTC, Euroclear and Clearstream.

Initial Settlement. Interests in the Series 2023 Bonds will be in uncertified book-entry form. Purchasers electing to hold book-entry interests in the Series 2023 Bonds through Euroclear and Clearstream accounts will follow the settlement procedures applicable to conventional Eurobonds. Book-entry interests in the Series 2023 Bonds will be credited to Euroclear and Clearstream participants' securities clearance accounts on the business day following the date of delivery of the Series 2023 Bonds against payment (value as on the date of delivery of the Series 2023 Bonds). DTC participants acting on behalf of purchasers electing to hold book-entry interests in the Series 2023 Bonds through DTC will follow the delivery practices applicable to securities eligible for DTC's Same Day Funds Settlement system. DTC participants' securities accounts will be credited with book-entry interests in the Series 2023 Bonds following confirmation of receipt of payment to the BWS on the date of delivery of the Series 2023 Bonds.

Secondary Market Trading. Secondary market trades in the Series 2023 Bonds will be settled by transfer of title to book-entry interests in Euroclear, Clearstream or DTC, as the case may be. Title to such book-entry interests will pass by registration of the transfer within the records of Euroclear, Clearstream or DTC, as the case may be, in accordance with their respective procedures. Book-entry interests in the Series 2023 Bonds may be transferred within Euroclear and within Clearstream and between Euroclear and Clearstream in accordance with procedures established for these purposes by Euroclear and Clearstream. Book-entry interests in the Series 2023 Bonds may be transferred within DTC in accordance with procedures established for this purpose by DTC. Transfer of book-entry interests in the Series 2023 Bonds between Euroclear or Clearstream and DTC may be effected in accordance with procedures established for this purpose by Euroclear, Clearstream and DTC.

Special Timing Considerations. Investors should be aware that investors will only be able to make and receive deliveries, payments and other communications involving the Series 2023 Bonds through Euroclear or Clearstream on days when those systems are open for business. In addition, because of time zone differences, there may be complications with completing transactions involving Clearstream and/or Euroclear on the same business day as in the United States. U.S. investors who wish to transfer their interests in the Series 2023 Bonds, or to receive or make a payment or delivery of the Series 2023 Bonds, on a particular day, may find that the transactions will not be performed until the next business day in Luxembourg if Clearstream is used, or Brussels if Euroclear is used.

Clearing Information. It is expected that the Series 2023 Bonds will be accepted for clearance through the facilities of Euroclear and Clearstream. The CUSIP numbers for the Series 2023 Bonds are set forth on the inside cover of the Official Statement.

General. Neither Euroclear nor Clearstream is under any obligation to perform or continue to perform the procedures referred to above, and such procedures may be discontinued at any time.

NEITHER THE BWS NOR THE UNDERWRITERS WILL HAVE ANY RESPONSIBILITY FOR THE PERFORMANCE BY EUROCLEAR OR CLEARSTREAM OR THEIR RESPECTIVE DIRECT OR INDIRECT PARTICIPANTS OR ACCOUNT HOLDERS OF THEIR RESPECTIVE OBLIGATIONS UNDER THE RULES AND PROCEDURES GOVERNING THEIR OPERATIONS OR THE ARRANGEMENTS REFERRED TO ABOVE.

ITEM FOR INFORMATION NO. 1

“February 27, 2023

UPDATE ON THE
BOARD OF
WATER
SUPPLY'S
RESPONSE TO
THE POTENTIAL
IMPACTS OF THE
RED HILL

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

Subject: Update on the Board of Water Supply's Response to the
Potential Impacts of the Red Hill Fuel Contamination

Ernest Lau, Manager & Chief Engineer, will give an Update on the Board of Water Supply's Response to the Potential Impacts of the Red Hill Fuel Contamination.

Respectfully Submitted,

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

Attachment”

The foregoing was for information only.

DISCUSSION:

Raelynn Nakabayashi, Executive Assistant I, Executive Support Office, gave the report.

Board Member Max Sword commented that he recalls that the Board approved two monitoring wells in Fiscal Year 2022. He inquired if the work on the monitoring wells that were approved had started.

Ms. Raelynn Nakabayashi replied that a budget amendment was approved in Fiscal Year 2022, and the BWS was able to award a contract for one monitoring well at Site H. She explained that Fiscal Year 2022 Budget, as amended, budgeted for two monitoring wells; however, the BWS was only ready to begin construction on one well. Ms. Nakabayashi mentioned that in Fiscal Year 2023, the BWS has three additional monitoring wells that likely be bid and awarded.

Board Member Sword asked what the BWS is proposing for Fiscal Year 2024.

Ms. Nakabayashi responded that the BWS has funding for three additional monitoring wells which construction contracts will be awarded in Fiscal Year 2024. The monitoring well at Site H will begin construction this fiscal year.

Board Member Sword stated that the Navy mentioned installing their own monitoring wells and asked if they had started construction.

Manager Ernest Lau replied that the Navy has plans to install 22 additional wells on the Red Hill and offsite landowner properties, during which construction began for some monitoring wells. However, the Navy has encountered some challenges with drilling on landowner property. He shared that the BWS and the Navy continue to discuss locations and whether more monitoring wells are needed.

Board Member Sword inquired about the discussions with congressional delegates.

Manager Lau expressed his appreciation to the congressional delegates. He stated that since discussions are more detailed, meetings have been between staff to staff. Manager Lau shared that the BWS has added additional help to the Executive Support Office team to focus on seeking federal funds for other projects unrelated to Red Hill to reduce the cost to ratepayers. He shared that this is the first for the BWS to work with Congress at the federal level.

Ms. Nakabayashi shared that the BWS met with Senator Brian Schatz's staff which provided information on the application process, improving the BWS applications, the different committee hearing processes, and what other key matters to consider. She also shared that the BWS is meeting with other utility companies that have successfully received federal earmark funding.

Board Member Na'alehu Anthony commented that the BWS lost up to 15 million gallons per day (mgd) of water from the shutdown of Halawa Shaft due to fuel contamination. He asked what the BWS expects to generate from the Aiea 597 and Newton 550 reservoirs.

Manager Lau stated that with the loss of Halawa Shaft, producing up to 15 mgd is a difficult challenge to replace. Aiea and Halawa Wells are smaller sources that can be replaced one for one, but replacing Halawa Shaft will require more sources to reach the same capacity.

Ms. Nakabayashi shared that the unsuccessful federal earmark requests may have been due to the \$200 million (M) price tag to develop enough wells to replace Halawa Shaft. She stated that producing the same capacity could take up to 10 new pump stations. Therefore, the BWS is also looking into various ways to interconnect the BWS systems and move excess water capacity into metro Honolulu.

Vice Chair Sproat inquired about the progress on the Ewa Shaft and the exploratory wells.

Mr. Barry Usagawa, Program Administrator, Water Resources Division, responded that the Ewa Shaft exploratory wells bidding package is being prepared for this Fiscal Year 2023. He shared that five wells are planned to be placed on BWS property; however, it may require two wells may be placed further east, depending on testing.

Vice Chair Sproat asked how much capacity would the five wells produce.

Mr. Usagawa shared that each well is planned to pump two mgd, a total of ten mgd. He explained that although the tunnel could provide more water, the yield was scaled back because of the possibility of water quality issues.

Vice Chair Sproat commented that although the BWS is working on replacing Halawa Shaft with other sources, she is concerned about how and where the plume is moving, which could mean that other sources will need to be replaced in the future.

Board Member Dawn Szewczyk asked if the BWS is still looking into treatment opportunities or possibilities.

Manager Lau responded that treatment opportunities and possibilities are still being examined and studied.

Deputy Manager Erwin Kawata shared that the BWS is doing a water treatment study on removing Total Petroleum Hydrocarbons (TPH) and other types of contamination. He explained that since the amount of contamination is unknown, the study is designed to handle or remove very large and very low amounts of contamination, which will determine the size of the treatment facility. The treatment process will require multiple steps involving oil-water separation, activated carbon, and advanced oxidation treatment to handle significant amounts of contamination.

Manager Lau added that Per- and Polyfluoroalkyl substances (PFAS) could be another component included in the list of contaminations to treat.

Board Member Jonathan Kaneshiro inquired about the size of the treatment plant.

Deputy Manager Kawata stated that dealing with activated carbon is huge and would require a treatment plant three times the size of Halawa Shaft with 50 contractors. He shared that the BWS's current treatment plant has 20 contractors.

Board Member Kaneshiro asked if treatment would be done on-site or at a different location.

Deputy Manager Kawata responded that the BWS is working on designing the treatment plant at Halawa Shaft, which produces ten mgd. The study and evaluation include determining if the demand can be met, treating and holding the water, and returning it to the water system. He stated that the study is becoming more challenging as the BWS continues to look further into treatment and try to reproduce what the BWS lost.

Board Member Kaneshiro commented that the treatment plant could be a cost-benefit.

Deputy Manager Kawata replied that there is a possibility that the treatment may not be feasible. The operations and maintenance of the treatment plant must be considered. Another factor that must be considered is the waste material generated, which could be overwhelming to manage locally and may need to be shipped off the island due to the quantity.

Board Member Szewczyk asked when the study is scheduled to be completed.

Manager Lau responded that the BWS hopes to complete the treatment study by the summer. There are plans to try some minimal-scale pilot studies next year to test the concepts.

Vice Chair Sproat inquired if the BWS study includes the ick factor and if public outreach is being done.

Deputy Manager Kawata shared that the BWS study includes trying to drive the removal of the contaminant to the lowest level possible to reach zero. The ability to measure will be a limitation. The study will need to determine the amount of additional removal treatment is needed to statistically and mathematically reach zero but is beyond the ability to measure. This will increase the size of the treatment because the smaller the amount present in the water, the more difficult it is to remove because there is competition between the treatment material wanting to remove the contaminant and its desire to stay in the water and the water's ability not to let go of it.

Board Member Kaneshiro asked if the BWS is conducting the studies in-house.

Deputy Manager Kawata stated that the studies are not done in-house. Instead, the studies are being conducted by a research laboratory through a consultant located in Pasadena, California. The study consists of simulating the actual contamination, putting a small amount through the treatment, and measuring the amounts of removal.

Board Member Kaneshiro inquired if the contaminants were being replicated.

Deputy Manager Kawata responded that the BWS is taking actual samples from Halawa Shaft and synthetically manufacturing the level of contamination. The consultant has samples of the actual pure Jet Propellant 5 (JP-5) fuel that is added into water, which is measured, then begins trying to remove the contaminant at different contaminant levels, starting at 10% and slowly lowering the concentration level. He shared that the study the BWS is conducting is groundbreaking and is not being reproduced anywhere else. There is no other research or literature available; therefore, the BWS is learning as the study is being done.

Board Member Anthony commented that at the last BWS Board meeting, the EPA stated they didn't have any information or guidance on Total Petroleum Hydrocarbons (TPH) in water.

Deputy Manager Kawata agreed with the statement the EPA made. The levels of contaminants the BWS is trying to remove from 10 million gallons of water and begin treatment are unheard of.

Board Member Szewczyk asked if the BWS knows the contamination level in the Halawa Shaft samples, which are sent to the laboratory before it's shipped.

Deputy Manager Kawata replied that the samples from Halawa Shaft are at the non-detect level. He explained that this is because the samples are measured before shipping, then add the contaminant.

Vice Chair Sproat expressed her appreciation to Manager Lau and Deputy Manager Kawata for their leadership.

Chair Andaya inquired about the federal grants the BWS obtained and whether they are recurring.

Ms. Nakabayashi explained that the City and County of Honolulu (City) received one-time funding of \$386M in State and Local Fiscal Recovery Funds (SLFRF) through the American Rescue Plan Act (ARPA); the BWS generated specific project applications and applied for this funding. This specific funding source has federal requirements, including the use of the funding within the timeline provided. The BWS was able to submit \$50.3M worth of projects and was granted this funding. She further explained that the Hazard Mitigation grant program is a recurring program funded when there is a federally declared disaster.

Regarding the ARPA-SLFRF, Manager Lau expressed his gratitude to Mayor Rick Blangardi for allocating \$25.3M to BWS projects and to the City Council for approving \$25M in their Fiscal Year 2023 budget, specifically for the BWS.

Board Member Szewczyk referred to the disaster in Flint, Michigan, and asked if the BWS looked into how they funded their emergency.

Ms. Nakabayashi responded that the BWS continues to look into federal funding opportunities for water utility programs.

Chair Andaya announced that there was one in-person testifier.

Susan Pcola-Davis	<i>Commented on the DOH's medical advisory on exposures to petroleum hydrocarbons in drinking water. She provided three DOH documents.</i>
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Board Member Anthony commented that the information Ms. Susan Pcola-Davis points out is critical and how data is collected.

Chair Andaya agreed with Board Member Anthony. He inquired if there was more the Board could do or, somehow, somewhere the Board could discuss, such as a forum.

Manager Lau shared that in 2015 the Environmental Protection Agency (EPA), the Department of Health (DOH), the Navy, and the Defense Logistics Agency (DLA) signed an Administrator Order of Consent (AOC). He explained that remediation is not included in the 2015 AOC section scope of work relating to developing groundwater models, contaminated feed, and transport. Manager Lau also shared the BWS was invited to a roundtable with the EPA and DOH to discuss groundwater investigation and remediation. He stated that it would be essential to discuss how the groundwater modeling should be built and tested to determine how different chemicals affect the aquifer and its movement.

Chair Andaya asked about the committee that Governor Josh Green is working on creating.

Manager Lau explained that Governor Green invited the BWS to participate in an oversight committee or task force that he is creating to discuss water issues for the betterment of the community. He mentioned that since the regulators, purveyors, and the Navy have different perspectives on the issue, a group would help drive alignment and access to the best information possible on what is happening to the aquifer.

Chair Andaya commented that a committee brought together to share and agree on a common goal is g.

Board Member Anthony agreed with Manager Lau that all parties involved have different views and positions. However, the BWS has the kuleana to serve clean water, even if not as a regulator.

Manager Lau agreed with Board Member Anthony. The role and responsibility of the BWS are evolving; therefore, the BWS must draw the line and take a stand for future generations.

Chair Andaya commented that the BWS's kuleana has always remained the same. However, being able to work and advocate with other agencies would allow everyone to adapt to the circumstances surrounding what has happened.

Manager Lau also commented that the BWS has no legal or regulatory authority over Oahu's water. However, he stated that he is hopeful that the regulators, elected officials, and the BWS will come together and agree to do what's best for the community now and into the future.

Board Member Kaneshiro asked if the BWS has designated anyone, in particular, to look into a Red Hill water risk mitigation plan.

Manager Lau responded that Deputy Manager Kawata and himself have been working together on Red Hill to build internal capacity to continue to succeed for the community for the past nine years and are continuing to do so. However, with the looming issues from Red Hill and the potential impacts on Oahu's water resources, the BWS has assigned an Engineer to focus on Red Hill. The BWS has also hired an additional employee to pursue federal funding for Red Hill and help supplement the BWS's budget to reduce the cost burden on ratepayers. Manager Lau also mentioned that Mr. Usagawa is developing a water protection plan for our water resources that identifies and maps contaminants' risks.

Board Member Kaneshiro inquired if the BWS faced contamination that impacted the BWS within the last 50 years.

Manager Lau responded the BWS was impacted by agriculture.

Chair Andaya commented that the BWS would continue to face issues beyond its control but focus on what can be controlled and continue its mission.



FEBRUARY 2023 RED HILL UPDATES

February 27, 2023
boardofwatersupply.com

PROBLEM, IMPACT, SOLUTION(S) & TIMELINE

- **PROBLEM:** Halawa Shaft, Aiea Wells & Halawa Wells will remain shut down for the foreseeable future.
- **IMPACT:** Loss of an average of 15MG/Day of Source Production (Approximately 10% of Average Day Demand)

SOLUTION:
**Develop Additional Capacity in the BWS
Water System**



EXPLORATORY WELLS

- Fiscal Year 2023
 - Aiea 497' Reservoir Site
 - Newtown 550' Reservoir Site
- Fiscal Year 2024
 - Work continues with preliminary feasibility assessment at various sites

Draft Environmental Assessment

for the

**Aiea 497' Exploratory Well
in Aiea, Island of Oahu, Hawaii**



Prepared For:

City and County of Honolulu
Board of Water Supply



Prepared By:



July 2022

**Draft Environmental Assessment
for the
Newtown 550' Exploratory Well in Waimalu,
Island of Oahu, Hawaii**



Prepared For:

City and County of Honolulu
Board of Water Supply



Prepared By:



January 2023

WATER SYSTEM INTERCONNECTIONS

- Fiscal Year 2023
 - Design for two (2) Control Valve Projects at Kaahumanu Wells and Manana Wells

WATER SYSTEM IMPROVEMENTS – NEW SOURCES

- Fiscal Year 2023
 - Construction of Exploratory Wells at Ewa Shaft
 - Construction of an Exploratory Well at Manoa Well II
 - Planning activities at Waialae Nui Well, Waimalu Wells II, & Kaonohi Wells II (Condition Assessment Contracts to be Awarded)



ACTIVE RENOVATION PROJECTS

- Waialae Iki Well Renovation – Pump and associated piping and electrical appurtenances were replaced and back in service November 2022
- Kalihi Pump Station Renovation – Work Continues; Low Service Pumps and associated piping and electrical appurtenances were replaced and back in service Summer 2022
- Punanani Wells Renovation – Work Continues
- Moanalua Wells Renovation – Work Continues
- Kaamilo Wells and Booster Station Renovation – Work anticipated to commence April 2023
- Waialae Iki Booster No. 1 Renovation and Wailupe Booster – Work anticipated to commence Summer 2023

ALL ACTIVE PROJECTS AFFECTING SUPPLY ARE CAREFULLY COORDINATED
TO ENSURE ADEQUACY OF SUPPLY TO MEET DEMAND



PROBLEM, IMPACT, SOLUTION(S) & TIMELINE

- **PROBLEM:** The extent of the contamination of the Moanalua-Waimalu aquifer is unknown.
- **IMPACT:** Unable to quantify the threat to BWS sources in the vicinity

SOLUTION:
**Develop Additional Monitoring Wells to
Obtain the Information**



MONITORING WELLS

- Fiscal Year 2022
 - Site H – Halawa Valley Access Road
- Fiscal Year 2023
 - Site A – Halawa District Park
 - Site D – Department of Agriculture -Animal Quarantine Facility
 - Site S – Moanalua Golf Course
- Fiscal Year 2024
 - Work continues with preliminary feasibility assessment at various sites



PROBLEM, IMPACT, SOLUTION(S) & TIMELINE

- **PROBLEM:** To date, the BWS has received NO funding from the Federal Government to cover its response cost. The BWS already planned over \$1B of Capital Improvement Projects to address its own aging infrastructure in the next six (6) years.
- **IMPACT:** The additional projects relating to Red Hill place extreme stress on our financial and physical capacity.

SOLUTION:

Seek alternate sources of funding to alleviate the burden of these efforts on our ratepayers.



FUNDING DIVERSIFICATION

- The BWS has sought Federal Grants in other areas to make up budgetary shortfalls
 - American Rescue Plan Act – State and Local Fiscal Recovery Funds (\$50.3M)
 - Hazard Mitigation Grant Program (\$1.3M)
 - Building Resilient Infrastructure & Communities Grant Program (\$75K)



FUNDING DIVERSIFICATION

- The BWS continues to seek funding through other sources:
 - Drinking Water State Revolving Fund Loan Program
 - Continue Discussions with DOH Related to Lead & Copper Rule
 - Clean Water State Revolving Fund Loan Program
 - Water Infrastructure Finance and Innovation Act (WIFIA)
 - Letter of Interest Accepted and Invited to Apply
 - Congressionally Directed Spending
 - Continue Discussions & Submit Requests
 - HB1511 – SoH GIA Funding for BWS Response (Exploratory & Monitoring Wells \$10M)





Mahalo!

BOARD OF WATER SUPPLY

February 2023 Red Hill Updates

February 27, 2023

Providing safe, dependable, and affordable
drinking water, now and into the future.

ITEM FOR INFORMATION NO. 2

“February 27, 2023

FINANCIAL
STATEMENTS AND
SUPPLEMENTARY
INFORMATION
WITH
INDEPENDENT
AUDITORS’
REPORT, FISCAL
YEAR ENDED
JUNE 30, 2022

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

Chair and Members:

Subject: Financial Statements and Supplementary Information with
Independent Auditors’ Report, Fiscal Year Ended
June 30, 2022

Our auditors, Accuity LLP, have completed the audit of the financial statements and federal awards of the Board of Water Supply and issued an unmodified opinion. They have indicated that there are no weaknesses on internal control over financial reporting.

Attached are copies of the financial statements of the Board of Water Supply and the reports thereon by Accuity LLP, covering the results of their examination of the accounts and financial status of the Board of Water Supply for the year ended June 30, 2022 as required under Article VII, Section 7-108 of the Revised Charter, are also attached.

Donn Nakamura and Matthew Oda from Accuity LLP will present the required communications and highlights from the auditors’ report.

Respectfully Submitted,

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

Attachment”

The foregoing was for information only.

DISCUSSION: Donn Nakamura and Matthew Oda, Accuity LLP, gave the report.

Board Member Anthony asked what the purpose of having Red Hill listed on page 53 of the BWS Financial Statements and Supplementary Information ending June 30, 2022, was.

Mr. Mathew Oda replied that the report requires the disclosure of any risks or uncertainties. Therefore, due to the uncertain nature with the cleanup and contamination at Red Hill and the impact it may impose on the BWS, it was listed in the report.

Board Member Na’alehu asked, besides financial impacts, what other types of ramifications could the BWS potentially face.

Mr. Oda responded that it's expected that Red Hill will require a significant amount of cleanup that will become costly. Therefore, stated that there are no estimates on the exposure to Red Hill, but possible.



ACCUITY

Board of Water Supply

City and County of Honolulu

June 30, 2022 Audit Results
Presentation to the Board

February 27, 2023

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Scope of Services

- Provide an opinion on the fair presentation of the Board of Water Supply's ("BWS") financial statements.
- Consider the BWS's internal control over financial reporting in relation to our audit of the financial statements.
- Perform tests of the BWS's compliance with certain provisions of laws, regulations, contracts and grant agreements in relation to the financial statements.
- Provide an opinion on BWS's compliance with requirements related to major federal programs in accordance with the Office of Management and Budget's ("OMB") Compliance Supplement and consider internal control over compliance.

Financial Statement Highlights

- Net position increased by \$30.8 million in fiscal year 2022 compared to the \$17.7 million increase in fiscal year 2021. In fiscal 2022, operating revenues increased by \$10.3 million, while operating expenses decreased by \$16.7 million and the fair value of investments decreased by \$17.6 million.
- Unrestricted current assets at June 30, 2022 of \$189.5 million exceeded total current liabilities by \$123.5 million.
- Net capital assets increased by approximately \$32.1 million primarily due to current year construction activity, offset by current year depreciation expense.
- Net pension liability was \$106.8 million as of June 30, 2022, a decrease of \$26.2 million from the prior year-end.
- Net OPEB liability was \$42.8 million as of June 30, 2022, a decrease of \$24.8 million from the prior year-end.
- Bonds payable increased by \$77.3 million due to new bonds that were issued in the current year.
- Notes payable increased by \$4.7 million due to new SRF loans in the current year.

Required Communications



Matter to be communicated	Our response
<p>Auditors' responsibility under Generally Accepted Auditing Standards. The auditors' level of responsibility assumed for internal controls, whether the financial statements are free of material misstatement, and the detection of fraud should be communicated.</p>	<p>Our primary responsibility as the BWS's independent auditors is to evaluate and report on the fairness of the BWS's financial statements prepared in accordance with U.S. generally accepted accounting principles ("GAAP"). Based upon the results of our audit, which was performed in accordance with U.S. generally accepted auditing standards and <i>Government Auditing Standards</i>, we issued an unmodified opinion on the BWS's financial statements.</p>
<p>Overview of the planned scope of the audit. The overview of the planned scope and timing of the audit should be communicated to those charged with governance.</p>	<p>This was communicated in our Contract No. C22590001 dated February 7, 2022.</p>
<p>Significant risks of material misstatement as part of our audit planning.</p>	<p>We identified the following significant risks of material misstatement during the planning phase of our audit:</p> <ul style="list-style-type: none">• Improper revenue recognition due to fraud.• Management override of controls.• Effect of the COVID-19 pandemic on the Department's operations and financial condition.• Improper classification of capital assets. <p>There were no additional, or changes to, significant risks identified during the audit.</p>

Required Communications



Matter to be communicated	Our response
<p>Significant accounting policies, including critical accounting policies, and the auditors' judgment about the quality of accounting principles. The entity's initial selection of and changes in significant accounting policies or their application; methods used to account for significant unusual transactions; and effect of significant policies in controversial or emerging areas for which there is a lack of authoritative guidance or consensus should be communicated to those charged with governance.</p>	<p>The significant accounting policies used by BWS are disclosed in Note 2 to the financial statements.</p> <p>GASB Statement No. 87, <i>Leases</i>, was adopted effective July 1, 2021. The adoption resulted in the recording of lease assets, lease liabilities, lease receivables, and deferred inflows of resources related to leases at July 1, 2021, but did not result in the restatement of beginning net position.</p>
<p>Management judgments and accounting estimates. Those charged with governance should be informed about the process used by management in formulating sensitive accounting estimates and about the auditors' conclusions regarding the reasonableness of those estimates.</p>	<p>The more difficult and subjective judgments and estimates were:</p> <ul style="list-style-type: none"> • Allowance for uncollectible receivables. • Depreciation and useful lives of capital assets. • Calculation of net pension benefits, net other postemployment benefits, and workers' compensation liabilities. <p>Management's estimates were evaluated and appeared to be reasonable.</p>
<p>Significant unusual transactions. Those charged with governance should be informed about the auditors' view on the policies and practices that management used to account for significant unusual transactions and the auditors' understanding of the business purpose for the significant unusual transactions.</p>	<p>No significant unusual transactions were noted during our audit.</p>

Required Communications

Matter to be communicated	Our response
<p>Audit adjustments. All significant financial statement adjustments arising from the audit or proposed during the audit and any uncorrected misstatements that were determined to be immaterial by management individually and in the aggregate should be communicated to those charged with governance.</p>	<p>Summaries of the adjusting and reclassifying journal entries arising from our audit were attached to the management representation letter.</p> <p>We noted one uncorrected misstatement to correct construction in progress, expenses, and accumulated depreciation. There were no other uncorrected misstatements above our de minimis noted.</p>
<p>Potential effect on the financial statements of any significant risks and exposures. Those charged with governance should be aware of major risks and exposures facing the BWS and how they are disclosed.</p>	<p>The fuel spill at the Navy’s Red Hill Bulk Fuel Storage Facility was identified as a significant risk and was disclosed in the notes to the financial statements accordingly.</p>
<p>Matters that are difficult or contentious for which the auditors consulted outside the engagement team and that are, in the auditors’ professional judgment, significant and relevant to those charged with governance regarding their responsibility to oversee the financial reporting process.</p>	<p>No such matters noted during our audit.</p>
<p>Material uncertainties related to events and conditions, specifically going concern issues. Any doubt regarding the BWS’s ability to continue as a going concern and any other material uncertainties should be communicated.</p>	<p>No issues related to BWS’s ability to continue as a going concern or other material uncertainties were noted.</p>

Required Communications

Matter to be communicated	Our response
<p>Other information in documents containing audited financial statements. Those charged with governance should be informed of the auditors' responsibility for information in a document containing audited financial statements, as well as any procedures performed and the results.</p>	<p>We are not aware of any documents that will include the BWS's audited financial statements.</p>
<p>Disagreements with management. Disagreements with management, whether or not satisfactorily resolved, about matters that could be significant to the BWS's financial statements or the auditors' report should be communicated.</p>	<p>There were no disagreements with management.</p>
<p>Consultation with other accountants. When the auditors are aware that management has consulted with other accountants about significant accounting or auditing matters, the auditors' view about the consultation subject should be communicated to those charged with governance.</p>	<p>We know of no such consultations made by management.</p>
<p>Major issues discussed with management prior to retention. Any major accounting, auditing or reporting issues that were discussed with management in connection with our retention.</p>	<p>There were no major issues discussed with management prior to our retention.</p>
<p>Difficulties encountered in performing the audit. Serious difficulties encountered in dealing with management that related to the performance of the audit are required to be brought to the attention of those charged with governance.</p>	<p>There were none.</p>

Required Communications

Matter to be communicated	Our response
Internal control deficiencies. Those charged with governance should be informed of any significant deficiencies or material weaknesses in the design or operation of internal control that came to the auditors' attention during the audit.	There were no material weaknesses or significant deficiencies reported.
Fraud or illegal acts. Fraud or illegal acts involving senior management or those responsible for internal controls or causing a material misstatement of the financial statements where the auditors determine there is evidence that such fraud may exist should be communicated. Any illegal acts coming to the auditors' attention involving senior management and any other illegal acts, unless clearly inconsequential.	We are not aware of any fraud or illegal acts.
Independence. The auditors should communicate all relationships between the Firm and the BWS that, in our professional judgment, may reasonably be thought to bear on our independence.	We confirm that, in our professional judgment, we are independent accountants within the meaning of the Code of Professional Conduct of the American Institute of Certified Public Accountants and <i>Government Auditing Standards</i> .
Representations requested from management. Those charged with governance should be informed of the representations that the auditors are requesting from management.	Management representation letter is available upon request.



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**Board of Water Supply
City and County of Honolulu**

Financial Statements and Supplementary Information

June 30, 2022



**Board of Water Supply
City and County of Honolulu
Index
June 30, 2022**

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**Board of Water Supply
City and County of Honolulu
Introduction (Unaudited)
Year Ended June 30, 2022**

The Board of Water Supply of the City and County of Honolulu (“BWS”) is pleased to present its Annual Financial Report for fiscal year 2022. This introduction provides a brief overview of the mission, organization, and operations of the BWS. The following management’s discussion and analysis is intended to provide the reader with an easily understandable analysis of the BWS’s financial performance and all aspects of its financial position. Financial statements presenting the financial position, results of operations, and cash flows of the BWS in conformity with accounting principles generally accepted in the United States of America, accompanied by the independent auditors’ report, follows the management’s discussion and analysis.

History of the Board of Water Supply

The BWS was created in 1929 by the Territorial Legislature in response to public outcry for a truly effective water management system that was not influenced by politics. The 1929 Legislature passed Act 96 to create and define the powers and duties of the Honolulu Board of Water Supply. Although it remained as a department of the City and County of Honolulu (the “City”), the BWS was designed to be a semi-autonomous and self-supporting agency with the authority to charge for water usage to support its capital improvement and operating expenses and set long-term plans for Oahu’s water future.

Powers, Duties and Functions

The BWS manages Oahu’s municipal water resources and distribution system, providing residents with a safe, dependable and affordable drinking water supply. The BWS is the largest municipal water utility in the State of Hawaii. In fiscal year 2022, the BWS delivered potable and non-potable water to approximately one million customers on Oahu. The BWS carefully and proactively manages and invests in its intricate system, consisting of 94 active potable water sources, 172 reservoirs, and over 2,100 miles of pipeline.

The BWS is a financially self-sufficient, semi-autonomous agency of the City. Its operations and projects are financed with revenues generated by water transmission and distribution fees. It receives no tax money from the City. The BWS also pursues federal and state grants to help subsidize BWS projects.

The BWS is governed by a Board of Directors (“Board”), consisting of seven members. Five members are appointed by the Mayor and are confirmed by the Honolulu City Council. The remaining two serve in their capacities as the Director of the State Department of Transportation, and the Director and Chief Engineer of the City’s Department of Facility Maintenance. The Board appoints the BWS Manager and Chief Engineer to administer the BWS.

The BWS consists of the following ten divisions: Capital Projects Division, Customer Care Division, Field Operations Division, Finance Division, Information Technology Division, Land Division, Office of the Manager and Chief Engineer, Water Quality Division, Water Resources Division, and Water System Operations Division. There are also three staff offices in the Office of the Manager and Chief Engineer: Executive Support Office, Human Resources Office, and Communications Office.

**Board of Water Supply
City and County of Honolulu
Introduction (Unaudited)
Year Ended June 30, 2022**

Vision

‘Ka Wai Ola – Water for Life’ is the vision of the BWS that captures the critical need for water, which is the basis for life. With this vision comes the responsibility of the BWS’s stewardship of, and duty to manage, our natural water resources and watersheds for present and future generations.

Mission

The BWS mission is to provide a safe, dependable and affordable water supply now and into the future, focusing in three strategic areas: resource, operational and financial sustainability.

- **Resource Sustainability (Safe)** – Protect and manage Oahu’s water resources and watersheds now and into the future through adaptive and integrated strategies.
- **Operational Sustainability (Dependable)** – Manage and continuously refine an effective organization that can evolve and adapt its human and physical resources to provide dependable service.
- **Financial Sustainability (Affordable)** – Implement sound fiscal strategies to support the BWS mission.

Accomplishments

BWS employees work diligently to provide safe, dependable and affordable water service to customers by concentrating their efforts to achieve the BWS’s strategic goals:

- **Resource Sustainability (Safe)**
 - Conducted 26,105 chemical tests, 23,407 microbiological tests, and collected 24,587 samples from BWS sources, distribution systems, and treatment facilities to ensure all water served is safe to drink; tests performed during fiscal year 2022 included regulatory compliance and groundwater quality testing, monitoring selected BWS wells for petroleum chemicals in response to the 2014 Red Hill fuel tank release, and answering customer inquiries about water quality.
 - Responded, and continue to respond, to the Navy’s Red Hill Underground Bulk Fuel Storage Facility crisis that resulted in the closure of the Halawa Shaft, one of Oahu’s largest pumping stations, and two additional wells in the ‘Aiea/Halawa area; BWS significantly increased public communications urging water conservation, including extensive outreach with more than 200 meetings with community groups, businesses, and government entities.

**Board of Water Supply
City and County of Honolulu
Introduction (Unaudited)
Year Ended June 30, 2022**

- In June 2022, BWS completed its annual production and delivery of the Consumer Confidence Report, also known as the Water Quality Report, to all BWS customers. The report provides information on the quality of the water delivered from the BWS system and was mailed to all customers on record and is also available at www.boardofwatersupply.com. The BWS also placed ads in Honolulu newspapers, including various ethnic language publications, to inform community members of the distribution.
- Issued \$128,021 in rebates and achieved an estimated freshwater savings of more than 11 million gallons per year through the BWS water conservation rebate program for efficient clothes washing machines, rain barrels, and weather-based irrigation controllers.
- The BWS sponsored its 44th annual Water Conservation Week Poster Contest and the 14th annual Water Conservation Week Poetry Contest. Due to the impact of COVID-19, we saw a significant increase in entries receiving 684 posters and 315 poems from 38 Oahu schools, focused on the theme “Conserve Today for Tomorrow.” All winning entries will be featured in the 2023 Water Conservation Calendar scheduled for distribution in December 2022.
- **Operational Sustainability (Dependable)**
 - Responded to 370 main breaks, or about 18 breaks per 100 miles of pipeline, and conducted leak detection surveys for 482 points of interest, which resulted in the Leak Detection Team finding and repairing 703 leaks before major property damages or system interruptions occurred.
 - BWS staff helped protect Oahu’s water resources and prevent damage to BWS infrastructure by handling 9,384 One Call underground pipeline location requests and providing in-field support for 609 water line leaks and breaks. In fiscal year 2022, 17,002 meter investigations were conducted to ensure accurate and timely billing and assisted 4,827 customers with concerns about bills reflecting high water consumption. BWS staff assisted 115,944 customers: 88,275 (76.1%) by phone, 26,861 (23.2%) via web requests, and 808 (0.7%) in-person.
- **Financial Sustainability (Affordable)**
 - The BWS Series 2022 water revenue bonds are rated AAA by S&P Global and AA+ by Fitch Ratings. This allows the board to access capital financing at reasonable rates.
 - As of June 30, 2022, the BWS awarded nearly \$66 million in construction contracts and more than \$18 million in professional service contracts for projects to maintain and improve water system facilities, including:
 - Well and booster stations, reservoirs, and corporation yards, and for the systematic replacement of aging and corroded water mains and fire protection improvements.
 - Initiated design work for future construction of more than 14 miles of water main replacements in the Haleiwa, Kaimuki, Kaneohe, Kapahulu, Liliha, Makiki, Nuuanu, Sunset Beach, and Wahiawa areas.

Board of Water Supply
City and County of Honolulu
Introduction (Unaudited)
Year Ended June 30, 2022

- Awarded design and construction contracts for renovations and improvements of the following BWS facilities: Beretania Complex, Haiku Well & Chlorinator, Halawa 550 Reservoir, Hawai'i Loa Booster No. 2, Heeia Corporation Yard, Kaamilo Booster, Kaamilo Wells, Kalihi 614 Reservoir, Kamaile Wells, Koko Head 405 Reservoir, Kunia 228 Reservoirs 1 and 2, Well I and Granular Activated Carbon Plant 2, Lai Tunnel, Makaha Shaft, Mililani Wells II, Pearl City Booster No. 3, St. Louis Heights Booster No. 3, Wahiawa 1361 Reservoir No. 1, Waialae Iki Booster No. 1, Waiau Booster No. 2, Waihee Line Booster, Waimanalo Tunnel I and II, Waipahu Wells III, Waipio Heights Wells, Waipio Heights Wells I, and Waipio Heights Wells II.
- Awarded construction contracts for the construction of a monitoring well in Halawa Valley near the Navy Red Hill Underground Bulk Fuel Storage Facility and to drill, case, install, test pump, and sample three exploratory wells in Kunia.
- BWS processes payments through various methods: automatic bill payment (34.7%), lockbox (27.7%), online customer portal (19.2%), other electronic payments (8.1%), BWS Cashiers (5.3%), Call Center (2.3%), automated pay-by-phone (2.2%), and Satellite City Hall locations (0.5%).



Report of Independent Auditors

To the Board of Directors
Board of Water Supply
City and County of Honolulu

Opinion

We have audited the accompanying financial statements of the Board of Water Supply (“BWS”), a component unit of the City and County of Honolulu (the “City”), as of and for the year ended June 30, 2022, and the related notes to the financial statements, which collectively comprise the BWS’s basic financial statements as listed in the index.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the BWS as of June 30, 2022, and the changes in its financial position and cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis of Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditors’ Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the BWS, and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Emphasis of Matter

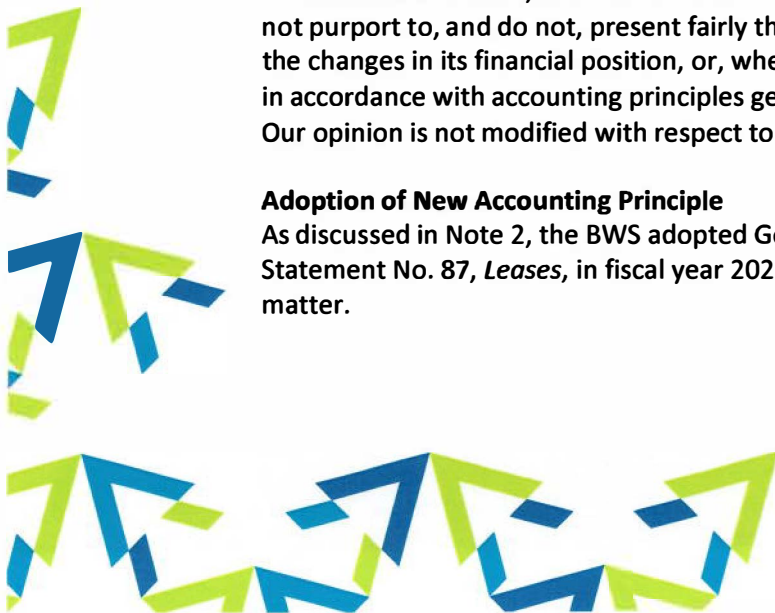
As discussed in Note 2, the financial statements present only the activities of the BWS, and do not purport to, and do not, present fairly the financial position of the City as of June 30, 2022, the changes in its financial position, or, where applicable, its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Adoption of New Accounting Principle

As discussed in Note 2, the BWS adopted Governmental Accounting Standards Board (“GASB”) Statement No. 87, *Leases*, in fiscal year 2022. Our opinion is not modified with respect to this matter.

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Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America and for the design, implementation and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.


In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate that raise substantial doubt about the BWS's ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with generally accepted auditing standards and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with generally accepted auditing standards and *Government Auditing Standards*, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the BWS's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the BWS's ability to continue as a going concern for a reasonable period of time.



We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis on pages 9 through 15 and the schedules of proportionate share of the net pension liability, pension contributions, changes in the net OPEB liability and related ratios, and OPEB contributions on pages 54 through 58 be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.


Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that comprise the BWS's basic financial statements. The schedules of bonds payable and net revenue requirement are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The schedules of bonds payable and net revenue requirement are the responsibility of management and was derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedules of bonds payable and net revenue requirement are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the introduction but does not include the basic financial statements and our auditors' report thereon. Our opinion on the basic financial statements does not cover the other information, and we do not express an opinion or any form of assurance thereon.



In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated November 30, 2022 on our consideration of the BWS's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts and grant agreements, and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the BWS's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the BWS's internal control over financial reporting and compliance.

Accuity LLP

Honolulu, Hawaii
November 30, 2022

**Board of Water Supply
City and County of Honolulu
Management's Discussion and Analysis (Unaudited)
June 30, 2022**

This section presents management's discussion and analysis ("MD&A") of the financial condition and activities for the Board of Water Supply, City and County of Honolulu ("BWS") for the year ended June 30, 2022. This information should be read in conjunction with the BWS's basic financial statements.

Financial Highlights

The BWS implemented the fourth of five rate increases in July 2021 to meet cost of delivering water to customers and to support the continuation of the capital improvements needed to meet the mission of the Board of Water Supply. In fiscal year 2022, water rates increased by approximately 4%, which equates to \$3.20 of the monthly water charges for an average single-family residential customer effective July 1, 2021.

The BWS maintains a relatively strong financial performance with a manageable capital program. Meanwhile, management continues to carefully evaluate the BWS's finances to ensure optimum performance. In addition to meeting all debt covenants, outstanding debt and cash reserves were kept at levels appropriate for maintaining favorable bond ratings. Key financial highlights are listed below:

- Net position increased \$30.8 million in fiscal year 2022 compared to the \$17.7 million increase in fiscal year 2021.
- Total assets were \$2.0 billion as of June 30, 2022 and \$1.9 billion as of June 30, 2021, which exceeded liabilities by \$1.3 billion as of June 30, 2022 and \$1.2 billion as of June 30, 2021.
- The BWS's unrestricted current assets at June 30, 2022 were 5.9 times its related unrestricted current liabilities compared to 4.6 times at June 30, 2021.
- The BWS's debt-to-equity ratio was 40.8% and 35.4% at June 30, 2022 and 2021, respectively, indicating the continuance of capacity to issue additional debt.

Overview of the Financial Statements

The BWS is a semi-autonomous agency of the City. The financial statements are presented using the economic resources measurement focus and the accrual basis of accounting, whereby revenues and expenses are recognized in the period earned or incurred.

The MD&A represents management's analysis and comments on the BWS's financial condition and performance. Summary financial data, key financial and operational indicators used in the BWS's annual report, budget, bond resolutions, and other management tools were used for this analysis.

The basic financial statements include the statement of net position, statement of revenues, expenses, and changes in net position, statement of cash flows, and notes to the financial statements. The statement of net position presents the resources and obligations of the BWS as of the end of the reporting period. The statement of revenues, expenses, and changes in net position presents the

Board of Water Supply
City and County of Honolulu
Management's Discussion and Analysis (Unaudited)
June 30, 2022

changes in net position for the fiscal year then ended, and the resultant ending net position balance. The statement of cash flows presents changes in cash and cash equivalents (short-term investments with original maturities of three months or less from the date of acquisition), resulting from operating, investing, capital and related financing activities, and non-capital financing activities.

Results of Operations

Condensed Statements of Revenues, Expenses, and Changes in Net Position
(Amounts in thousands)

	2022	2021	2022 – 2021	
			Increase (Decrease)	% Change
Operating revenues	\$ 248,264	\$ 238,003	\$ 10,261	4.3 %
Operating expenses				
Administrative and general	63,969	81,822	(17,853)	(21.8)%
Depreciation	49,776	47,142	2,634	5.6 %
Power and pumping	39,465	32,574	6,891	21.2 %
Other operating expenses	54,169	62,562	(8,393)	(13.4)%
Total operating expenses	207,379	224,100	(16,721)	(7.5)%
Operating income	40,885	13,903	26,982	194.1 %
Nonoperating revenues (expenses)				
Interest income	7,860	7,792	68	0.9 %
Interest expense	(10,925)	(9,761)	(1,164)	11.9 %
Others, net	(26,517)	(9,339)	(17,178)	183.9 %
Total nonoperating expenses	(29,582)	(11,308)	(18,274)	161.6 %
Contributions in aid of construction	19,508	15,150	4,358	28.8 %
Change in net position	\$ 30,811	\$ 17,745	\$ 13,066	73.6 %

Operating revenues for the year ended June 30, 2022 totaled \$248.3 million, an increase of \$10.3 million or 4.3% from the year ended June 30, 2021. This was due to the increase in water consumption for the non-residential class by \$6.1 million, and single-family residential class by \$4.9 million in fiscal year 2022. Such increases were offset by a decrease in multi-family residential class of \$1.3 million.

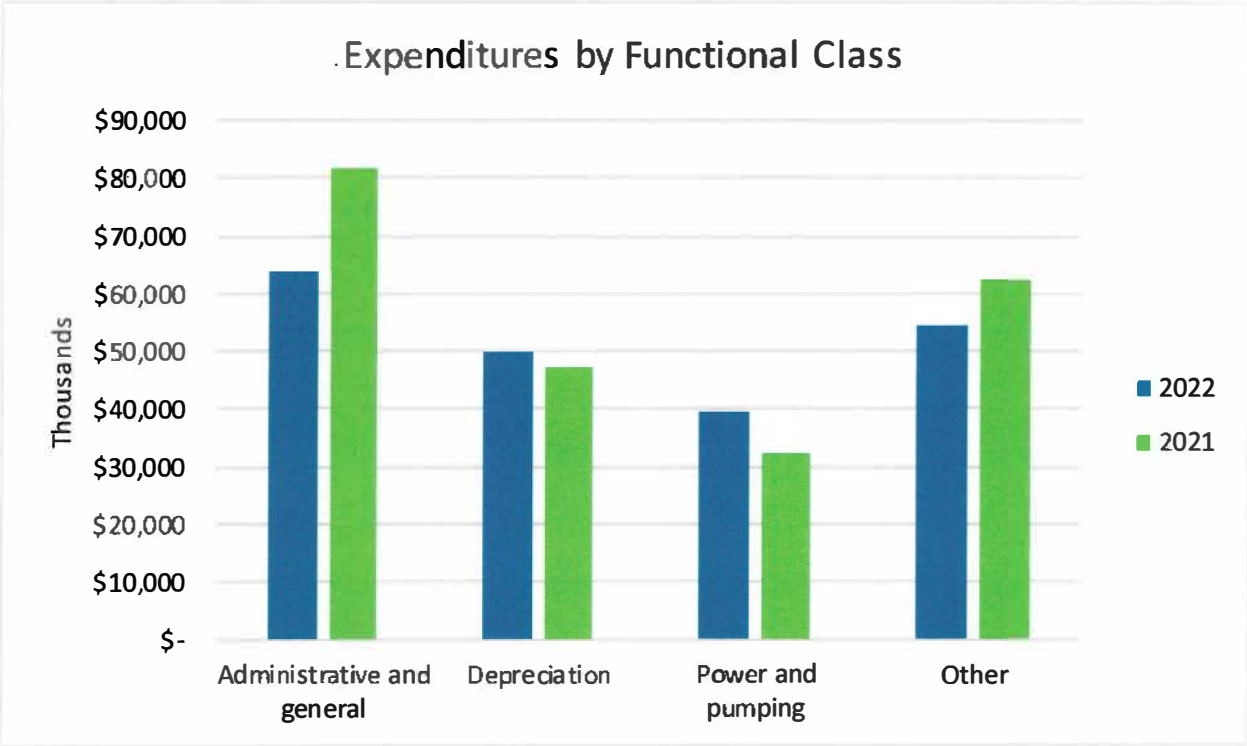
Total operating expenses decreased by \$16.7 million in fiscal year 2022. Factors contributing to this change are explained below:

- Administrative and general decreased by \$17.9 million in fiscal year 2022. The decrease is due to decreases in health benefits for the retirees, proportionate share of pension expenses under accounting principles generally accepted in the United States of America, and transportation distribution charges.
- Power and pumping increased by \$6.9 million in fiscal year 2022 to \$39.5 million compared to \$32.6 million in fiscal year 2021. This increase was due to increases in utility costs.

**Board of Water Supply
 City and County of Honolulu
 Management’s Discussion and Analysis (Unaudited)
 June 30, 2022**

- Other operating expenses decreased by \$8.4 million during fiscal year 2022 mainly due to a decrease in transmission and distribution costs and customers’ accounting and collection. This decrease was offset by an increase in water reclamation.

For the year ended June 30, 2022, net nonoperating revenues (expenses) decreased by \$18.3 million. This was the result of an increase in net realized and unrealized loss on investments of \$17.6 million.



Contributions in aid of construction result from Water System Facilities Charges (“WSFC”) that are levied against all new developments and residential properties requiring water from the BWS’s systems, except those developments that have paid for and installed a complete water system, including sources, transmission, and daily storage facilities. In addition, contributions of capital assets from governmental agencies, developers and customers are recorded as contributions in aid of construction at their cost. The BWS realized contributions in aid of construction of \$19.5 million in fiscal year 2022 compared to \$15.1 million in fiscal year 2021. The increase was primarily due to an increase in contributions by private developers of \$7.5 million and a decrease of \$2.4 million in WSFC collections. During the year ended June 30, 2022, the major developments were Ho’opili Development Phase 2, Backbone Roadway Improvements, Ewa by Gentry Area 31 Site Improvements, Increment 2, and Koa Ridge Road “A” Phase 1.

Board of Water Supply
City and County of Honolulu
Management's Discussion and Analysis (Unaudited)
June 30, 2022

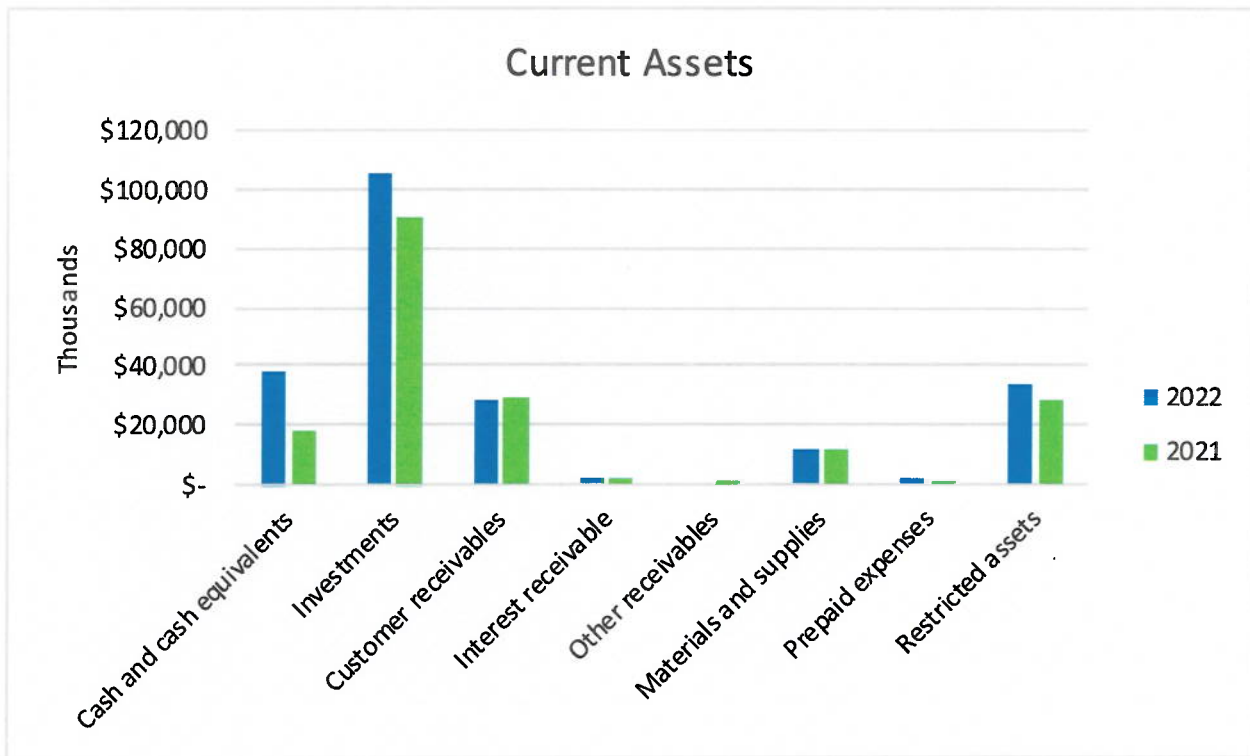
Financial Condition

Condensed Statements of Net Position
(Amounts in thousands)

	2022	2021	2022 – 2021	
			Increase (Decrease)	% Change
Current assets	\$ 223,138	\$ 185,152	\$ 37,986	20.5 %
Noncurrent assets				
Capital assets, net	1,334,941	1,302,822	32,119	2.5 %
Investments	285,596	315,325	(29,729)	(9.4)%
Restricted and other assets	201,259	131,485	69,774	53.1 %
Total assets	<u>2,044,934</u>	<u>1,934,784</u>	<u>110,150</u>	<u>5.7 %</u>
Deferred outflows of resources	44,773	59,546	(14,773)	(24.8)%
Total assets and deferred outflows of resources	<u>\$ 2,089,707</u>	<u>\$ 1,994,330</u>	<u>\$ 95,377</u>	<u>4.8 %</u>
Current liabilities	\$ 65,991	\$ 62,615	\$ 3,376	5.4 %
Noncurrent liabilities				
Bonds payable, noncurrent	391,396	316,115	75,281	23.8 %
Notes payable, noncurrent	118,582	114,474	4,108	3.6 %
Net pension liability	106,764	132,989	(26,225)	(19.7)%
Net OPEB liability	42,752	67,508	(24,756)	(36.7)%
Other liabilities	16,602	15,938	664	4.2 %
Total liabilities	<u>742,087</u>	<u>709,639</u>	<u>32,448</u>	<u>4.6 %</u>
Deferred inflows of resources	48,648	16,530	32,118	194.3 %
Net position				
Net investment in capital assets	1,021,085	977,271	43,814	4.5 %
Restricted for capital activity and debt service	24,790	29,404	(4,614)	(15.7)%
Unrestricted	253,097	261,486	(8,389)	(3.2)%
Total net position	<u>1,298,972</u>	<u>1,268,161</u>	<u>30,811</u>	<u>2.4 %</u>
Total liabilities, deferred inflows of resources, and net position	<u>\$ 2,089,707</u>	<u>\$ 1,994,330</u>	<u>\$ 95,377</u>	<u>4.8 %</u>

The BWS's current assets were 3.4 and 3.0 times its related current liabilities as of June 30, 2022 and 2021, respectively. The ratio increase at June 30, 2022 was due to increases in cash and cash equivalents of \$27.3 million and investments of \$12.3 million.

**Board of Water Supply
City and County of Honolulu
Management's Discussion and Analysis (Unaudited)
June 30, 2022**



Noncurrent restricted and other assets increased by \$69.8 million in fiscal year 2022. The increase was primarily due to the receipt of Series 2022A net bond proceeds of \$93.4 million during fiscal year 2022.

Bonds payable increased by \$77.3 million as of June 30, 2022. The increase is also attributed to the issuance of Series 2022A Bonds that resulted in the receipt of net bond proceeds of \$93.4 million during fiscal year 2022, offset by scheduled debt service payments in fiscal year 2022.

Notes payable increased by \$4.7 million as of June 30, 2022. The increase is due to the receipt of loan proceeds for new projects utilizing financing from the state revolving fund loan program totaling \$11.6 million.

The net pension liability decreased by \$26.2 million as of June 30, 2022, which was mainly due to a decrease in the BWS's proportionate share of the collective net pension liability and favorable net difference between projected and actual investment earnings.

The net OPEB liability decreased by \$24.8 million as of June 30, 2022, which was mainly due to a decrease in the OPEB expense and favorable net difference between projected and actual investment earnings.

**Board of Water Supply
City and County of Honolulu
Management's Discussion and Analysis (Unaudited)
June 30, 2022**

Capital Assets and Long-Term Debt

During fiscal years 2022 and 2021, the BWS capitalized \$80.6 million and \$58.8 million, respectively, to its utility plant in service. Major assets added in fiscal year 2022 were assets completed under energy savings performance programs, \$13.2 million; Wahiawa Water System Improvements, Part 1A, \$9.2 million; Honouliuli Water Recycling Facility Improvements, \$8.2 million; Lanikai Water System Improvements, Part II, \$5.9 million; and Diamond Head Water System Improvements, Part II, \$4.6 million.

The BWS issues long-term bonds to finance part of its capital improvement program. The BWS has maintained a low debt-to-equity ratio at 40.8% and 35.4% as of June 30, 2022 and 2021, respectively.

All outstanding bonds have been assigned underlying ratings of AAA from S&P Global and AA+ from Fitch Ratings.

Rate Covenant

The BWS is required under its bond indenture, among other things, to fix, charge and collect such rates and other charges in each fiscal year to meet the net revenue requirement for such fiscal year. The net revenue requirement is the greater of 1) the sum of the aggregate debt service and all deposits required by bond resolution to be made, or 2) 1.20 times the aggregate debt service. The BWS met the net revenue requirements for the year ended June 30, 2022.

Novel Coronavirus (COVID-19)

The unprecedented outbreak of COVID-19 caused economic and operational uncertainties for government and the private sectors beginning in 2020. In 2022, the BWS did not see a significant overall impact to revenues. Annual residential revenues increased by \$3.7 million or 2%. Annual non-residential revenues increased by \$6.1 million or 8%.

Total revenue increased by \$10.3 million or 4%. The delinquency rate was 10.95% and 10.06% for fiscal years 2022 and 2021, respectively.

To assist with the costs incurred by COVID-19, the BWS received CARES funding of approximately \$902,000 in fiscal year 2021. BWS did not receive CARES funding in FY 2022.

Red Hill Bulk Fuel Storage Facility

The U.S. Navy's Red Hill Bulk Fuel Storage Facility ("RHBFSS") consists of 20 steel-lined underground storage tanks that were built from 1940 to 1943. Each tank is 100 feet in diameter and 250 feet tall. The RHBFSS can store up to 250 million gallons of fuel. The tanks are located 100 feet above the groundwater aquifer that the Navy uses to provide water to Pearl Harbor and that the BWS also uses to provide drinking water to its metropolitan Honolulu water system, spanning from Moanalua Valley to Hawaii Kai. Following a 27,000-gallon leak of jet fuel in January 2014, the Navy entered into an Administrative Order of Consent with the U.S. Environmental Protection Agency and Hawaii State

**Board of Water Supply
City and County of Honolulu
Management's Discussion and Analysis (Unaudited)
June 30, 2022**

Department of Health to conduct various studies to improve tank inspection and repair and maintenance practices, understand the condition of the tanks, identify upgrade alternatives, assess the risk of future leaks, determine the area's groundwater flow direction, and investigate and remediate releases.

The Navy's RHBFSF experienced additional leaks in 2021. On December 2, 2021, the BWS shut down the Halawa Shaft pumping station to prevent any fuel contamination of the BWS Honolulu water system. The Halawa Shaft delivers 20% of the water delivered to the metropolitan Honolulu water system. On December 8, 2021, the BWS also shut down its Aiea Well and Halawa Well to prevent such contamination.

The BWS is pumping at higher rates from other well stations that also serve metropolitan Honolulu to make up for the production loss from shutting down the Halawa Shaft, Aiea Well and Halawa Well. This condition is being monitored closely as extended pumping at higher rates can cause water salinity levels to rise and affect both the aquifer and the water pumped. Presently, the situation with the BWS wells serving urban Honolulu is stable. However, extended closure of these three sources could result in mandatory water conservation measures and moratoriums on new water use to prevent the effects of over pumping other well stations.

On March 7, 2022, Lloyd Austin, Secretary of Defense, announced that the Navy would permanently close the RHBFSF. However, the timeline has yet to be determined. The Navy is still working to determine the amount of fuel that entered the aquifer affecting its Red Hill Shaft water source. This finding is critical to determining whether the Red Hill Shaft can be treated to remove the contamination.

On August 4, 2022, polycyclic aromatic hydrocarbons ("PAH"), chemicals indicating petroleum contamination, were detected in BWS ground water monitoring well DH-43 located in Moanalua Valley. The individual PAH levels are very low and not expected to pose a significant threat to human health or the environment. Further study is warranted to assess the long-term impact to the aquifer. The BWS will increase its testing of these wells in response to this incident. The closure of the BWS sources was done to prevent any petroleum contamination in the aquifer from reaching those sources and ultimately entering the BWS urban Honolulu water system.

The BWS is tracking the costs of its actions in response to this incident. The BWS cannot predict the ultimate costs of these actions or whether and to what extent it will be reimbursed by the Navy. The BWS's 2018 Long Range Financial Plan developed a scenario for handling a major water source contamination event. The related financial impact on the BWS's financial statements cannot be reasonably determined at this time.

Requests for Information

This financial report is designed to provide a general overview of the BWS's finances. Questions concerning any of the information provided in this report or request for additional financial information should be addressed to the Board of Water Supply, City and County of Honolulu, 630 S. Beretania Street, Honolulu, Hawaii 96843.

**Board of Water Supply
City and County of Honolulu
Statement of Net Position
June 30, 2022**

Assets

Current assets

Cash and cash equivalents	\$ 38,289,885
Investments	105,671,743
Interest receivable	1,861,848
Customer receivables	
Billed, less allowance for uncollectible accounts of approximately \$4,338,000	16,309,259
Unbilled	12,183,672
Other receivables, less allowance for uncollectible accounts of approximately \$511,000	880,721
Materials and supplies	11,691,455
Prepaid expenses	2,579,085
Restricted assets	
Cash and cash equivalents	33,670,807
Total current assets	<u>223,138,475</u>

Noncurrent assets

Capital assets	
Infrastructure	1,656,768,159
Building and improvements	203,251,118
Equipment and machinery	393,625,792
	<u>2,253,645,069</u>
Less: Accumulated depreciation and amortization	<u>(1,209,810,571)</u>
	1,043,834,498
Land	32,370,754
Construction work in progress	258,735,549
Net capital assets	<u>1,334,940,801</u>
Investments	285,595,822
Restricted assets	
Cash and cash equivalents	7,312,449
Investments	191,668,849
Other assets	2,277,884
Total noncurrent assets	<u>1,821,795,805</u>
Total assets	<u>2,044,934,280</u>

Deferred Outflows of Resources

Deferred loss on refunding of debt and other	14,537,093
Deferred outflows of resources related to pensions	20,231,128
Deferred outflows of resources related to OPEB	10,004,443
Total deferred outflows of resources	<u>44,772,664</u>
Total assets and deferred outflows of resources	<u>\$ 2,089,706,944</u>

The accompanying notes are an integral part of these financial statements.

**Board of Water Supply
City and County of Honolulu
Statement of Net Position
June 30, 2022**

Liabilities

Current liabilities

Payable from current assets

Accounts payable	\$ 16,932,862
Contracts payable, including retainages	8,200,083
Accrued vacation, current portion	2,844,638
Accrued workers' compensation, current portion	1,309,364
Other	3,032,751

Total payable from current assets	32,319,698
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Payable from restricted assets

Contracts payable, including retainages	7,394,196
Accrued interest payable	5,631,152
Bonds payable, current portion	13,145,000
Notes payable, current portion	7,500,459

Total payable from restricted assets	33,670,807
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Total current liabilities	65,990,505
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Noncurrent liabilities

Bonds payable, noncurrent portion	391,396,465
Notes payable, noncurrent portion	118,582,200
Net pension liability	106,763,854
Net OPEB liability	42,752,135
Accrued vacation, noncurrent portion	5,013,829
Accrued workers' compensation	3,164,500
Customer advances	1,818,922
Claims liabilities	3,054,319
Other	3,549,983

Total noncurrent liabilities	676,096,207
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Total liabilities	742,086,712
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Deferred Inflows of Resources

Deferred inflows of resources related to pensions	23,925,176
Deferred inflows of resources related to OPEB	22,425,547
Deferred inflows of resources related to leases	2,297,562

Total deferred inflows of resources	48,648,285
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Net Position

Net investment in capital assets	1,021,084,895
Restricted for capital activity and debt service	24,789,828
Unrestricted	253,097,224

Total net position	1,298,971,947
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Total liabilities, deferred inflows of resources, and net position	\$ 2,089,706,944
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The accompanying notes are an integral part of these financial statements.

Board of Water Supply
City and County of Honolulu
Statement of Revenues, Expenses, and Changes in Net Position
Year Ended June 30, 2022

Operating revenues	
Water sales	\$ 245,739,167
Other, principally contract and service fees	2,524,401
Total operating revenues	<u>248,263,568</u>
Operating expenses	
Administrative and general	63,969,337
Depreciation	49,775,718
Power and pumping	39,465,297
Transmission and distribution	24,381,010
Maintenance	16,531,707
Water reclamation	5,890,727
Customers' accounting and collection	4,065,097
Central administrative services expense fees	3,300,000
Source of supply	319
Total operating expenses	<u>207,379,212</u>
Operating income	40,884,356
Nonoperating revenues (expenses)	
Interest income	7,860,531
Interest expense, net of amortization of bond premiums of approximately \$2,539,000	(10,925,226)
Bond issuance costs	(693,645)
Loss from disposal of capital assets	(516,608)
Net decrease in the fair value of investments	(26,649,073)
Federal grant revenue	1,206,973
Other	135,465
Total nonoperating expenses, net	<u>(29,581,583)</u>
Contributions in aid of construction	19,507,765
Change in net position	<u>30,810,538</u>
Net position	
Beginning of year	1,268,161,409
End of year	<u>\$ 1,298,971,947</u>

The accompanying notes are an integral part of these financial statements.

Board of Water Supply
City and County of Honolulu
Statement of Cash Flows
Year Ended June 30, 2022

Cash flows from operating activities	
Cash received from customers	\$ 250,566,995
Payments to suppliers for goods and services	(101,236,831)
Payments to employees for services	(60,821,620)
Net cash provided by operating activities	<u>88,508,544</u>
Cash flows from capital and related financing activities	
Acquisition and construction of capital assets	(74,992,629)
Customer payments for capital projects	9,105,700
Federal grants received	1,017,240
Net proceeds from bond issuance	93,350,000
Principal paid on bonds	(11,125,000)
Interest paid on bonds	(9,537,616)
Advanced refunding of previously issued debt	(3,249,181)
Proceeds from notes payable	11,608,604
Interest paid on notes payable	(1,602,900)
Principal paid on notes payable	(6,937,538)
Lease receipts	137,539
Lease payments	(298,043)
Net cash provided by capital and related financing activities	<u>7,476,176</u>
Cash flows from investing activities	
Purchase of investments	(213,785,432)
Proceeds from maturity of investments	144,384,718
Interest on investments	8,054,979
Net cash used in investing activities	<u>(61,345,735)</u>
Net increase in cash and cash equivalents	34,638,985
Cash and cash equivalents	
Beginning of year	<u>44,634,156</u>
End of year	<u>\$ 79,273,141</u>
Reconciliation of cash and cash equivalents to the statement of net position	
Unrestricted	\$ 38,289,885
Restricted	40,983,256
	<u>\$ 79,273,141</u>

The accompanying notes are an integral part of these financial statements.

**Board of Water Supply
City and County of Honolulu
Statement of Cash Flows
Year Ended June 30, 2022**

**Reconciliation of operating income to
net cash provided by operating activities**

Operating income	\$ 40,884,356
Adjustments to reconcile operating income to net cash provided by operating activities	
Depreciation and amortization	52,086,254
Provision for doubtful accounts	(431,111)
Change in assets, deferred outflows of resources, liabilities, and deferred inflows of resources	
Customer receivables	1,693,896
Other receivables	634,962
Materials and supplies	575,949
Prepaid expenses and other	(1,007,583)
Deferred outflows of resources related to pensions	8,560,512
Deferred outflows of resources related to OPEB	4,773,660
Accounts and contracts payable	3,603,189
Accrued vacation	(15,169)
Accrued workers' compensation	(601,940)
Other liabilities	(1,088,856)
Net pension liability	(26,225,216)
Net OPEB liability	(24,755,714)
Deferred inflows of resources related to pensions	16,888,618
Deferred inflows of resources related to OPEB	12,932,737
Net cash provided by operating activities	<u>\$ 88,508,544</u>

**Supplemental disclosure of noncash investing, capital
and related financing activities**

Changes in fair value of investments	\$ (26,649,073)
Contributions of capital assets from government agencies, developers and customers that are recorded as contributions in aid of construction	11,568,372
Capital asset additions included in contracts and accounts payable at year-end	15,594,240
Bond proceeds deposited directly with escrow agent for refunding of previously issued debt	52,298,241
Bond issuance costs deducted from bond proceeds	693,645
Amortization of bond premium, net, and other costs	2,539,438
Amortization of deferred loss on refunding	1,601,346

The accompanying notes are an integral part of these financial statements.

**Board of Water Supply
City and County of Honolulu
Notes to Financial Statements
June 30, 2022**

1. Operations

The Revised Charter of the City and County of Honolulu provides for the operation of the Board of Water Supply (“BWS”) as a semi-autonomous body of the City and County of Honolulu government (the “City”). The BWS has full and complete authority to manage, control and operate the City’s water system and related properties.

Article VII of the Revised Charter of the City and County of Honolulu states that the BWS’s seven-member Board of Directors has the authority to establish and adjust water rates and charges so that the revenues derived shall be sufficient to make the BWS self-supporting. The Board of Directors is required to follow certain procedures that include holding public hearings before implementing changes in the water rate schedules.

2. Summary of Significant Accounting Policies

Financial Statement Presentation

The BWS is a component unit of the City (the “primary government”). The accompanying financial statements present only the financial position and activities of the BWS and do not purport to, and do not present the financial position of the City, the changes in its financial position, or its cash flows.

Measurement Focus and Basis of Accounting

The accompanying financial statements are presented using the economic resources measurement focus and the accrual basis of accounting. Under this method, revenues are recorded when earned and expenses are recorded at the time liabilities are incurred.

Use of Estimates

The preparation of the financial statements in accordance with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets, deferred outflows of resources, liabilities, deferred inflows of resources, and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant items subject to such estimates and assumptions include the carrying amount of capital assets, valuation allowances for receivables, accrued workers’ compensation, and pensions and postretirement benefits. Actual results could differ from those estimates.

Cash and Cash Equivalents

The BWS considers all cash on hand, demand deposits, and short-term investments (including restricted assets) with original maturities of three months or less from the date of acquisition to be cash and cash equivalents.

Board of Water Supply
City and County of Honolulu
Notes to Financial Statements
June 30, 2022

Investments

Investments are measured at fair value. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The cost of securities sold is generally determined by the weighted average method.

Receivables

Receivables are recorded at the invoiced amount and do not bear interest. The allowance for doubtful accounts is the BWS's best estimate of the amount of probable credit losses in the BWS's existing receivables. The BWS determines the allowance based on past collection experience and the length of time individual receivables are past due. Account balances are charged off against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote.

Materials and Supplies

Materials and supplies are stated at weighted average cost (which approximates the first-in, first-out method). The cost of materials and supplies are recorded as expenses when consumed rather than when purchased.

Restricted Assets

Restricted assets are comprised of cash and cash equivalents and investments maintained in accordance with bond resolutions and other agreements for the purpose of funding certain debt service payments, construction, improvements, and renewal and replacements of the water system. When both restricted and unrestricted assets are available for use, it is the BWS's policy to use restricted assets first, then unrestricted assets as they are needed. Restricted assets comprise the following:

- The debt service account accumulates transfers from the operating account throughout the fiscal year to make principal and interest payments on the outstanding water system revenue bonds and other notes payable.
- The renewal and replacement account and the reserve release fund provide funding for improvements, reconstruction, emergency or extraordinary repairs, and renewals or replacements of the water system.
- The improvement account holds the proceeds of the series bond issuance pursuant to the series resolution or series certificates. These proceeds are only applied to costs specified in the applicable series resolution or series certificates.
- The extramural account holds reimbursements received from any governmental agency or private entity, pursuant to negotiated agreements, contracts and/or grants.

**Board of Water Supply
City and County of Honolulu
Notes to Financial Statements
June 30, 2022**

Capital Assets

Capital assets include those assets in excess of \$5,000 for buildings, infrastructure, and equipment and machinery with a useful life of more than one year. Capital assets are stated at cost and include contributions by governmental agencies, private subdividers, and customers at their cost or estimated cost of new construction.

Major replacements, renewals and betterments are capitalized. The BWS also capitalizes certain indirect costs to construction work based upon actual construction direct labor. Maintenance, repairs and replacements that do not improve or extend the lives of the assets are charged to expense.

Assets are depreciated over the individual assets' estimated useful lives using the straight-line method. Depreciation on both purchased and contributed assets is charged against operations.

The estimated useful lives of capital assets are as follows:

Source of supply plant	20 to 100 years
Pumping plant	20 to 50 years
Water treatment plant	20 to 30 years
Transmission and distribution plant	13-1/3 to 50 years
General plant	5 to 50 years

Gains or losses resulting from the sale, retirement or disposal of capital assets in service are credited or charged to nonoperating revenues (expenses).

Leases – Lessee

The BWS has a policy to recognize a lease liability and a right-to-use lease asset ("lease asset") in the statement of net position. The BWS recognizes lease liabilities with an initial, individual value of \$5,000 or more and a lease term greater than one year. Variable payments based on future performance of the lessee or usage of the underlying asset are not included in the measurement of the lease liability.

At the commencement of a lease, the BWS initially measures the lease liability at the present value of payments expected to be made during the lease term. Subsequently, the lease liability is reduced by the principal portion of lease payments made.

Lease assets are recorded at the amount of the initial measurement of the lease liabilities and modified by any lease payments made to the lessor at or before the commencement of the lease term, less any lease incentives received from the lessor at or before the commencement of the lease term along with any initial direct costs that are ancillary charges necessary to place the lease asset into service. Lease assets are amortized using the straight-line method over the shorter of the lease term or the useful life of the underlying asset, unless the lease contains a purchase option that the BWS has determined reasonably certain of being exercised. In this case, the lease asset is amortized over the useful life of the underlying asset.

**Board of Water Supply
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Notes to Financial Statements
June 30, 2022**

Key estimates and judgments related to leases include how the BWS determines (1) the discount rate it uses to discount the expected lease payments to present value, (2) the lease term, and (3) lease payments.

- The BWS uses the interest rate charged by the lessor as the discount rate. When the interest rate charged by the lessor is not provided, the BWS generally uses its estimated incremental borrowing rate as the discount rate for leases.
- The lease term includes the noncancellable period of the lease as well as any periods covered by the BWS's option to extend the lease if it is reasonably certain, based on all relevant factors, that the BWS will exercise that option. Lease payments included in the measurement of the lease liability are composed of fixed payments and purchase option price that the BWS is reasonably certain to exercise.

The BWS monitors changes in circumstances that would require a remeasurement of its lease and will remeasure any lease asset and liability if certain changes occur that are expected to significantly affect the amount of the lease liability. The BWS's lease assets and lease liabilities are recorded in equipment and machinery and other noncurrent liabilities, respectively, in the statement of net position.

Leases – Lessor

The BWS is a lessor for leases of special purpose utility facilities, office and commercial space. The BWS recognizes lease receivables and deferred inflows of resources in the financial statements with an initial, individual value of \$5,000 or more and a lease term greater than one year. Variable payments based on future performance of the lessee or usage of the underlying asset are not included in the measurement of the lease receivable.

At the commencement of a lease, the BWS initially measures the lease receivable at the present value of payments expected to be received during the lease term. Subsequently, the lease receivable is reduced by the principal portion of the lease payments received. The deferred inflows of resources are initially measured as the initial amount of the lease receivable, adjusted for lease payments received at or before the lease commencement date. Subsequently, the deferred inflows of resources are recognized as revenue over the life of the lease term in a systematic and rational method.

Key estimates and judgments include how the BWS determines (1) the discount rate it uses to discount the expected lease receipts to present value, (2) the lease term, and (3) lease receipts.

- The BWS uses its estimated incremental borrowing rate as the discount rate.
- The lease term includes the noncancellable period of the lease as well as any periods covered by the lessee's option to extend the lease if it is reasonably certain, based on all relevant factors, that the lessee will exercise that option. Lease receipts included in the measurement of the lease receivable are composed of fixed payments from the lease.

Board of Water Supply
City and County of Honolulu
Notes to Financial Statements
June 30, 2022

The BWS monitors changes in circumstances that would require a remeasurement of its lease and will remeasure the lease receivable and deferred inflows of resources if certain changes occur that are expected to significantly affect the amount of the lease receivable. The BWS's lease receivables are recorded in other assets in the statement of net position.

Bond Issue Prepaid Insurance Costs, Original Issue Discounts or Premiums, and Deferred Loss on Refunding of Debt

Bond issue costs are expensed when incurred, except for prepaid insurance, which are amortized over the life of the respective issue on a straight-line basis. Bond issue prepaid insurance costs are presented as other assets in the statement of net position.

Original issue discounts or premiums are amortized using the effective interest method over the terms of the respective issues. Original issue discounts or premiums are offset against or added to bonds payable in the statement of net position.

Deferred loss on refunding of debt is amortized using the straight-line method over the remaining life of the refunded debt or the life of the new debt, whichever is shorter. The deferred loss on refunding of debt is presented as deferred outflows of resources in the statement of net position.

Accrued Vacation and Compensatory Pay

Vacation is earned at the rate of one and three-quarters working days for each month of service. Vacation days may be accumulated to a maximum of 90 days as of the end of the calendar year and are convertible to pay upon termination. The BWS accrues a liability for compensated absences and additional amounts for certain salary-related payments including payroll taxes and fringe benefits.

As of June 30, 2022, accumulated sick leave aggregated approximately \$19,568,000. Sick leave accumulates at the rate of one and three-quarters working days for each month of service without limit, but can be taken only in the event of illness and is not convertible to pay upon termination of employment. However, an employee who retires or leaves government service in good standing with 60 or more unused sick days is entitled to additional service credit in the State of Hawaii's Employees' Retirement System.

Net Position

Net position represents the difference between assets and deferred outflows of resources less liabilities and deferred inflows of resources. Net position is classified in the following three components: net investment in capital assets, restricted for capital activity and debt service, and unrestricted. Net investment in capital assets consists of capital assets, net of accumulated depreciation and reduced by outstanding debt that is attributable to the acquisition, construction or improvement of those assets. Debt related to unspent proceeds or other restricted cash and investments at year-end is not included in the calculation of net investment in capital assets. Restricted for capital activity and debt service consists of net position for which constraints are placed thereon by external parties, such as lenders, grantors, contributors,

**Board of Water Supply
City and County of Honolulu
Notes to Financial Statements
June 30, 2022**

laws, regulations or enabling legislation. Unrestricted consists of the remaining balance not included in the above categories.

Operating Revenues and Expenses

The BWS distinguishes operating revenues and expenses from nonoperating items. Operating revenues and expenses generally result from providing services in connection with the BWS's principal ongoing water operations. The principal operating revenues are derived from charges for water usage, while operating expenses include cost of services, administrative expenses, and depreciation on capital assets. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses.

Revenue Recognition

Charges for water sales are based on usage. The BWS's policy is to bill customers on a cyclical monthly basis. The accrual for unbilled water revenues and related receivables reflected in the accompanying financial statements is based on estimated usage from the latest meter reading date to the end of the fiscal year.

Contributions in Aid of Construction

Contributions in aid of construction represent cash or capital assets received by the BWS to aid in the construction of infrastructure assets. It also includes the forgiveness of principal due on state revolving fund loans that were used to finance the costs of infrastructure needed to maintain the water system. Contributions in aid of construction are recognized when they are accepted by the BWS and when all applicable eligibility requirements have been met.

Water System Facilities Charge

A water system facilities charge is levied against all new developments and residential properties requiring water from the BWS's systems, except those developments that have paid for and installed a complete water system, including source, transmission and daily storage facilities. The amounts collected are initially recorded as customer advances and are recognized as contributions in aid of construction when water service is made available to the customer. The use of these funds is designated for the construction of water facilities.

Pensions

For purposes of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions and pension expense, information about the fiduciary net position of the Employees' Retirement System of the State of Hawaii (the "ERS") and additions to / deductions from the ERS's fiduciary net position have been determined using the accrual basis of accounting, which is the same basis as they are reported by the ERS. For this purpose, employer and member contributions are recognized in the period in which the contributions are legally due, and benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with benefit terms. Investments are reported at fair value.

Board of Water Supply
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Notes to Financial Statements
June 30, 2022

Postemployment Benefits Other Than Pensions (“OPEB”)

For purposes of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense, information about the fiduciary net position of the Hawaii Employer-Union Health Benefits Trust Fund (“EUTF”) and additions to/deductions from the EUTF’s fiduciary net position have been determined on the same basis as they are reported by the EUTF. For this purpose, the EUTF recognizes benefit payments when due and payable in accordance with the benefit terms. Investments are reported at fair value, except for investments in commingled and money market funds, which are reported at net asset value (“NAV”). The NAV is based on the fair value of the underlying assets held by the respective fund less its liabilities.

Deferred Compensation Plan

All full-time employees are eligible to participate in the City and County of Honolulu’s Public Employees’ Deferred Compensation Plan (the “Plan”), adopted pursuant to Internal Revenue Code Section 457. The Plan permits eligible employees to defer a portion of their salary until future years. The deferred compensation amounts are not available to employees until termination, retirement, death or unforeseeable emergency.

A trust fund was established to protect plan assets from claims of general creditors and from diversion to any uses other than paying benefits to participants and beneficiaries. Accordingly, the BWS has excluded the Plan’s assets and liabilities from the financial statements because the BWS and the City do not have significant administrative involvement in the Plan nor perform the investment function for the Plan.

Risk Management

The BWS is exposed to various risks of loss from: (1) torts, (2) theft of, damage to, and destruction of assets, (3) employee injuries and illnesses, (4) natural disasters, and (5) employee health, dental, and accident benefits. Commercial insurance coverage is purchased for claims arising from such matters.

The ranges of insurance limits and deductibles are as follows:

Policy	Limit (in millions)	Deductibles
Property	\$60	\$ 100,000
Public entity liability	15	1,000,000
Excess workers’ compensation	25	600,000
Employment practices	5	100,000
Storage tank liability	5	10,000
Pollution legal liability	5	250,000
Crime	5	25,000
Cyber liability	3	100,000

There have been no significant reductions in insurance coverages from the prior fiscal year.

New Accounting Pronouncements

GASB Statement No. 87

The Governmental Accounting Standards Board (“GASB”) issued Statement No. 87, *Leases*. The objective of this Statement is to better meet the information needs of financial statement users by improving accounting and financial reporting for leases by governments. This Statement requires recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset.

The adoption of Statement No. 87 resulted in the recording of lease assets, lease liabilities, lease receivables, and deferred inflows of resources related to leases at July 1, 2021, in accordance with the provisions of this Statement. Lease liabilities and lease assets of approximately \$925,000 were reported as of July 1, 2021. Lease receivables and deferred inflows of resources related to leases of approximately \$425,000 were reported at July 1, 2021. The adoption of Statement No. 87 did not result in a restatement of beginning net position. Refer to Note 11 for more information on the BWS’s leases.

GASB Statement No. 94

The GASB issued Statement No. 94, *Public-Private and Public-Public Partnerships and Availability Payment Arrangements*. The primary objective of this Statement is to improve financial reporting by addressing issues related to public-private and public-public partnership arrangements (“PPPs”). As used in this Statement, a PPP is an arrangement in which a government (the transferor) contracts with an operator (a governmental or nongovernmental entity) to provide public services by conveying control of the right to operate or use a nonfinancial asset, such as infrastructure or other capital asset (the underlying PPP asset), for a period of time in an exchange or exchange-like transaction. This Statement also provides guidance for accounting and financial reporting for availability payment arrangements (“APAs”). As defined in this Statement, an APA is an arrangement in which a government compensates an operator for services that may include designing, constructing, financing, maintaining or operating an underlying nonfinancial asset for a period of time in an exchange or exchange-like transaction. The requirements of this Statement are effective for reporting periods beginning after June 15, 2022. Management has not yet determined the effect this Statement will have on the BWS’s financial statements.

GASB Statement No. 96

The GASB issued Statement No. 96, *Subscription-Based Information Technology Arrangements*. This Statement provides guidance on the accounting and financial reporting for subscription-based information technology arrangements (“SBITA”) for government end users. This Statement (1) defines a SBITA; (2) establishes that a SBITA results in a right-to-use subscription asset – an intangible asset – and a corresponding subscription liability; (3) provides the capitalization criteria for outlays other than subscription payments, including implementation

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costs of a SBITA; and (4) requires note disclosures regarding a SBITA. The requirements of this Statement are effective for reporting periods beginning after June 15, 2022. Management has not yet determined the effect this Statement will have on the BWS's financial statements.

GASB Statement No. 99

The GASB issued Statement No. 99, *Omnibus 2022*. This Statement enhances comparability in accounting and financial reporting and improves the consistency of authoritative literature by addressing (1) practice issues that have been identified during implementation and application of certain GASB Statements and (2) accounting and financial reporting for financial guarantees. Certain requirements of this Statement are effective upon issuance, while other requirements are effective for periods beginning after June 15, 2022 and periods beginning after June 15, 2023. Management has not yet determined the effect this Statement will have on the BWS's financial statements.

GASB Statement No. 100

The GASB issued Statement No. 100, *Accounting Changes and Error Corrections – an amendment of GASB Statement No. 62*. This statement enhances accounting and financial reporting requirements for accounting changes and error corrections to provide more understandable, reliable, relevant, consistent and comparable information for making decisions or assessing accountability. This Statement is effective for fiscal years beginning after June 15, 2023. Management has not yet determined the effect this Statement will have on the BWS's financial statements.

GASB Statement No. 101

The GASB issued Statement No. 101, *Compensated Absences*. This statement aims to better meet the information needs of financial statement users by updating the recognition and measurement guidance for compensated absences. That objective is achieved by aligning the recognition and measurement guidance under a unified model and by amending certain previously required disclosures. This Statement is effective for fiscal years beginning after December 15, 2023. Management has not yet determined the effect this Statement will have on the BWS's financial statements.

3. Cash and Investments

Cash deposited with the City is maintained by the Department of Budget and Fiscal Services of the City. The City maintains a cash and investment pool that is used by all of the City's Funds and the BWS. The Hawaii Revised Statutes ("HRS") provide for the City's Director of Finance to deposit the cash with any national or state bank or federally insured financial institution authorized to do business in the State of Hawaii, provided that all deposits are fully insured or collateralized. The City's demand deposits are fully insured or collateralized with securities held by the City or its agents in the City's name.

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The HRS authorizes the BWS to invest, with certain restrictions, in obligations of the State of Hawaii or the United States of America, in federally insured savings accounts, time certificates of deposit, and bank repurchase agreements with federally insured financial institutions authorized to do business in the State of Hawaii. The BWS's portfolio is managed by various investment managers. These investments consist of U.S. Treasury obligations and U.S. government agencies securities.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Generally, the longer the term of an investment, the greater the sensitivity of its fair value to changes in market interest rates. As a means of limiting its exposure to fair value losses, the BWS invests operating funds primarily in shorter-term securities, money market mutual funds, or similar investment pools.

Custodial Credit Risk

The custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, a government will not be able to recover deposits or will not be able to recover collateral securities that are in the possession of an outside party. The custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, a government will not be able to recover the value of investment or collateral securities that are in the possession of an outside party. Excluding cash deposited with the City, all cash, money market mutual funds, and investment securities as of June 30, 2022 were held in trust by two financial institutions in the State of Hawaii.

All investment securities are registered in the name of the BWS and are not exposed to custodial credit risk. Money market mutual funds are not considered investment securities for purposes of custodial credit risk classification and are not exposed to custodial credit risk. Cash held in trust with these financial institutions are uncollateralized, however, amounts in excess of depository insurance are covered by commercial insurance obtained by each financial institution designed to insure against losses resulting from errors and omissions or fraud.

Credit Risk and Concentration of Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligation to the holder of the investment. Concentration of credit risk is the risk of a loss attributed to the magnitude of a government's investment in a single issuer. As of June 30, 2022, all investment securities and money market mutual funds were rated Aaa and Aaa-mf, respectively, by Moody's Investors Services. The BWS's concentration of credit risk related to investments in debt securities has been mitigated by limiting such investments to only debt obligations of the U.S. government and U.S. government agencies.

Board of Water Supply
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Notes to Financial Statements
June 30, 2022

The historical cost and estimated fair value of investments at June 30, 2022 consisted of the following:

	Cost	Fair Value
U.S. Treasury obligations	\$ 515,470,146	\$ 497,853,412
U.S. government agencies	88,522,515	85,083,002
	<u>\$ 603,992,661</u>	<u>\$ 582,936,414</u>

As of June 30, 2022, the credit exposure as a percentage of total investments was as follows:

	Percent of Total	Fair Value
U.S. Treasury obligations	85 %	\$ 497,853,412
U.S. government agencies		
Federal National Mortgage Association	6 %	36,400,811
Federal Home Loan Mortgage Corporation	2 %	10,203,702
Federal Home Loan Bank	5 %	30,004,620
Federal Farm Credit Bank	2 %	8,473,869
	<u>100.0 %</u>	<u>\$ 582,936,414</u>

The fair value of investments by contractual maturity at June 30, 2022 is shown below:

	Investment Maturities (In Years)		
	Fair Value	Less Than 1	1 – 5
U.S. Treasury obligations	\$ 497,853,412	\$ 112,601,506	\$ 385,251,906
U.S. government agencies	85,083,002	39,136,376	45,946,626
	<u>\$ 582,936,414</u>	<u>\$ 151,737,882</u>	<u>\$ 431,198,532</u>

4. Restricted Assets

At June 30, 2022, the BWS's restricted assets were comprised of cash, cash equivalents, and investments and were held for the following purposes:

Construction, renewals and replacements	\$ 196,569,637
Debt service	36,082,468
	<u>\$ 232,652,105</u>

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5. Fair Value Measurements

The framework for measuring fair value provides a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value. The hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1) and the lowest priority to unobservable inputs (Level 3). The three levels of the fair value hierarchy are described as follows:

- **Level 1** – Inputs to the valuation methodology are quoted prices (unadjusted) in active markets for identical assets or liabilities that a government can access at the measurement date.
- **Level 2** – Inputs other than quoted prices included within Level 1 that are observable for an asset or liability, either directly or indirectly. If the asset or liability has a specified (contractual) term, the Level 2 input must be observable for substantially the full term of the asset or liability. Level 2 inputs include:
 - Quoted prices for similar assets or liabilities in active markets.
 - Quoted prices for identical or similar assets or liabilities in markets that are not active.
 - Inputs other than quoted prices that are observable for the asset or liability.
 - Inputs that are derived principally from or corroborated by observable market data by correlation or other means.
- **Level 3** – Inputs that are unobservable for an asset or liability.

Following is a description of the valuation techniques used by the BWS to measure fair value:

- **U.S. Treasury obligations** – Valued using quoted prices in active markets for identical assets.
- **U.S. government agencies obligations** – Valued using quoted prices for identical or similar assets in markets that are not active.

The following table sets forth by level, within the fair value hierarchy, assets measured at fair value on a recurring basis as of June 30, 2022:

	Assets at Fair Value			
	Total	Level 1	Level 2	Level 3
U.S. Treasury obligations	\$ 497,853,412	\$ 497,853,412	\$ -	\$ -
U.S. government agencies	85,083,002	-	85,083,002	-
	<u>\$ 582,936,414</u>	<u>\$ 497,853,412</u>	<u>\$ 85,083,002</u>	<u>\$ -</u>

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6. Capital Assets

Capital assets activity during the year ended June 30, 2022 was as follows:

	Balance July 1, 2021 (As Restated)	Additions	Transfers	Retirements	Balance June 30, 2022
Depreciable assets					
Infrastructure	\$ 1,617,263,462	\$ 11,667,101	\$ 29,491,457	\$ (1,653,861)	\$ 1,656,768,159
Building and improvements	194,281,691	60,750	8,933,943	(25,266)	203,251,118
Equipment and machinery	364,500,386	11,561,437	18,873,356	(2,234,378)	392,700,801
Leased equipment and machinery	924,991	-	-	-	924,991
Total depreciable assets	2,176,970,530	23,289,288	57,298,756	(3,913,505)	2,253,645,069
Less: accumulated depreciation	(1,161,124,227)	(51,797,134)	-	3,396,627	(1,209,524,734)
Less: accumulated amortization	-	(285,837)	-	-	(285,837)
Total depreciable assets, net	1,015,846,303	(28,793,683)	57,298,756	(516,878)	1,043,834,498
Land	32,370,754	-	-	-	32,370,754
Construction work in progress	255,530,013	68,627,855	(65,422,319)	-	258,735,549
Capital assets, net	<u>\$ 1,303,747,070</u>	<u>\$ 39,834,172</u>	<u>\$ (8,123,563)</u>	<u>\$ (516,878)</u>	<u>\$ 1,334,940,801</u>

Depreciation charges allocated to various functions for the year ended June 30, 2022 totaled approximately \$2,311,000.

7. Bonds Payable

At June 30, 2022, bonds payable consisted of the following:

Water System Revenue Bonds, Series 2012A, annual principal due of \$8,535,000 through July 1, 2022, with an interest rate at 5.0% per annum. The bonds were fully repaid in July 2022.	\$ 8,535,000
Water System Revenue Bonds, Series 2014A, annual principal due commencing from July 1, 2023, ranging from \$410,000 to \$6,165,000 through July 1, 2031, with interest ranging from 3.0% to 5.0%.	23,015,000
Water System Revenue Bonds, Series 2014B, annual principal due ranging from \$1,540,000 to \$1,845,000 through July 1, 2028, with interest ranging from 2.76% to 3.59%.	11,780,000
Water System Revenue Bonds, Series 2020A, annual principal due ranging from \$1,085,000 to \$3,165,000 through July 1, 2049, with interest ranging from 2.50% to 5.0%.	58,070,000
Water System Revenue Bonds, Series 2020B, annual principal due ranging from \$590,000 to \$5,370,000 through July 1, 2033, with interest ranging from 1.51% to 2.38%.	46,150,000
Water System Revenue Bonds, Series 2021A, annual principal due ranging from \$990,000 to \$2,955,000 through July 1, 2050, with interest ranging from 3.0% to 5.0%.	50,020,000
Subtotal	<u>197,570,000</u>

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Subtotal carried forward	197,570,000
Water System Revenue Bonds, Series 2021B, annual principal due ranging from \$990,000 to \$8,155,000 through July 1, 2031, with interest ranging from 0.36% to 2.07%.	43,455,000
Water System Revenue Bonds, Series 2022A, annual principal due ranging from \$1,385,000 to \$4,745,000 through July 1, 2051, with interest ranging from 3.0% to 5.0%.	82,700,000
Water System Revenue Bonds, Series 2022B, annual principal due ranging from \$55,000 to \$8,770,000 through July 1, 2036, with interest ranging from 1.80% to 3.14%.	<u>52,560,000</u>
	376,285,000
Add: Unamortized premium	<u>28,256,465</u>
	404,541,465
Less: Current portion	<u>13,145,000</u>
Noncurrent portion	<u>\$ 391,396,465</u>

The BWS has pledged future revenues, net of specified operating and maintenance expenses, for the security and payment of the water system revenue bonds outstanding. Proceeds from the bonds were used to finance the construction of various components of the water system or to refund the principal amounts of previously issued water system revenue bonds. As of June 30, 2022, the total principal and interest remaining to be paid on the bonds totaled \$539,201,000. Principal and interest paid for the current year and revenues, net of specified operating and maintenance expenses, were approximately \$23,380,000 and \$100,831,000, respectively.

The BWS's outstanding revenue bonds contain a provision that, in the event of a default, the holders of not less than 25% of the bonds may declare the principal and interest due immediately. An event of default includes, but is not limited to, the following situations: failure to pay the principal and interest due, failure to punctually perform any of the covenants, agreements or conditions of the resolution, and bankruptcy. The BWS has covenanted and agreed to maintain the water system in good repair; to fix rates and charges sufficient to meet the Net Revenue Requirement, as defined in the bond indenture; not to dispose of the properties comprising the water system; to maintain and keep proper books; and other actions consistent with conducting the business of the water system in an efficient and economical manner.

In March 2022, the BWS issued \$52,560,000 in Water System Revenue Bonds, Series 2022B, to advance refund \$46,355,000 of outstanding Series 2014A bonds with an interest rate ranging from 4.0% to 5.0% per annum and \$5,930,000 of outstanding Series 2014B bonds with an interest rate from 3.69% to 3.86% per annum. The net proceeds of approximately \$52,407,000 (after payment of approximately \$153,000 in underwriting fees and other issuance costs) plus an additional approximately \$3,249,000 in debt service reserve fund monies were deposited in an irrevocable trust with an escrow agent to provide for all future debt service payments on the

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Series 2014A and Series 2014B bonds. As a result, \$46,355,000 in Series 2014A and \$5,930,000 in Series 2014B bonds are considered to be defeased and the liability for those bonds have been removed from the BWS's statement of net position.

The advance refunding resulted in a difference between the reacquisition price and the net carrying amount of the old debt of approximately \$171,000. This difference, reported in the accompanying financial statements as deferred outflows of resources, is being charged to operations through fiscal year 2031. The advance refunding reduced the BWS's total debt service payments over the next 15 years by approximately \$7,192,000 and resulted in an economic gain (difference between the present values of the old and new debt service payments) of approximately \$2,715,000.

As of June 30, 2022, the total amount of debt defeased for financial reporting purposes that remains outstanding was \$135,580,000.

Water system revenue bonds are subject to redemption on and after specific dates prior to maturity at the option of the BWS. The redemption amount equals the outstanding principal amount plus accrued interest without premium on the date of redemption.

Debt service requirements on bonds payable at June 30, 2022 are as follows:

Years Ending June 30,	Principal	Interest	Total
2023	\$ 13,145,000	\$ 11,333,000	\$ 24,478,000
2024	14,845,000	11,900,000	26,745,000
2025	15,370,000	11,364,000	26,734,000
2026	17,375,000	10,766,000	28,141,000
2027	17,955,000	10,188,000	28,143,000
2028-2032	97,500,000	43,197,000	140,697,000
2033-2037	78,690,000	29,193,000	107,883,000
2038-2042	35,905,000	19,379,000	55,284,000
2043-2047	43,095,000	12,181,000	55,276,000
2048-2052	42,405,000	3,415,000	45,820,000
	<u>\$ 376,285,000</u>	<u>\$ 162,916,000</u>	<u>\$ 539,201,000</u>

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8. Notes Payable

At June 30, 2022, notes payable from direct borrowings consisted of the following:

Notes payable to Department of Health

Note payable in semi-annual installments of approximately \$146,900, including interest and loan fees at 1.5% per annum, due May 2034.	\$ 3,036,655
Note payable in semi-annual installments of approximately \$145,900, including interest and loan fees at 1.5% per annum, due May 2034.	3,016,406
Note payable in semi-annual installments of approximately \$144,000, including interest and loan fees at 1.5% per annum, due November 2034.	3,082,774
Non-interest bearing note payable in semi-annual installments of approximately \$202,000, including loan fees at 1.0% per annum, due November 2034.	4,449,546
Non-interest bearing note payable in semi-annual installments of approximately \$764,900, including loan fees at 1.0% per annum, due April 2034.	16,246,714
Non-interest bearing note payable in semi-annual installments of approximately \$258,700, including loan fees at 1.0% per annum, due December 2037.	7,412,124
Non-interest bearing note payable in semi-annual installments of approximately \$865,600, including loan fees at 1.0% per annum, due February 2039.	27,003,588
Note payable in semi-annual installments of approximately \$148,300, including interest and loan fees at 1.5% per annum, due October 2036.	3,849,390
Note payable in semi-annual installments of approximately \$231,800, including interest and loan fees at 1.25% per annum, due October 2038.	6,888,410
Note payable in semi-annual installments of approximately \$418,500, including interest and loan fees at 1.75% per annum, due October 2039.	12,553,320
Note payable in semi-annual installments of approximately \$175,700, including interest and loan fees at 0.25% per annum, due April 2040.	5,775,904
Note payable in semi-annual installments of approximately \$119,500, including interest and loan fees at 2.15% per annum, due March 2039.	3,496,795
Note payable in semi-annual installments of approximately \$364,500, including interest and loan fees at 1.75% per annum, due October 2040.	11,471,183
Note payable in semi-annual installments of approximately \$193,400, including interest and loan fees at 2.15% per annum, due January 2040.	5,754,005
Note payable in semi-annual installments of approximately \$349,300, including interest and loan fees at 1.75% per annum, due October 2041.	11,500,000
Subtotal	<u>125,536,814</u>

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Subtotal carried forward	125,536,814
Note payable to other lenders	
Note payable in monthly installments of approximately \$15,700, including interest at 5.0%, due September 2025.	545,845
	<u>126,082,659</u>
Less: Current maturities	7,500,459
Noncurrent portion	<u>\$ 118,582,200</u>

The notes payable to the Department of Health are state revolving fund loans and are secured by the net revenue of the BWS, subject to and subordinate to the pledge of the net revenue securing the outstanding water system revenue bonds described in Note 7. Proceeds from the loans were used to finance the construction of various components of the water system. As of June 30, 2022, the total principal, interest and loan fees remaining to be paid on the loans totaled \$141,219,000. Principal, interest and loan fees paid for the current year and revenues, net of specified operating and maintenance expenses, were approximately \$23,380,000 and \$100,831,000, respectively. The BWS's outstanding state revolving fund loans contain a provision that, in the event of default, the outstanding amounts become due immediately with the consent of the majority of the holders of the BWS's revenue bonds. An event of default includes, but is not limited to, the following situations: failure to pay the principal and interest due; failure to punctually perform any of the covenants, agreements or conditions of the resolution; and bankruptcy. The BWS has covenanted and agreed to maintain the water system in good repair; to fix rates and charges sufficient to meet the Net Revenue Requirement, as defined in the bond indenture; not to dispose of the properties comprising the water system; to maintain and keep proper books; and other actions consistent with conducting the business of the water system in an efficient and economical manner.

Debt service requirements on notes payable from direct borrowings at June 30, 2022 are as follows:

Years Ending June 30,	Principal	Interest	Loan Fee	Total
2023	\$ 7,500,000	\$ 429,000	\$ 1,280,000	\$ 9,209,000
2024	7,591,000	404,000	1,204,000	9,199,000
2025	7,674,000	374,000	1,128,000	9,176,000
2026	7,608,000	343,000	1,051,000	9,002,000
2027	7,646,000	318,000	973,000	8,937,000
2028-2032	39,408,000	1,241,000	3,671,000	44,320,000
2033-2037	34,164,000	634,000	1,687,000	36,485,000
2038-2042	14,492,000	115,000	284,000	14,891,000
	<u>\$ 126,083,000</u>	<u>\$ 3,858,000</u>	<u>\$ 11,278,000</u>	<u>\$ 141,219,000</u>

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9. Long-Term Liabilities

Changes in long-term liabilities for the year ended June 30, 2022 are as follows:

	Balance July 1, 2021 (As Restated)	Additions	Reductions	Balance June 30, 2022	Current Portion
Bonds payable	\$ 304,435,000	\$ 135,260,000	\$ (63,410,000)	\$ 376,285,000	\$ 13,145,000
Add: Unamortized premium	22,805,113	11,081,886	(5,630,534)	28,256,465	-
Total bonds payable	327,240,113	146,341,886	(69,040,534)	404,541,465	13,145,000
Notes payable	121,411,593	11,608,604	(6,937,538)	126,082,659	7,500,459
Accrued vacation	7,873,636	2,829,469	(2,844,638)	7,858,467	2,844,638
Accrued workers' compensation	5,075,804	1,346,382	(1,948,322)	4,473,864	1,309,364
Customer advances	652,615	10,038,396	(8,872,089)	1,818,922	-
Net pension liability	132,989,070	10,203,577	(36,428,793)	106,763,854	-
Net OPEB liability	67,507,849	13,626,621	(38,382,335)	42,752,135	-
Claims liability	3,408,527	1,277,082	(1,631,290)	3,054,319	-
Lease liability	924,991	-	(277,150)	647,841	-
Other	3,007,953	1,327,587	(1,433,398)	2,902,142	-
	<u>\$ 670,092,151</u>	<u>\$ 198,599,604</u>	<u>\$ (167,796,087)</u>	<u>\$ 700,895,668</u>	<u>\$ 24,799,461</u>

10. Net Position

The BWS's net position consisted of the following as of June 30, 2022:

Net investment in capital assets

Capital assets, net	\$ 1,334,940,801
Deferred loss on refunding of debt	14,537,093
Less: Water system revenue bonds payable	(404,541,465)
Less: Notes payable	(126,082,659)
Unspent debt proceeds	202,231,125
	<u>1,021,084,895</u>

Restricted for capital activity and debt service

Restricted cash and cash equivalents	40,983,256
Restricted investments	191,668,849
Less: Unspent debt proceeds	(202,231,125)
Less: Accrued interest payable	(5,631,152)
	<u>24,789,828</u>

Unrestricted

253,097,224

\$ 1,298,971,947

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11. Leases

The BWS leases certain properties to other users, primarily utility and telecommunications companies, under multi-year license agreements with terms ranging from 5 to 30 years through December 2041. At June 30, 2022, lease receivables of approximately \$2,227,000 were reported in other assets. For the year ended June 30, 2022, lease revenue and interest revenue of approximately \$111,000 and \$20,000, respectively, were reported in other nonoperating revenues.

The BWS leases space for its deep seawater cooling project on Oahu under a lease that extends through September 2025. The BWS also has leases conveying the right to use various office and information technology equipment under contracts that extend through September 2026.

The future principal and interest requirements for the lease liability at June 30, 2022 are as follows:

Years Ending June 30,	Principal	Interest	Total
2023	\$ 263,000	\$ 13,000	\$ 276,000
2024	172,000	8,000	180,000
2025	171,000	3,000	174,000
2026	41,000	-	41,000
2027	1,000	-	1,000
	<u>\$ 648,000</u>	<u>\$ 24,000</u>	<u>\$ 672,000</u>

12. Related Party Transactions

The BWS has an agreement with the City's Department of Environmental Services to provide certain services relating to the billing and collection of sewer service charges. For the year ended June 30, 2022, fees related to these services totaled approximately \$3,208,000.

The BWS has an agreement with the City to pay a central administrative services expense ("CASE") fee for treasury, personnel, purchasing and other services that the City provides to the BWS on an on-going basis. The BWS's Charter allows for CASE fees to the extent that they represent reasonable charges for services necessary for the BWS to perform its duties. CASE fees totaled \$3,300,000 for the year ended June 30, 2022.

As of June 30, 2022, amounts due from the City for water charges totaled approximately \$1,543,000, and are included in customer receivables in the statement of net position.

The BWS has entered into several agreements with the City for joint capital projects. The BWS received \$130,000 in advances from the City during the year ended June 30, 2022. Unexpended advanced funds totaled approximately \$2,002,000 as of June 30, 2022, and are included in other liabilities in the statement of net position.

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The BWS has entered into an agreement with the Board of Land and Natural Resources, State of Hawaii, to provide the plans, design, construction, equipment and appurtenances for an exploratory well. The BWS received \$1,000,000 in advances from the State of Hawaii (the "State") during the year ended June 30, 2022. Unexpended advanced funds totaled \$1,000,000 as of June 30, 2022, and are included in other liabilities in the statement of net position.

13. Retirement Benefits

Pension Plan

Plan Description

The Employees' Retirement System ("ERS") is a cost-sharing, multiple-employer public employee retirement system established as a defined benefit pension plan to administer a pension benefits program for all eligible employees of the state and counties of Hawaii. Benefit terms, eligibility, and contribution requirements are governed by Chapter 88 of the Hawaii Revised Statutes and can be amended through legislation. The ERS issues publicly available annual financial reports that can be obtained at the ERS website: <http://ers.ehawaii.gov/resources/financials>.

Benefits Provided

The ERS Pension Trust is comprised of three pension classes for membership purposes and considered to be a single plan for accounting purposes since all assets of the ERS may legally be used to pay the benefits of any of the ERS members or beneficiaries. The ERS provides retirement, disability and death benefits with three membership classes known as the noncontributory, contributory and hybrid retirement classes. The three classes provide a monthly retirement allowance equal to the benefit multiplier (generally 1.25% or 2.25%) multiplied by the average final compensation multiplied by years of credited service. Average final compensation for members hired prior to July 1, 2012 is an average of the highest salaries during any three years of credited service, excluding any salary paid in lieu of vacation for members hired January 1, 1971 or later and the average of the highest salaries during any five years of credited service including any salary paid in lieu of vacation for members hired prior to January 1, 1971. For members hired after June 30, 2012, average final compensation is an average of the highest salaries during any five years of credited service excluding any salary paid in lieu of vacation.

Each retiree's original retirement allowance is increased on each July 1 beginning the calendar year after retirement. Retirees first hired as members prior to July 1, 2012 receive a 2.5% increase each year of their original retirement allowance without a ceiling. Retirees first hired as members after June 30, 2012 receive a 1.5% increase each year of their original retirement allowance without a ceiling. The annual increase is not compounded.

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The following summarizes the provisions relevant to the largest employee groups of the respective membership class. Retirement benefits for certain groups, such as police officers, firefighters, some investigators, sewer workers, judges, and elected officials, vary from general employees.

Noncontributory Class

- Retirement Benefits – General employees’ retirement benefits are determined as 1.25% of average final compensation multiplied by the years of credited service. Employees with ten years of credited service are eligible to retire at age 62. Employees with thirty years of credited service are eligible to retire at age 55.
- Disability Benefits – Members are eligible for service-related disability benefits regardless of length of service and receive a lifetime pension of 35% of their average final compensation. Ten years of credited service are required for ordinary disability. Ordinary disability benefits are determined in the same manner as retirement benefits but are payable immediately, without an actuarial reduction, and at a minimum of 12.5% of average final compensation.
- Death Benefits – For service-connected deaths, the surviving spouse/reciprocal beneficiary receives a monthly benefit of 30% of the average final compensation until remarriage or re-entry into a new reciprocal beneficiary relationship. Additional benefits are payable to surviving dependent children up to age 18. If there is no spouse/reciprocal beneficiary or surviving dependent children, no benefit is payable.

Ordinary death benefits are available to employees who were active at the time of death with at least ten years of credited service. The surviving spouse/reciprocal beneficiary (until remarriage/re-entry into a new reciprocal beneficiary relationship) and surviving dependent children (up to age 18) receive a benefit equal to a percentage of the member’s accrued maximum allowance unreduced for age or, if the member was eligible for retirement at the time of death, the surviving spouse/reciprocal beneficiary receives 100% joint and survivor lifetime pension and the surviving dependent children receive a percentage of the member’s accrued maximum allowance unreduced for age.

Contributory Class for Members Hired Prior to July 1, 2012

- Retirement Benefits – General employees’ retirement benefits are determined as 2% of average final compensation multiplied by the years of credited service. General employees with five years of credited service are eligible to retire at age 55.

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- **Disability Benefits** – Members are eligible for service-related disability benefits regardless of length of service and receive a one-time payment of the member’s contributions and accrued interest plus a lifetime pension of 50% of their average final compensation. Ten years of credited service are required for ordinary disability. Ordinary disability benefits are determined as 1.75% of average final compensation multiplied by the years of credited service but are payable immediately, without an actuarial reduction, and at a minimum of 30% of average final compensation.
- **Death Benefits** – For service-connected deaths, the designated surviving spouse/reciprocal beneficiary receives a lump sum payment of the member’s contributions and accrued interest plus a monthly benefit of 50% of the average final compensation until remarriage or re-entry into a new reciprocal beneficiary relationship. If there is no surviving spouse/reciprocal beneficiary, surviving dependent children (up to age 18) or dependent parents are eligible for the monthly benefit. If there is no spouse/reciprocal beneficiary or surviving dependent children/parents, the ordinary death benefit is payable to the designated beneficiary.

Ordinary death benefits are available to employees who were active at time of death with at least one year of service. Ordinary death benefits consist of a lump sum payment of the member’s contributions and accrued interest plus a percentage of the salary earned in the twelve months preceding death, or 50% joint and survivor lifetime pension if the member was not eligible for retirement at the time of death but was credited with at least ten years of service and designated one beneficiary, or 100% joint and survivor lifetime pension if the member was eligible for retirement at the time of death and designated one beneficiary.

Contributory Class for Members Hired After June 30, 2012

- **Retirement Benefits** – General employees’ retirement benefits are determined as 1.75% of average final compensation multiplied by the years of credited service. General employees with ten years of credited service are eligible to retire at age 60.
- **Disability and Death Benefits** – Members are eligible for service-related disability benefits regardless of length of service and receive a lifetime pension of 50% of their average final compensation plus refund of contributions and accrued interest. Ten years of credited service are required for ordinary disability.

Death benefits for contributory members hired after June 30, 2012 are generally the same as those for contributory members hired June 30, 2012 and prior.

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Hybrid Class for Members Hired Prior to July 1, 2012

- **Retirement Benefits** – General employees’ retirement benefits are determined as 2% of average final compensation multiplied by the years of credited service. General employees with five years of credited service are eligible to retire at age 62. General employees with thirty years of credited service are eligible to retire at age 55.
- **Disability Benefits** – Members are eligible for service-related disability benefits regardless of length of service and receive a lifetime pension of 35% of their average final compensation plus refund of their contributions and accrued interest. Ten years of credited service are required for ordinary disability. Ordinary disability benefits are determined in the same manner as retirement benefits but are payable immediately, without an actuarial reduction, and at a minimum of 25% of average final compensation.
- **Death Benefits** – For service-connected deaths, the designated surviving spouse/reciprocal beneficiary receives a lump sum payment of the member’s contributions and accrued interest plus a monthly benefit of 50% of the average final compensation until remarriage or re-entry into a new reciprocal beneficiary relationship. If there is no surviving spouse/reciprocal beneficiary, surviving dependent children (up to age 18) or dependent parents are eligible for the monthly benefit. If there is no spouse/reciprocal beneficiary or surviving dependent children/parents, the ordinary death benefit is payable to the designated beneficiary.

Ordinary death benefits are available to employees who were active at time of death with at least five years of service. Ordinary death benefits consist of a lump sum payment of the member’s contributions and accrued interest plus a percentage multiplied by 150%, or 50% joint and survivor lifetime pension if the member was not eligible for retirement at the time of death but was credited with at least ten years of service and designated one beneficiary, or 100% joint and survivor lifetime pension if the member was eligible for retirement at the time of death and designated one beneficiary.

Hybrid Class for Members Hired After June 30, 2012

- **Retirement Benefits** – General employees’ retirement benefits are determined as 1.75% of average final compensation multiplied by the years of credited service. General employees with ten years of credited service are eligible to retire at age 65. Employees with thirty years of credited service are eligible to retire at age 60. Sewer workers, water safety officers, and emergency medical technicians may retire with 25 years of credited service at age 55.

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- ***Disability and Death Benefits*** – Provisions for disability and death benefits generally remain the same except for ordinary death benefits. Ordinary death benefits are available to employees who were active at time of death with at least ten years of service. Ordinary death benefits consist of a lump sum payment of the member's contributions and accrued interest, or 50% joint and survivor lifetime pension if the member was not eligible for retirement at the time of death but was credited with at least ten years of service and designated one beneficiary, or 100% joint and survivor lifetime pension if the member was eligible for retirement at the time of death and designated one beneficiary.

Contributions

The employer contribution rate is a fixed percentage of compensation. The employer contribution rate for general employees was 24% for the year ended June 30, 2022. For the year ended June 30, 2022, contributions to the pension plan from the BWS totaled approximately \$10,978,000.

The employer is required to make all contributions for noncontributory members. For contributory class employees hired prior to July 1, 2012, general employees are required to contribute 7.8% of their salary. For contributing class employees hired after June 30, 2012, general employees are required to contribute 9.8% of their salary. Hybrid class members hired prior to July 1, 2012 are required to contribute 6.0% of their salary. Hybrid class members hired after June 30, 2012 are required to contribute 8.0% of their salary.

Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

At June 30, 2022, the BWS reported a liability of approximately \$106,764,000, for its proportionate share of the net pension liability. The net pension liability was measured as of June 30, 2021, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of those dates. The BWS's proportion of the net pension liability was based on the actual employer contributions to the pension plan relative to the contributions of all participating employers. At June 30, 2021, the BWS's proportionate share was 0.87%.

The actuarial assumptions used in the June 30, 2021 actuarial valuation are the same as those used in the prior valuation.

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For the year ended June 30, 2022, the BWS recognized pension expense of approximately \$10,204,000. At June 30, 2022, the BWS reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ 2,984,267	\$ -
Changes of assumptions	294,369	-
Net difference between projected and actual earnings on pension plan investments	-	18,131,467
Changes in proportion and differences between employer contributions and proportionate share of contributions	5,974,080	5,793,709
Employer contributions subsequent to the measurement date	10,978,412	-
	<u>\$ 20,231,128</u>	<u>\$ 23,925,176</u>

At June 30, 2022, the BWS reported approximately \$10,978,000 of deferred outflows of resources related to pensions resulting from BWS contributions subsequent to the measurement date, which will be recognized as a reduction of the net pension liability in the year ended June 30, 2022. Other amounts reported as deferred outflows of resources and deferred inflows of resources at June 30, 2022 will be recognized in pension expense as follows:

Years Ending June 30,	Net Deferred Inflows
2023	\$ (3,117,827)
2024	(3,452,048)
2025	(2,987,593)
2026	(5,149,593)
2027	34,601
	<u>\$ (14,672,460)</u>

Actuarial Assumptions

The total pension liability in the June 30, 2021 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.50%
Investment rate of return, including inflation	7.00%
Salary increases, including inflation	
General employees	3.50% to 6.50%

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Mortality rates used in the actuarial valuation as of June 30, 2021 were based on the following:

- **Active members** – Multiples of the RP-2014 mortality table for active employees based on the occupation of the member.
- **Healthy retirees** – The 2019 Public Retirees of Hawaii mortality table, generational projection using the BB projection table from the year 2019 and with multipliers based on plan and group experience.
- **Disabled retirees** – Base table for healthy retirees’ occupation, set forward five years, generational projection using the BB projection table from the year 2019. Minimum mortality rate of 3.5% for males and 2.5% for females.

The actuarial assumptions used in the actuarial valuation as of June 30, 2021 were based on the results of an experience study as of June 30, 2018, with most of the assumptions based on the period from July 1, 2013 through June 30, 2018.

The long-term expected rate of return on pension plan investments was determined using a “top down approach” of the Client-Constrained Simulation-based Optimization Model (a statistical technique known as “re-sampling with replacement” that directly keys in on specific plan-level risk factors as stipulated by the ERS Board) in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected nominal real rates of return (real returns plus inflation) by the target allocation percentage. The target allocation and best estimate of expected long-term geometric average strategic range as of June 30, 2021 are summarized in the following table:

Strategic Allocation (Risk-Based Classes)	Target Allocation	Expected Long-Term Geometric Average Strategic Range*
Broad growth	63.00 %	8.00 %
Diversifying strategies	37.00 %	5.10 %
	<u>100.00 %</u>	

*Uses an expected inflation of 2.1%.

Discount Rate

The discount rate used to measure the total pension liability at June 30, 2021 was 7.00%. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and that contributions from employers will be made at statutorily required rates, actuarially determined. Based on those assumptions, the pension plan’s fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore,

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the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Sensitivity of the BWS's Proportionate Share of the Net Pension Liability to Changes in the Discount Rate

The following presents the BWS's proportionate share of the net pension liability calculated as of the year ended June 30, 2022 using the discount rate of 7.00%, as well as what the BWS's proportionate share of the net pension liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current rate:

	1% Decrease (6.00%)	Current Discount Rate (7.00%)	1% Increase (8.00%)
Proportionate share of the net pension liability	<u>\$ 145,621,000</u>	<u>\$ 106,764,000</u>	<u>\$ 74,728,000</u>

Pension Plan Fiduciary Net Position

Detailed information about the pension plan's fiduciary net position is available in the separately issued ERS financial report. ERS's complete financial statements are available at <https://ers.hawaii.gov/resources/financials>.

Payable to the Pension Plan

At June 30, 2022, the amounts payable to the ERS totaled approximately \$1,456,000, which consists of excess pension costs required by the HRS for fiscal year 2022.

Postemployment Benefits Other Than Pensions ("OPEB")

Plan Description

Chapter 87A of the Hawaii Revised Statutes ("HRS") established the EUTF, an agent multiple-employer defined benefit plan, which provides a single delivery system of health and other benefits for state and county workers, retirees and their eligible dependents. The EUTF issues a stand-alone financial report that is available to the public on its website at <https://eutf.hawaii.gov/reports>. The report may also be obtained by writing to the EUTF at P.O. Box 2121, Honolulu, Hawaii 96805-2121.

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Benefits Provided

Chapter 87A of the HRS grants the authority to establish and amend the benefit terms to the board of trustees of the EUTF. The EUTF currently provides medical, prescription drug, dental, vision, chiropractic, supplemental medical and prescription drug, and group life insurance benefits for retirees and their dependents. The following table provides a summary of the number of employees covered by the benefit terms as of July 1, 2021:

Inactive employees or beneficiaries currently receiving benefits	592
Inactive employees entitled but not yet receiving benefits	50
Active employees	573
	1,215

Contributions

The BWS's contribution levels are established by Chapter 87A of the HRS. For the year ended June 30, 2022, the BWS was required to contribute a minimum amount equal to 100% of the annual required contribution ("ARC"), as determined by an actuary retained by the board of trustees of the EUTF. The ARC represents a level of funding that is sufficient to cover 1) the normal cost, which is the cost of the other postemployment benefits attributable to the current year of service; and 2) an amortization payment, which is a catch-up payment for past service costs to fund the unfunded actuarial accrued liability over the next thirty years. For the year ended June 30, 2022, contributions to the OPEB plan from the BWS totaled \$8,918,000, which resulted in an average contribution rate of approximately 22% of covered-employee payroll.

For employees hired before July 1, 1996, the BWS pays the entire base monthly contribution for employees retiring with ten or more years of credited service, and 50% of the base monthly contribution for employees retiring with fewer than ten years of credited service. A retiree can elect a family plan to cover dependents. The BWS's contribution is based on the plan selected by the retiree (single, two-party, or family plans).

For employees hired after June 30, 1996, but before July 1, 2001, and who retire with fewer than ten years of service, the BWS makes no contributions. For those retiring with at least ten years but fewer than 15 years of service, the BWS pays 50% of the base monthly contribution. For those retiring with at least 15 years but fewer than 25 years of service, the BWS pays 75% of the base monthly contribution. For those employees retiring with at least 25 years of service, the BWS pays 100% of the base monthly contribution. The BWS's contribution is based on the plan selected by the retiree (single, two-party, or family plans).

For employees hired on or after July 1, 2001, and who retire with fewer than ten years of service, the BWS makes no contributions. For those retiring with at least ten years but fewer than 15 years of service, the BWS pays 50% of the base monthly contribution. For those retiring with at least 15 years but fewer than 25 years of service, the BWS pays 75% of the base monthly contribution. For those employees retiring with at least 25 years of service, the BWS pays 100% of the base monthly contribution. Only single plan coverage is provided for retirees in this category. Retirees can elect family coverage, but must pay the difference.

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Net OPEB Liability

The BWS's net OPEB liability as of June 30, 2022 was measured as of July 1, 2021, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation as of those dates.

Actuarial Assumptions

The total OPEB liability in the July 1, 2021 actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement, unless otherwise specified:

Inflation	2.50%
Salary increases	3.50% to 7.00% including inflation
Investment rate of return	7.00%
Healthcare cost trend rates	
PPO*	Initial rate of 7.5% declining to a rate of 4.7% after 12 years
HMO*	Initial rate of 7.5% declining to a rate of 4.7% after 12 years
Part B and base monthly contribution	Initial rate of 5.0% declining to a rate of 4.7% after 9 years
Dental	4.00%
Vision	2.50%
Life insurance	0.00%

* Blended rates for medical and prescription drugs.

Mortality rates used in the actuarial valuation as of July 1, 2021 were based on the following:

- **Active members** – Multiples of the RP-2014 mortality table for active employees based on the occupation of the member.
- **Healthy retirees** – The 2019 Public Retirees of Hawaii mortality table, generational projection using the BB projection table from the year 2019 and with multipliers based on plan and group experience.
- **Disabled retirees** – Base table for healthy retirees' occupation, set forward five years, generational projection using the BB projection table from the year 2019. Minimum mortality rate of 3.5% for males and 2.5% for females.

The actuarial assumptions used in the actuarial valuation as of June 30, 2021 were based on the results of an experience study as of June 30, 2018, with most of the assumptions based on the period from July 1, 2013 through June 30, 2018.

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The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of arithmetic real rates of return for each major asset class as of July 1, 2021 are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
U,S, Equity	16.00 %	6.09 %
Private Equity	12.50 %	10.19 %
Non-U,S, Equity	11.50 %	7.12 %
Real Assets	10.00 %	6.16 %
Trend Following	10.00 %	2.01 %
Private Credit	8.00 %	5.83 %
U.S. Microcap	6.00 %	7.62 %
Long Treasuries	6.00 %	1.06 %
Global Options	5.00 %	4.33 %
TIPS	5.00 %	(0.07%)
Alternative Risk Premia	5.00 %	1.46 %
Reinsurance	5.00 %	4.44 %
Total investments	<u>100.00 %</u>	

Discount Rate

The discount rate used to measure the total OPEB liability at June 30, 2022 was 7.00%. The projection of cash flows used to determine the discount rate assumed that BWS contributions will be made at rates equal to the actuarially determined contribution rates. Based on those assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments for current active and inactive employees. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

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Changes in the Net OPEB Liability

The following schedules present the changes in the net OPEB liability for the year ended June 30, 2022:

	Increase (Decrease)		
	Total OPEB Liability (a)	Plan Fiduciary Net Position (b)	Net OPEB Liability (a) - (b)
Balance at June 30, 2021	\$ 158,891,762	\$ 91,383,913	\$ 67,507,849
Changes for the fiscal year			
Service cost	2,597,273	-	2,597,273
Interest on the total OPEB liability	11,002,680	-	11,002,680
Difference between expected and actual experience	(5,031,426)	-	(5,031,426)
Contributions – employer	-	8,452,000	(8,452,000)
Net investment income	-	24,898,909	(24,898,909)
Benefit payments	(6,018,504)	(6,018,504)	-
Administrative expense	-	(12,847)	12,847
Other	-	(13,821)	13,821
Net changes	2,550,023	27,305,737	(24,755,714)
Balance at June 30, 2022	\$ 161,441,785	\$ 118,689,650	\$ 42,752,135

The healthcare trend assumption was updated in the July 1, 2020 actuarial valuation to reflect the repeal of the “Cadillac Tax” on high-cost employer health plans, which resulted in a decrease to the total OPEB liability as of June 30, 2022.

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate

The following presents the net OPEB liability of the BWS, as well as what the BWS’s net OPEB liability would be if it were calculated using a discount rate that is one percentage point lower or one percentage point higher than the current discount rate:

	1% Decrease (6.00%)	Discount Rate (7.00%)	1% Increase (8.00%)
Net OPEB liability	\$ 66,604,000	\$ 42,752,000	\$ 23,921,000

Sensitivity of the Net OPEB Liability to Changes in the Healthcare Cost Trend Rates

The following presents the net OPEB liability of the BWS, as well as what the BWS’s net OPEB liability would be if it were calculated using healthcare cost trend rates that are one percentage point lower or one percentage point higher than the current healthcare cost trend rates:

	1% Decrease	Current Healthcare Cost Trend Rates	1% Increase
Net OPEB liability	\$ 23,276,000	\$ 42,752,000	\$ 67,788,000

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OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the year ended June 30, 2022, the BWS recognized OPEB expense of approximately \$1,869,000. At June 30, 2022, the BWS reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$ -	\$ 10,761,678
Changes of assumptions	1,086,443	523,319
Net difference between projected and actual earnings on OPEB plan investments	-	11,140,550
Employer contributions subsequent to the measurement date	8,918,000	-
	<u>\$ 10,004,443</u>	<u>\$ 22,425,547</u>

At June 30, 2022, the BWS reported \$8,918,000 as deferred outflows of resources related to OPEB resulting from BWS contributions subsequent to the measurement date, which will be recognized as a reduction of the net OPEB liability in the year ended June 30, 2023. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB at June 30, 2022 will be recognized in OPEB expense as follows:

Years Ending June 30,	Net Deferred Inflows
2023	\$ (4,946,876)
2024	(4,907,738)
2025	(5,502,367)
2026	(5,530,047)
2027	(452,076)
	<u>\$ (21,339,104)</u>

14. Commitments and Contingencies

Contract Commitments

Commitments, primarily for capital improvements, approximated \$417,422,000 as of June 30, 2022. Such amounts are to be funded by operating revenues, contributed capital, cash and investments on hand.

Workers' Compensation Self-Insurance Liability

The BWS is self-insured for workers' compensation and disability claims up to \$600,000 and in excess of \$25,000,000. The BWS has obtained excess insurance coverage for claims that are not self-insured. The BWS provides reserves for claims not covered by insurance that in the opinion of management will result in probable judgment against the BWS.

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The liability for losses and loss adjustment expenses is comprised of case reserves and incurred but not reported loss reserves ("IBNR"). Case or outstanding loss reserves represent estimates of ultimate costs to settle reported claims.

Determination of a reserve account for workers' compensation is a significant estimate. It is reasonably possible that one or more future events could result in a material change in the estimated claims loss in the near term.

Safe Drinking Water

The BWS is subject to the requirements of the Safe Drinking Water Act (the "Act"), which is administered by the State Department of Health on behalf of the U.S. Environmental Protection Agency. Management believes that the BWS is in full compliance with the requirements of the Act and is not aware of any matters under the Act that may materially affect the BWS's customer service area.

Other Legal Matters

The BWS is party to various legal proceedings arising in the normal course of business. The outcome of individual matters is not predictable. However, management believes that the ultimate resolution of all such matters, after considering insurance coverage, will not have a material adverse effect on the BWS's financial position, results of operations, or liquidity.

15. Red Hill Bulk Fuel Storage Facility

The Navy reported a fuel spill from its Red Hill Bulk Fuel Storage Facility ("RHBFSF") in late November 2021. On December 2, 2021, following the Navy's determination that its Red Hill Shaft water source was contaminated with petroleum from that leak, the BWS immediately shut down the Halawa Shaft pumping station. On December 8, 2021, the BWS took further precautionary measures and shut down its Aiea Well and Halawa Well. On March 7, 2022, the Secretary of Defense directed the Navy to permanently close the RHBFSF.

As a result of the fuel releases from RHBFSF contaminating the aquifer, the BWS shut down its Halawa Shaft, Halawa Well, and Aiea Well to prevent the contamination from reaching the BWS Honolulu water system. Work to determine the nature and extent of the damage is critical to identifying the direction and magnitude of the contamination. The BWS remains vigilant in protecting its current water sources as well as developing new water sources. The related financial impact on the BWS's financial statements cannot be reasonably determined at this time.

16. Subsequent Events

The BWS has reviewed all events that have occurred from July 1, 2022 through November 30, 2022, the date that the financial statements were available for issuance, for proper accounting and disclosure in the financial statements.

**Required Supplementary Information
(Unaudited)**

**Board of Water Supply
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Schedule of Proportionate Share of the Net Pension Liability
Last Ten Fiscal Years ***

Measurement Period Ended	Proportion of the Net Pension Liability	Proportionate Share of the Net Pension Liability	Covered Payroll	Proportionate Share of the Net Pension Liability as a Percentage of Covered Payroll	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability
June 30, 2021	0.87 %	\$ 106,763,854	\$ 41,699,341	256 %	64.25 %
June 30, 2020	0.87 %	132,989,070	39,537,387	336 %	53.18 %
June 30, 2019	0.81 %	114,807,821	38,390,927	299 %	54.87 %
June 30, 2018	0.90 %	120,348,341	36,816,067	327 %	55.48 %
June 30, 2017	0.88 %	113,350,294	35,912,898	316 %	54.80 %
June 30, 2016	0.87 %	116,342,916	34,536,085	337 %	51.28 %
June 30, 2015	0.93 %	81,526,553	33,412,761	244 %	62.42 %
June 30, 2014	0.91 %	73,141,824	32,202,276	227 %	63.92 %
June 30, 2013	0.79 %	69,992,291	29,761,149	235 %	57.96 %

* This schedule is intended to present information for ten years, as of the measurement date of the collective net pension liability for each respective fiscal year. Additional years will be built prospectively as information becomes available.

See accompanying notes to the required supplementary information.

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Schedule of Pension Contributions
Last Ten Fiscal Years**

Year Ended	Statutorily Required Contribution	Contributions in Relation to Statutorily Required Contributions	Contribution Deficiency (Excess)	Covered Payroll	Contributions as a Percentage of Covered Payroll
June 30, 2022	\$ 10,978,412	\$ 10,978,412	\$ -	\$ 39,674,737	27.7 %
June 30, 2021	10,642,688	10,642,688	-	41,699,341	25.5 %
June 30, 2020	9,411,347	9,411,347	-	39,537,387	23.8 %
June 30, 2019	7,387,857	7,387,857	-	38,390,927	19.2 %
June 30, 2018	7,561,614	7,561,614	-	36,816,067	20.5 %
June 30, 2017	6,885,401	6,885,401	-	35,912,898	19.2 %
June 30, 2016	6,647,884	6,647,884	-	34,536,085	19.2 %
June 30, 2015	6,686,641	6,686,641	-	33,412,761	20.0 %
June 30, 2014	5,931,238	5,931,238	-	32,202,276	18.4 %
June 30, 2013	4,604,149	4,604,149	-	29,761,149	15.5 %

See accompanying notes to the required supplementary information.

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**Note to Required Supplementary Information Required by GASB Statement No. 68
Year Ended June 30, 2022**

1. Changes of Assumptions

There were no changes of assumptions or other inputs that significantly affected the measurement of the total pension liability since the measurement period ended June 30, 2019.

Amounts reported in the schedule of the proportionate share of the net pension liability as of the measurement period ended June 30, 2019 (fiscal year ended June 30, 2020) were significantly impacted by the following changes in actuarial assumptions:

- The assumed salary increase schedules include an ultimate component for general wage inflation that may add on additional increases for individual merit and then an additional component for step rates based on service.
- Mortality rates generally decreased due to the continued improvements in using a fully generational approach and Scale BB.
- The rates of disability of active employees increased for all general employees and teachers, and for police and fire from duty-related reasons.
- There were minor increases in the retirement rates for members in certain groups based on age, employment group, and/or membership class.

Amounts reported in the schedule of the proportionate share of the net pension liability as of the measurement period ended June 30, 2016 were significantly impacted by the following changes of actuarial assumptions:

- The investment return assumption decreased from 7.65% to 7.00%.
- Mortality assumptions were modified to assume longer life expectancies as well as to reflect continuous mortality improvement.

Prior to the measurement period ended June 30, 2016 (year ended June 30, 2017), there were no other factors, including the use of different assumptions, that significantly affect trends reported in these schedules.

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Schedule of Changes in the Net OPEB Liability and Related Ratios
Last Ten Fiscal Years ***

	2022	2021	2020	2019	2018
Total OPEB liability					
Service cost	\$ 2,597,273	\$ 2,663,788	\$ 2,598,017	\$ 2,480,098	\$ 2,404,087
Interest on the total OPEB liability	11,002,680	11,182,364	10,592,452	10,129,142	9,685,512
Difference between expected and actual experience	(5,031,426)	(9,526,120)	(28,736)	(2,312,485)	-
Changes of assumptions	-	(822,863)	1,247,028	2,183,447	-
Benefit payments	(6,018,504)	(6,043,131)	(5,985,550)	(5,855,338)	(5,724,727)
Net change in total OPEB liability	2,550,023	(2,545,962)	8,423,211	6,624,864	6,364,872
Total OPEB liability					
Beginning of year	158,891,762	161,437,724	153,014,513	146,389,649	140,024,777
End of year	\$ 161,441,785	\$ 158,891,762	\$ 161,437,724	\$ 153,014,513	\$ 146,389,649
Plan fiduciary net position					
Contributions – employer	\$ 8,452,000	\$ 8,165,000	\$ 7,945,000	\$ 8,855,338	\$ 11,724,727
Net investment income	24,898,909	1,666,459	3,430,974	5,235,037	6,029,726
Benefit payments	(6,018,504)	(6,043,131)	(5,985,550)	(5,855,338)	(5,724,727)
Administrative expense	(12,847)	(13,407)	(25,068)	(15,933)	(13,794)
Other	(13,821)	(13,477)	2,370,283	-	78,200
Net change in plan fiduciary net position	27,305,737	3,761,444	7,735,639	8,219,104	12,094,132
Plan fiduciary net position					
Beginning of year	91,383,913	87,622,469	79,886,830	71,667,726	59,573,594
End of year	\$ 118,689,650	\$ 91,383,913	\$ 87,622,469	\$ 79,886,830	\$ 71,667,726
Net OPEB liability	\$ 42,752,135	\$ 67,507,849	\$ 73,815,255	\$ 73,127,683	\$ 74,721,923
Plan fiduciary net position as a percentage of the total OPEB liability	73.52 %	57.51 %	54.28 %	52.21 %	48.96 %
Covered-employee payroll	\$ 43,914,484	\$ 41,038,526	\$ 39,801,114	\$ 38,254,167	\$ 36,968,407
Net OPEB liability as a percentage of covered-employee payroll	97.35 %	164.50 %	185.46 %	191.16 %	202.12 %

* This schedule is intended to present information for ten years for each respective fiscal year. Additional years will be built prospectively as information becomes available.

See accompanying notes to the required supplementary information.

**Board of Water Supply
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Schedule of OPEB Contributions
Last Ten Fiscal Years**

Year Ended	Actuarially Determined Contribution	Contributions in Relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered- Employee Payroll	Contributions as a Percentage of Covered- Employee Payroll
June 30, 2022	\$ 8,918,000	\$ 8,918,000	\$ -	\$ 41,719,615	21.4 %
June 30, 2021	8,452,000	8,452,000	-	43,914,484	19.2 %
June 30, 2020	8,165,000	8,165,000	-	41,038,526	19.9 %
June 30, 2019	7,945,000	7,945,000	-	39,801,114	20.0 %
June 30, 2018	8,467,000	8,855,338	(388,338)	38,254,167	23.1 %
June 30, 2017	8,181,000	11,724,727	(3,543,727)	36,968,407	31.7 %
June 30, 2016	8,826,000	11,728,539	(2,902,539)	35,467,175	33.1 %
June 30, 2015	8,528,000	10,750,399	(2,222,399)	34,329,374	31.3 %
June 30, 2014	8,977,000	11,982,667	(3,005,667)	32,993,059	36.3 %
June 30, 2013	8,674,000	12,732,550	(4,058,550)	30,236,942	42.1 %

See accompanying notes to the required supplementary information.

**Board of Water Supply
City and County of Honolulu**

**Note to Required Supplementary Information Required by GASB Statement No. 75
Year Ended June 30, 2022**

1. Significant Methods and Assumptions

The actuarially determined annual required contributions (“ARC”) for the year ended June 30, 2022 was developed in the July 1, 2019 valuation. The following summarizes the significant methods and assumptions used to determine the actuarially determined contribution for the year ended June 30, 2022:

Actuarial valuation date	July 1, 2019
Actuarial cost method	Entry Age Normal
Amortization method	Level percent, closed
Equivalent single amortization period	16.0 as of June 30, 2022
Asset valuation method	Smoothed
Inflation	2.50%
Investment rate of return	7.00%
Payroll growth	3.50%
Salary increases	3.50% to 7.00% including inflation
Demographic assumptions	Based on the experience study covering the five-year period ending June 30, 2018 as conducted for the Hawaii Employees’ Retirement System (“ERS”)
Mortality	System-specific mortality tables utilizing scale BB to project generational mortality improvement
Participation rates	98% healthcare participation assumption for retirees that receive 100% of the Base Monthly Contribution. Healthcare participation rates of 25%, 65% and 90% for retirees that receive 0%, 50% or 75% of the base monthly contribution, respectively. 100% for life insurance and 98% for Medicare Part B

**Board of Water Supply
City and County of Honolulu**

**Note to Required Supplementary Information Required by GASB Statement No. 75
Year Ended June 30, 2022**

Healthcare cost trend rates

PPO	Initial rate of 8%, declining to an ultimate rate of 4.86% after 12 years
HMO	Initial rate of 8%, declining to an ultimate rate of 4.86% after 12 years
Part B	Initial rate of 5%, declining to an ultimate rate of 4.70% after 11 years
Dental	Initial rate of 5% for the first two years, followed by 4% for all future years
Vision	Initial rate of 0% for the first two years, followed by 2.5% for all future years
Life insurance	0.00%

The actuarial valuation as of July 1, 2009, which was used to develop the ARC for fiscal year 2011, included a reduction to the discount rate used from the prior valuation. The discount rate changed from a blended discount rate of 7% – 8% to 7%. This resulted in an overall increase to the actuarially determined OPEB liability and the ARC.

There were no other factors that significantly affected trends in the amounts reported in the schedule of changes in the net OPEB liability and related ratios or the schedule of OPEB contributions.

Supplementary Information

**Board of Water Supply
City and County of Honolulu
Schedule of Bonds Payable
June 30, 2022**

	Interest Rate	Bond Dated	Maturing Serially From	Call Dates (1)	Outstanding June 30, 2022
Water System Revenue Bonds Series 2012A					
Insured Serial Bonds	5.000 %	3/29/2012	7/1/2022	(2)	\$ 8,535,000
					<u>8,535,000</u>
Water System Revenue Bonds Series 2014A (Non-AMT) Tax-Exempt Serial Bonds					
Insured Serial Bonds	5.000 %	12/9/2014	7/1/2023	(2)	5,585,000
Insured Serial Bonds	3.000 %	12/9/2014	7/1/2024	(2)	410,000
Insured Serial Bonds	5.000 %	12/9/2014	7/1/2024	(2)	5,455,000
Insured Serial Bonds	5.000 %	12/9/2014	7/1/2025	7/1/2024	6,165,000
Insured Serial Bonds	3.000 %	12/9/2014	7/1/2028	(2)	930,000
Insured Serial Bonds	3.250 %	12/9/2014	7/1/2031	(2)	4,470,000
					<u>23,015,000</u>
Water System Revenue Bonds Series 2014B (AMT) Taxable Serial Bonds					
Insured Serial Bonds	2.755 %	12/9/2014	7/1/2022	(2)	1,540,000
Insured Serial Bonds	2.915 %	12/9/2014	7/1/2023	(2)	1,585,000
Insured Serial Bonds	3.135 %	12/9/2014	7/1/2024	(2)	1,625,000
Insured Serial Bonds	3.285 %	12/9/2014	7/1/2025	(2)	1,670,000
Insured Serial Bonds	3.385 %	12/9/2014	7/1/2026	(2)	1,730,000
Insured Serial Bonds	3.485 %	12/9/2014	7/1/2027	(2)	1,785,000
Insured Serial Bonds	3.585 %	12/9/2014	7/1/2028	(2)	1,845,000
					<u>11,780,000</u>
Water System Revenue Bonds Series 2020A (Tax Exempt)					
Insured Serial Bonds	5.000 %	3/25/2020	7/1/2022	(2)	1,085,000
Insured Serial Bonds	5.000 %	3/25/2020	7/1/2023	(2)	1,145,000
Insured Serial Bonds	5.000 %	3/25/2020	7/1/2024	(2)	1,200,000
Insured Serial Bonds	5.000 %	3/25/2020	7/1/2025	(2)	1,265,000
Insured Serial Bonds	5.000 %	3/25/2020	7/1/2026	(2)	1,330,000
Insured Serial Bonds	5.000 %	3/25/2020	7/1/2027	(2)	1,395,000
Insured Serial Bonds	5.000 %	3/25/2020	7/1/2028	(2)	1,470,000
Insured Serial Bonds	5.000 %	3/25/2020	7/1/2029	(2)	1,545,000

(1) Call dates indicated are optional.

(2) Noncallable.

(continued)

**Board of Water Supply
City and County of Honolulu
Schedule of Bonds Payable
June 30, 2022**

	Interest Rate	Bond Dated	Maturing Serially From	Call Dates (1)	Outstanding June 30, 2022
Insured Serial Bonds	5.000 %	3/25/2020	7/1/2030	(2)	1,620,000
Insured Serial Bonds	5.000 %	3/25/2020	7/1/2031	7/1/2030	1,705,000
Insured Serial Bonds	5.000 %	3/25/2020	7/1/2032	7/1/2030	1,790,000
Insured Serial Bonds	5.000 %	3/25/2020	7/1/2033	7/1/2030	1,885,000
Insured Serial Bonds	2.500 %	3/25/2020	7/1/2034	(2)	1,955,000
Insured Serial Bonds	4.000 %	3/25/2020	7/1/2035	7/1/2030	2,020,000
Insured Serial Bonds	4.000 %	3/25/2020	7/1/2036	7/1/2030	2,105,000
Insured Serial Bonds	4.000 %	3/25/2020	7/1/2037	7/1/2030	2,190,000
Insured Serial Bonds	2.625 %	3/25/2020	7/1/2038	(2)	2,265,000
Insured Serial Bonds	4.000 %	3/25/2020	7/1/2039	7/1/2030	2,340,000
Insured Serial Bonds	2.750 %	3/25/2020	7/1/2040	(2)	2,420,000
Insured Serial Bonds	3.000 %	3/25/2020	7/1/2041	7/1/2030	2,490,000
Insured Serial Bonds	3.000 %	3/25/2020	7/1/2042	7/1/2030	2,565,000
Insured Serial Bonds	3.000 %	3/25/2020	7/1/2043	7/1/2030	2,645,000
Insured Serial Bonds	3.000 %	3/25/2020	7/1/2044	7/1/2030	2,725,000
Insured Serial Bonds	3.000 %	3/25/2020	7/1/2045	7/1/2030	2,805,000
Insured Serial Bonds	3.000 %	3/25/2020	7/1/2046	7/1/2030	2,895,000
Insured Serial Bonds	3.000 %	3/25/2020	7/1/2047	7/1/2030	2,980,000
Insured Serial Bonds	3.000 %	3/25/2020	7/1/2048	7/1/2030	3,070,000
Insured Serial Bonds	3.000 %	3/25/2020	7/1/2049	7/1/2030	3,165,000
					58,070,000
Water System Revenue Bonds					
Series 2020B					
Taxable Serial Bonds					
Insured Serial Bonds	1.508 %	3/25/2020	7/1/2022	(2)	590,000
Insured Serial Bonds	1.661 %	3/25/2020	7/1/2023	(2)	600,000
Insured Serial Bonds	1.720 %	3/25/2020	7/1/2024	(2)	610,000
Insured Serial Bonds	1.770 %	3/25/2020	7/1/2025	(2)	4,535,000
Insured Serial Bonds	1.933 %	3/25/2020	7/1/2026	(2)	4,620,000
Insured Serial Bonds	1.983 %	3/25/2020	7/1/2027	(2)	4,715,000
Insured Serial Bonds	2.027 %	3/25/2020	7/1/2028	(2)	4,815,000
Insured Serial Bonds	2.077 %	3/25/2020	7/1/2029	(2)	4,910,000
Insured Serial Bonds	2.127 %	3/25/2020	7/1/2030	(2)	5,015,000
Insured Serial Bonds	2.227 %	3/25/2020	7/1/2031	(2)	5,125,000
Insured Serial Bonds	2.327 %	3/25/2020	7/1/2032	(2)	5,245,000
Insured Serial Bonds	2.377 %	3/25/2020	7/1/2033	(2)	5,370,000
					46,150,000

(1) Call dates indicated are optional.

(2) Noncallable.

(continued)

**Board of Water Supply
City and County of Honolulu
Schedule of Bonds Payable
June 30, 2022**

	Interest Rate	Bond Dated	Maturing Serially From	Call Dates (1)	Outstanding June 30, 2022
Water System Revenue Bonds Series 2021A (Tax Exempt)					
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2022	(2)	855,000
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2023	(2)	900,000
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2024	(2)	945,000
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2025	(2)	995,000
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2026	(2)	1,045,000
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2027	(2)	1,100,000
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2028	(2)	1,155,000
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2029	(2)	1,215,000
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2030	(2)	1,275,000
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2031	(2)	1,340,000
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2032	7/1/2031	1,410,000
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2033	7/1/2031	1,480,000
Insured Serial Bonds	3.000 %	3/25/2021	7/1/2034	7/1/2031	1,540,000
Insured Serial Bonds	4.000 %	3/25/2021	7/1/2035	7/1/2031	1,595,000
Insured Serial Bonds	4.000 %	3/25/2021	7/1/2036	7/1/2031	1,660,000
Insured Serial Bonds	3.000 %	3/25/2021	7/1/2037	7/1/2031	1,720,000
Insured Serial Bonds	4.000 %	3/25/2021	7/1/2038	7/1/2031	1,785,000
Insured Serial Bonds	4.000 %	3/25/2021	7/1/2039	7/1/2031	1,855,000
Insured Serial Bonds	4.000 %	3/25/2021	7/1/2040	7/1/2031	1,930,000
Insured Serial Bonds	3.000 %	3/25/2021	7/1/2041	7/1/2031	2,000,000
Insured Serial Bonds	4.000 %	3/25/2021	7/1/2042	7/1/2031	2,070,000
Insured Serial Bonds	4.000 %	3/25/2021	7/1/2043	7/1/2031	2,155,000
Insured Serial Bonds	4.000 %	3/25/2021	7/1/2044	7/1/2031	2,245,000
Insured Serial Bonds	4.000 %	3/25/2021	7/1/2045	7/1/2031	2,335,000
Insured Serial Bonds	4.000 %	3/25/2021	7/1/2046	7/1/2031	2,430,000
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2047	7/1/2031	2,545,000
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2048	7/1/2031	2,675,000
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2049	7/1/2031	2,810,000
Insured Serial Bonds	5.000 %	3/25/2021	7/1/2050	7/1/2031	2,955,000
					50,020,000

(1) Call dates indicated are optional.

(2) Noncallable.

(continued)

**Board of Water Supply
City and County of Honolulu
Schedule of Bonds Payable
June 30, 2022**

	Interest Rate	Bond Dated	Maturing Serially From	Call Dates (1)	Outstanding June 30, 2022
Water System Revenue Bonds					
Series 2021B					
Taxable Serial Bonds					
Insured Serial Bonds	0.360 %	3/25/2021	7/1/2023	(2)	3,430,000
Insured Serial Bonds	0.520 %	3/25/2021	7/1/2024	(2)	3,445,000
Insured Serial Bonds	0.950 %	3/25/2021	7/1/2025	(2)	990,000
Insured Serial Bonds	1.160 %	3/25/2021	7/1/2026	(2)	1,000,000
Insured Serial Bonds	1.450 %	3/25/2021	7/1/2027	(2)	7,700,000
Insured Serial Bonds	1.600 %	3/25/2021	7/1/2028	(2)	6,890,000
Insured Serial Bonds	1.820 %	3/25/2021	7/1/2029	(2)	7,965,000
Insured Serial Bonds	1.970 %	3/25/2021	7/1/2030	(2)	8,155,000
Insured Serial Bonds	2.070 %	3/25/2021	7/1/2031	(2)	3,880,000
					43,455,000
Water System Revenue Bonds					
Series 2022A (Tax Exempt)					
Insured Serial Bonds	5.000 %	3/23/2022	7/1/2023	(2)	1,385,000
Insured Serial Bonds	5.000 %	3/23/2022	7/1/2024	(2)	1,460,000
Insured Serial Bonds	5.000 %	3/23/2022	7/1/2025	(2)	1,530,000
Insured Serial Bonds	5.000 %	3/23/2022	7/1/2026	(2)	1,610,000
Insured Serial Bonds	5.000 %	3/23/2022	7/1/2027	(2)	1,695,000
Insured Serial Bonds	5.000 %	3/23/2022	7/1/2028	(2)	1,780,000
Insured Serial Bonds	5.000 %	3/23/2022	7/1/2029	(2)	1,870,000
Insured Serial Bonds	5.000 %	3/23/2022	7/1/2030	(2)	1,965,000
Insured Serial Bonds	5.000 %	3/23/2022	7/1/2031	(2)	2,070,000
Insured Serial Bonds	5.000 %	3/23/2022	7/1/2032	(2)	2,175,000
Insured Serial Bonds	5.000 %	3/23/2022	7/1/2033	7/1/2032	2,285,000
Insured Serial Bonds	5.000 %	3/23/2022	7/1/2034	7/1/2032	2,405,000
Insured Serial Bonds	4.000 %	3/23/2022	7/1/2035	7/1/2032	2,515,000
Insured Serial Bonds	4.000 %	3/23/2022	7/1/2036	7/1/2032	2,615,000
Insured Serial Bonds	5.000 %	3/23/2022	7/1/2037	7/1/2032	2,735,000
Insured Serial Bonds	4.000 %	3/23/2022	7/1/2038	7/1/2032	2,865,000
Insured Serial Bonds	4.000 %	3/23/2022	7/1/2039	7/1/2032	2,980,000
Insured Serial Bonds	4.000 %	3/23/2022	7/1/2040	7/1/2032	3,100,000
Insured Serial Bonds	4.000 %	3/23/2022	7/1/2041	7/1/2032	3,230,000
Insured Serial Bonds	4.000 %	3/23/2022	7/1/2042	7/1/2032	3,360,000
Insured Serial Bonds	4.000 %	3/23/2022	7/1/2043	7/1/2032	3,495,000
Insured Serial Bonds	4.000 %	3/23/2022	7/1/2044	7/1/2032	3,640,000
Insured Serial Bonds	5.000 %	3/23/2022	7/1/2048	7/1/2032	4,290,000
					57,055,000

(1) Call dates indicated are optional.

(2) Noncallable.

(continued)

**Board of Water Supply
City and County of Honolulu
Schedule of Bonds Payable
June 30, 2022**

	Interest Rate	Bond Dated	Maturing Serially From	Call Dates (1)	Outstanding June 30, 2022
Water System Revenue Bonds Series 2022A (2047 Term Bond)					
2047 Term Bond	4.000 %	3/23/2022	7/1/2045	7/1/2032	3,790,000
2047 Term Bond	4.000 %	3/23/2022	7/1/2046	7/1/2032	3,940,000
2047 Term Bond	4.000 %	3/23/2022	7/1/2047	7/1/2032	4,105,000
					<u>11,835,000</u>
Water System Revenue Bonds Series 2022A (2051 Term Bond)					
2051 Term Bond	3.000 %	3/23/2022	7/1/2049	(2)	4,465,000
2051 Term Bond	3.000 %	3/23/2022	7/1/2050	(2)	4,600,000
2051 Term Bond	3.000 %	3/23/2022	7/1/2051	(2)	4,745,000
					<u>13,810,000</u>
Water System Revenue Bonds Series 2022B Taxable Serial Bonds					
Insured Serial Bonds	1.797 %	3/23/2022	7/1/2022	(2)	540,000
Insured Serial Bonds	1.897 %	3/23/2022	7/1/2023	(2)	215,000
Insured Serial Bonds	2.144 %	3/23/2022	7/1/2024	(2)	220,000
Insured Serial Bonds	2.174 %	3/23/2022	7/1/2025	(2)	225,000
Insured Serial Bonds	2.274 %	3/23/2022	7/1/2026	(2)	6,620,000
Insured Serial Bonds	2.377 %	3/23/2022	7/1/2027	(2)	55,000
Insured Serial Bonds	2.477 %	3/23/2022	7/1/2028	(2)	55,000
Insured Serial Bonds	2.489 %	3/23/2022	7/1/2029	(2)	1,955,000
Insured Serial Bonds	2.539 %	3/23/2022	7/1/2030	(2)	1,995,000
Insured Serial Bonds	2.589 %	3/23/2022	7/1/2031	(2)	2,040,000
Insured Serial Bonds	2.639 %	3/23/2022	7/1/2032	(2)	6,510,000
Insured Serial Bonds	2.789 %	3/23/2022	7/1/2033	(2)	6,690,000
Insured Serial Bonds	2.939 %	3/23/2022	7/1/2034	(2)	8,255,000
Insured Serial Bonds	3.039 %	3/23/2022	7/1/2035	(2)	8,415,000
Insured Serial Bonds	3.139 %	3/23/2022	7/1/2036	(2)	8,770,000
					<u>52,560,000</u>
					<u>\$ 376,285,000</u>

(1) Call dates indicated are optional.

(2) Noncallable.

(concluded)

**Board of Water Supply
City and County of Honolulu
Schedule of Net Revenue Requirement
Year Ended June 30, 2022**

Revenues		
Water sales		\$ 245,739,167
Interest		7,860,531
Other		<u>2,524,401</u>
Total revenues		<u>256,124,099</u>
Deductions		
Operating expenses		207,379,212
Less: Depreciation expense		(49,775,718)
Less: Allocated depreciation charges		<u>(2,310,536)</u>
Total deductions		<u>155,292,958</u>
Net revenues		<u>\$ 100,831,141</u>
Net revenue requirement		
Greater of		
1) Aggregate debt service		\$ 23,380,141
Required deposits		-
		<u>\$ 23,380,141</u>
2) Aggregate debt service		\$ 23,380,141
Minimum required debt service ratio		x 1.20
Net revenue requirement		<u>\$ 28,056,169</u>
Net revenue to aggregate debt service ratio		<u>4.31</u>



Board of Water Supply

City and County of Honolulu

Single Audit of Federal Financial Assistance Programs

Year Ended June 30, 2022



**Board of Water Supply
City and County of Honolulu
Index
Year Ended June 30, 2022**

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Compliance and Internal Control Over Financial Reporting

Report of Independent Auditors on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

Compliance and Internal Control Over Federal Awards

Report of Independent Auditors on Compliance for Each Major Program, Internal Control Over Compliance, and the Schedule of Expenditures of Federal Awards Required by the Uniform Guidance

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Compliance and Internal Control Over Financial Reporting



**Report of Independent Auditors on Internal Control
Over Financial Reporting and on Compliance
and Other Matters Based on an Audit of Financial Statements
Performed in Accordance with *Government Auditing Standards***

To the Board of Directors
Board of Water Supply
City and County of Honolulu

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Board of Water Supply (“BWS”), a component unit of the City and County of Honolulu, as of and for the year ended June 30, 2022, and the related notes to the financial statements, which collectively comprise the BWS’s basic financial statements, and have issued our report thereon dated November 30, 2022.

Report on Internal Control Over Financial Reporting

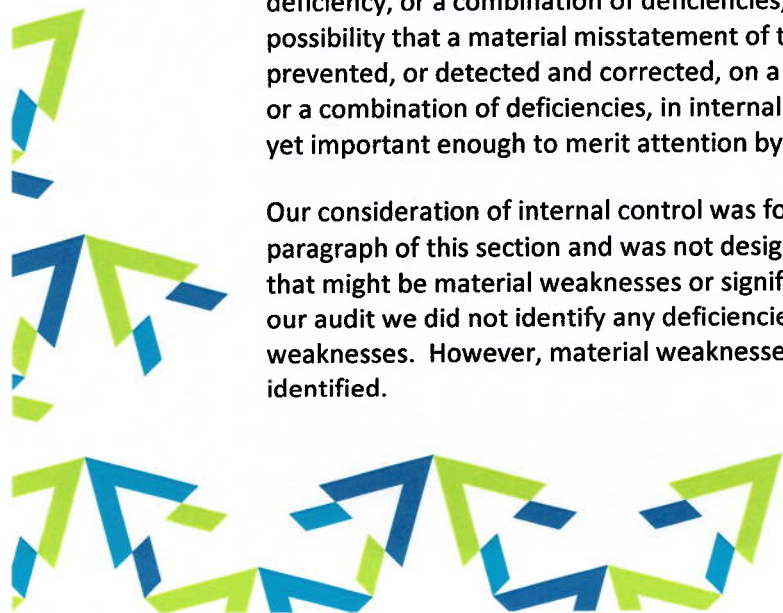
In planning and performing our audit of the financial statements, we considered the BWS’s internal control over financial reporting (“internal control”) as a basis for designing audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the BWS’s internal control. Accordingly, we do not express an opinion on the effectiveness of the BWS’s internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements, on a timely basis. *A material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity’s financial statements will not be prevented, or detected and corrected, on a timely basis. *A significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses or significant deficiencies may exist that were not identified.

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Report on Compliance and Other Matters

As part of obtaining reasonable assurance about whether the BWS's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the financial statements. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the entity's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Accuity LLP

Honolulu, Hawaii
November 30, 2022

**Compliance and Internal Control
Over Federal Awards**



**Report of Independent Auditors on Compliance
for Each Major Program, Internal Control Over
Compliance, and the Schedule of Expenditures of
Federal Awards Required by the Uniform Guidance**

To the Board of Directors
Board of Water Supply
City and County of Honolulu

Report on Compliance for Each Major Federal Program

Opinion on Each Major Federal Program

We have audited the Board of Water Supply's ("BWS") compliance with the types of compliance requirements identified as subject to audit in the OMB *Compliance Supplement* that could have a direct and material effect on each of the BWS's major federal programs for the year ended June 30, 2022. The BWS's major federal programs are identified in the summary of auditors' results section of the accompanying schedule of findings and questioned costs.

In our opinion, the BWS complied, in all material respects, with the compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the year ended June 30, 2022.

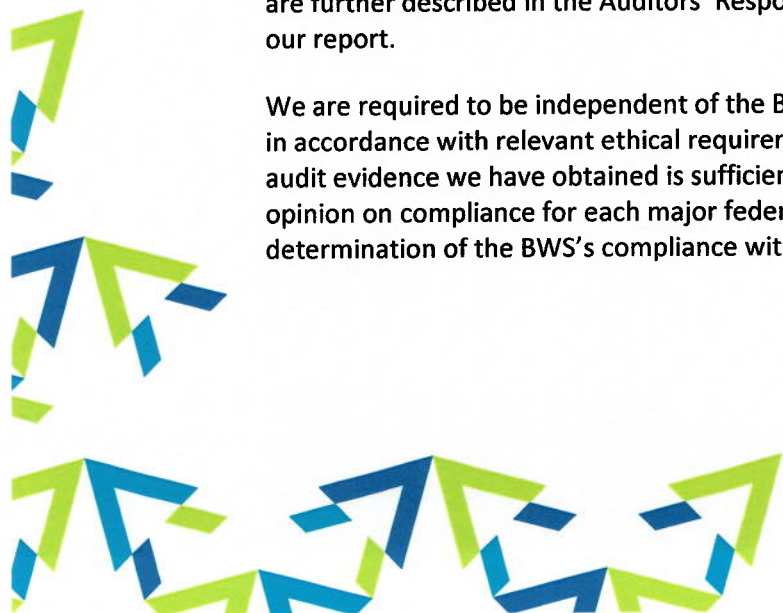
Basis for Opinion on Each Major Federal Program

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America ("GAAS"); the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. *Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* ("Uniform Guidance"). Our responsibilities under those standards and the Uniform Guidance are further described in the Auditors' Responsibilities for the Audit of Compliance section of our report.

We are required to be independent of the BWS and to meet our other ethical responsibilities, in accordance with relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion on compliance for each major federal program. Our audit does not provide a legal determination of the BWS's compliance with the compliance requirements referred to above.

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Responsibilities of Management for Compliance

Management is responsible for compliance with the requirements referred to above and for the design, implementation and maintenance of effective internal control over compliance with the requirements of laws, statutes, regulations, rules and provisions of contracts or grant agreements applicable to the BWS's federal programs.

Auditors' Responsibilities for the Audit of Compliance

Our objectives are to obtain reasonable assurance about whether material noncompliance with the compliance requirements referred to above occurred, whether due to fraud or error, and express an opinion on the BWS's compliance based on our audit. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS, *Government Auditing Standards*, and the Uniform Guidance will always detect material noncompliance when it exists. The risk of not detecting material noncompliance resulting from fraud is higher than for that resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Noncompliance with the compliance requirements referred to above is considered material if there is a substantial likelihood that, individually or in the aggregate, it would influence the judgment made by a reasonable user of the report on compliance about the BWS's compliance with the requirements of each major federal program as a whole.

In performing an audit in accordance with GAAS, *Government Auditing Standards*, and the Uniform Guidance, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material noncompliance, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the BWS's compliance with the compliance requirements referred to above and performing such other procedures as we considered necessary in the circumstances.
- Obtain an understanding of the BWS's internal control over compliance relevant to the audit in order to design audit procedures that are appropriate in the circumstances and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of the BWS's internal control over compliance. Accordingly, no such opinion is expressed.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and any significant deficiencies and material weaknesses in internal control over compliance that we identified during the audit.



Report on Internal Control Over Compliance

A *deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A *material weakness* in internal control over compliance is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A *significant deficiency* in internal control over compliance is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.


Our consideration of internal control over compliance was for the limited purpose described in the Auditors' Responsibilities for the Audit of Compliance section above and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies in internal control over compliance. Given these limitations, during our audit we did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above. However, material weaknesses or significant deficiencies in internal control over compliance may exist that were not identified.

Our audit was not designed for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, no such opinion is expressed.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.

Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance

We have audited the financial statements of BWS as of and for the year ended June 30, 2022, and the related notes to the financial statements, which collectively comprise the BWS's basic financial statements. We issued our report thereon dated November 30, 2022, which contained an unmodified opinion on those financial statements. Our audit was performed for the purpose of forming an opinion on the financial statements that collectively comprise the basic financial statements. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by the Uniform Guidance and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements



themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards is fairly stated in all material respects in relation to the basic financial statements as a whole.

Accuity LLP

Honolulu, Hawaii
November 30, 2022

**Board of Water Supply
City and County of Honolulu
Schedule of Expenditures of Federal Awards
Year Ended June 30, 2022**

Federal Program or Pass-through Entity	Assistance Listing Number	Pass-through Entity Identifying Number	Federal Expenditures
U.S. Department of the Interior			
Title XVI Water Reclamation and Reuse	15.504		\$ 949,000
Partners for Fish and Wildlife	15.631		<u>19,073</u>
Total U.S. Department of the Interior			968,073
U.S. Department of the Treasury			
Pass-through from the City and County of Honolulu			
COVID-19 – Coronavirus Relief Fund	21.019	N/A	<u>189,733</u>
Total U.S. Department of the Treasury			189,733
U.S. Environmental Protection Agency			
Pass-through from the State of Hawaii, Department of Health			
Diesel Emissions Reduction Act (“DERA”) State Grants	66.040	99T63101	49,168
Capitalization Grants for Drinking Water State Revolving Funds	66.468	ASO LOG #22-145	<u>11,500,000</u>
Total U.S. Environmental Protection Agency			<u>11,549,168</u>
Total expenditures of federal awards			<u>\$ 12,706,974</u>

See notes to the schedule of expenditures of federal awards.

**Board of Water Supply
City and County of Honolulu
Notes to Schedule of Expenditures of Federal Awards
Year Ended June 30, 2022**

1. Basis of Presentation

The accompanying schedule of expenditures of federal awards (the "Schedule") includes the federal award activity of the Board of Water Supply ("BWS") under programs of the federal government for the year ended June 30, 2022 and is presented in accordance with the requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* ("Uniform Guidance"). Because the Schedule presents only a selected portion of the operations of BWS, it is not intended to and does not present the financial position, changes in net position, or cash flows of the BWS.

2. Summary of Significant Accounting Policies

Expenditures reported on the Schedule are reported on the accrual basis of accounting. Expenditures under the Capitalization Grants for Drinking Water State Revolving Funds program are reported when incurred and when reimbursed by federal loan proceeds received from the pass-through entity during the audit period. Such expenditures are recognized following the cost principles contained in the Uniform Guidance, wherein certain types of expenditures are not allowable or are limited as to reimbursement.

3. Indirect Cost Rate

The BWS has elected not to use the 10% de minimis indirect cost rate allowed under the Uniform Guidance.

**Board of Water Supply
City and County of Honolulu
Schedule of Findings and Questioned Costs
Year Ended June 30, 2022**

Section I – Summary of Auditors’ Results

Financial Statements

Type of auditors’ report issued	Unmodified	
Internal control over financial reporting		
• Material weakness(es) identified?	___ yes	___X no
• Significant deficiency(ies) identified?	___ yes	___X none reported
Noncompliance material to financial statements noted?	___ yes	___X no

Federal Awards

Internal control over major programs		
• Material weakness(es) identified?	___ yes	___X no
• Significant deficiency(ies) identified?	___ yes	___X none reported
Type of auditors’ report issued on compliance for major programs	Unmodified	
Any audit findings disclosed that are required to be reported in accordance with the Uniform Guidance?	___ yes	___X no

Identification of major programs

Assistance Listing

Number	Name of Federal Program or Cluster
15.504	Title XVI Water Reclamation and Reuse
66.468	Drinking Water State Revolving Fund Cluster

Dollar threshold used to distinguish between type A and type B programs	\$750,000
Auditee qualified as low-risk auditee?	___X yes ___ no

**Board of Water Supply
City and County of Honolulu
Schedule of Findings and Questioned Costs
Year Ended June 30, 2022**

Section II – Financial Statement Findings

None noted.

**Board of Water Supply
City and County of Honolulu
Schedule of Findings and Questioned Costs
Year Ended June 30, 2022**

Section III – Federal Award Findings and Questioned Costs

None noted.

**Board of Water Supply
City and County of Honolulu
Summary Schedule of Prior Audit Findings
Year Ended June 30, 2022**

There were no prior year findings or questioned costs.

ITEM FOR INFORMATION NO. 3

“February 27, 2023

FINANCIAL
UPDATE FOR THE
QUARTER
ENDED
DECEMBER
31, 2022

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

Chair and Members:

Subject: Financial Update for the Quarter Ended December 31, 2022

The following Board of Water Supply’s financial reports and graphs are attached:

- Budget vs Actual Revenue and Expense Totals
- Statement of Revenues, Expenses and Change in Net Assets
- Balance Sheet
- Budget vs Actual Appropriation Budget – Total BWS Summary
- Graph Representing Operating Expenditures by Category
- Graphs of Total Budgeted Operating Expenditures and Total Budgeted Operating Revenues

Respectfully Submitted,

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

Attachment”

The foregoing was for information only.

DISCUSSION: Joseph Cooper, Waterworks Controller, Finance Division, gave the report.

Board Member Anthony inquired if the accounts receivable (A/R) for single-family homes have improved since covid.

Mr. Cooper responded that the BWS is diligently working on A/R and past due accounts, of which 0.25% are write-offs but not due to single-family homes. He commented that families may still struggle even after covid since subsidies have ended.

Board Member Szewczyk asked if there were a lot of families that used the rent utility relief that the State of Hawaii offered.

Mr. Cooper replied that the rent relief and utility rief programs are ongoing. The BWS has received over \$1 M since the programs began.

Chair Andaya asked what the forecast for utility expenses is moving forward.

Ms. Nakabayashi stated that as of the 2nd quarter, the BWS is \$5 M over budget in utilities due to significant increases in cost per kilowatt hour for electricity. She explained that while electricity usage levels are seasonal, with more electricity being used in summer versus in the winter, the BWS has forecasted that utility expenses be up to \$10 M over budget by the end of the year.

Chair Andaya commented that although the BWS exceeded the budget on Utilities, the Personnel, Equipment, and Material, Supplies, and Services category was under budget.

COST DRIVERS		
Year to Date Dec 2022		
	Actual	Budget
	(millions)	(millions)
• Personnel	\$21.3	\$25.7
• Material, Supplies & Services	\$43.2	\$47.8
• Equipment	\$ 0.5	\$ 1.0
• Debt Service	\$ 17.6	\$ 17.4
• Utilities	\$ 18.7	\$ 13.7

Ms. Nakabayashi agreed with Chair Andaya’s comment. She also shared that the materials, supplies and services, and the equipment category are due to timing; contracts are still expected to be awarded, and funds expanded. She commented that the BWS is working to balance costs and continues to monitor closely.

Manager Lau added that the Hawaii Electric Company (HECO) is working on the electricity forecast and will let the BWS know what to expect.

Board Member Szewczyk asked if fuel is included in the Utilities category.

Ms. Nakabayashi replied that fuel is included in the materials, supplies, and services category and falls under Automotive Section in the Water Systems Operations Division. However, the fuel budget is small when compared to electricity. She stated that electricity is roughly 10% of the overall \$200 M operating budget compared to the few million dollars expended for fuel a year.

Manager Lau commented that with the community's help, conservation helps to lower electricity costs. He explained that through conservation,

the BWS could save on the cost of pumping since less electricity is used. Manager Lau encouraged customers to continue water conservation. Chair Andaya asked about the timing of the Materials, Supplies, and Services category.

Ms. Nakabayashi explained that the budget for the Materials, Supplies and Services category tends to lag in the first two quarters of the fiscal year. However, as the fiscal year's third and fourth quarters approach, the Procurement Office is busy working on getting contracts out and funds encumbered.

Manager Lau added that the goal is to try and keep the budget and actual costs as close as possible. However, in consideration of the current economic struggles faced by BWS ratepayers, the BWS elected not to implement a pass-through cost to recover the electricity overages; the BWS is belt-tightening to try and make the budget work.

Ms. Nakabayashi shared that the BWS has a similar rate feature to what Oahu residents see now on their HECO bills, where the BWS could pass through a power cost adjustment. The BWS adjustment is retroactive and applies to future years when the past year's electricity exceeds the budget. As noted by Manager Lau, the BWS elected not to implement this allowance.

Board Member Szewczyk inquired if the overages in the Water Quality, Communications, and Water Resources are tied to Red Hill.



Ms. Nakabayashi responded that some overages were due to Red Hill and timing. She explained that the overages in the second quarter were caused by the timing of when funds were encumbered, not because the expenditure wasn't budgeted; but the cost or contract may have been executed earlier than initially anticipated.

Budget vs. Actual
Revenue and Expense Totals
As of December 31, 2022

	YTD Actuals	YTD Budget	Favorable/ (Unfavorable) Variance
Revenues	133,924	129,280	4,644
Operating Expenses	(117,861)	(121,810)	3,949
Net Revenues (expenditures)	<u>16,063</u>	<u>7,470</u>	<u>8,593</u>

Board Of Water Supply
Statement of Revenues, Expenses And Change In Net Assets
As of December 31, 2022

Current Month Actual	% Revenue	Last Year Actual	% Revenue	Description	Year to Date Actual	% Revenue	Last Year to Date Actual	% Revenue	% Change
				REVENUE					
20,491,909.58	100.00	19,897,044.30	100.00	OPERATING REVENUE	130,721,143.38	100.00	130,220,955.26	100.00	.38
20,491,909.58	100.00	19,897,044.30	100.00	REVENUE	130,721,143.38	100.00	130,220,955.26	100.00	.38
				OPERATING EXPENSES					
3,222,790.79-	15.73	3,134,150.28-	15.75	LABOR COSTS	19,779,755.57-	15.13	19,473,956.67-	14.95	1.57
3,160,256.09-	15.42	3,740,459.10-	18.80	SERVICES	18,642,236.34-	14.26	14,866,848.31-	11.42	25.39
600,877.43-	2.93	506,739.24-	2.55	SUPPLIES	3,114,409.11-	2.38	2,406,655.90-	1.85	29.41
6,200.53-	.03	337.39-		EDUCATION & TRAINING	27,088.62-	.02	9,170.95-	.01	195.37
3,002,187.59-	14.65	2,726,982.60-	13.71	UTILITIES	15,019,890.72-	11.49	11,440,429.66-	8.79	31.29
405,044.59-	1.98	108,884.84-	.55	REPAIR AND MAINTENANCE	1,126,210.83-	.86	983,872.84-	.76	14.47
1,637,276.12-	7.99	1,244,562.84-	6.26	MISC	9,840,631.19-	7.53	9,279,892.72-	7.13	6.04
2,030,598.35-	9.91	2,062,223.05-	10.36	RETIREMENT SYSTEM CONTRIBUTIO	12,372,963.09-	9.47	12,831,214.03-	9.85	3.57-
126,123.17-	.62	41,740.70-	.21	MISC EMPLOYEES' BENEFITS	15,600.29-	.01	1,169,757.91-	.90	98.67-
14,191,354.66-	69.25	13,566,080.04-	68.18	OPERATING EXPENSES	79,938,785.76-	61.15	72,461,798.99-	55.65	10.32
3,458,573.27	16.88	620,393.33-	3.12	NON OPERATING REVENUE AND EXPE	10,615,310.22-	8.12	5,469,351.97-	4.20	94.09
1,339,627.25	6.54	167,070.49	.84	CONTRIBUTION IN AID	7,432,283.33	5.69	6,158,688.91	4.73	20.68
7,581.94-	.04	20,644.91-	.10	LEASE	15,705.15-	.01	124,539.18-	.10	87.39-
4,224,456.29-	20.62	4,113,027.21-	20.67	OTHER EXPENSES	25,911,599.03-	19.82	29,190,384.96-	22.42	11.23-
6,866,717.21	33.51	1,743,969.30	8.76	Change In Net Assets	21,672,026.55	16.58	29,133,569.07	22.37	25.61-

Board Of Water Supply
Balance Sheet
As of DECEMBER 31, 2022

Description	***** Amounts *****			***** Change *****	
	Current	Last Month End	Last Year End	This Month	This Year
ASSETS					
CURRENT ASSETS	55,307,054.93	60,638,711.61	63,371,943.76	(5,331,656.68)	(8,064,888.83)
RESTRICTED ASSETS	16,068,070.02	13,036,314.91	34,274,722.17	3,031,755.11	(18,206,652.15)
INVESTMENTS	640,165,871.85	638,713,888.51	607,931,879.15	1,451,983.34	32,233,992.70
OTHER ASSETS	14,876,605.81	14,934,365.02	16,791,907.52	(57,759.21)	(1,915,301.71)
PROPERTY / PLANT	1,339,182,380.33	1,336,610,334.06	1,334,940,800.90	2,572,046.27	4,241,579.43
DEFERRED OUTFLOWS OF RESOURCE	10,004,443.00	10,004,443.00	10,004,443.00	-	-
DEFERRED OUTFLOWS OF RESOURCE	25,146,762.00	25,146,762.00	25,146,762.00	-	-
ASSETS	<u>2,100,751,187.94</u>	<u>2,099,084,819.11</u>	<u>2,092,462,458.50</u>	<u>1,666,368.83</u>	<u>8,288,729.44</u>
LIABILITIES					
CURRENT LIABILITIES	24,209,442.72	28,011,589.52	51,303,295.16	(3,802,146.80)	(27,093,852.44)
OTHER LIABILITIES	74,133,386.82	74,125,697.76	49,782,654.63	7,689.06	24,350,732.19
BONDS PAYABLE, NONCURRENT	478,175,700.18	479,545,738.00	488,676,813.88	(1,370,037.82)	(10,501,113.70)
LEASE LIABILITY	2,806,339.10	2,842,191.92	2,945,402.26	(35,852.82)	(139,063.16)
NET PENSION LIABILITY	106,763,854.00	106,763,854.00	106,763,854.00	-	-
NET OPEB LIABILITY	65,177,682.00	65,177,682.00	65,177,682.00	-	-
DEFERRED INFLOWS OF RESOURCES	28,840,810.00	28,840,810.00	28,840,810.00	-	-
LIABILITIES	<u>780,107,214.82</u>	<u>785,307,563.20</u>	<u>793,490,511.93</u>	<u>(5,200,348.38)</u>	<u>(13,383,297.11)</u>
NET ASSETS					
RETAINED EARNINGS	293,676,549.12	288,285,997.19	271,321,393.57	-	-
FUND BALANCE	594,633,831.66	594,633,831.66	594,633,831.66	-	-
RESERVE FOR ENCUMBRANCES	410,661,565.79	416,052,117.72	433,016,721.34	-	-
CURRENT YEAR CHANGES TO FU	21,672,026.55	14,908,309.34		6,866,717.21	21,672,026.55
NET ASSETS	<u>1,320,643,973.12</u>	<u>1,313,880,255.91</u>	<u>1,298,971,946.57</u>	<u>6,866,717.21</u>	<u>21,672,026.55</u>
TOTAL LIABILITIES AND NET ASSETS	<u>2,100,751,187.94</u>	<u>2,099,187,819.11</u>	<u>2,092,462,458.50</u>	<u>1,666,368.83</u>	<u>8,288,729.44</u>

Board Of Water Supply
 Budget vs Actual Appropriation Budget - Total BWS Summary

(\$000's)

CIFIS 23820-3021

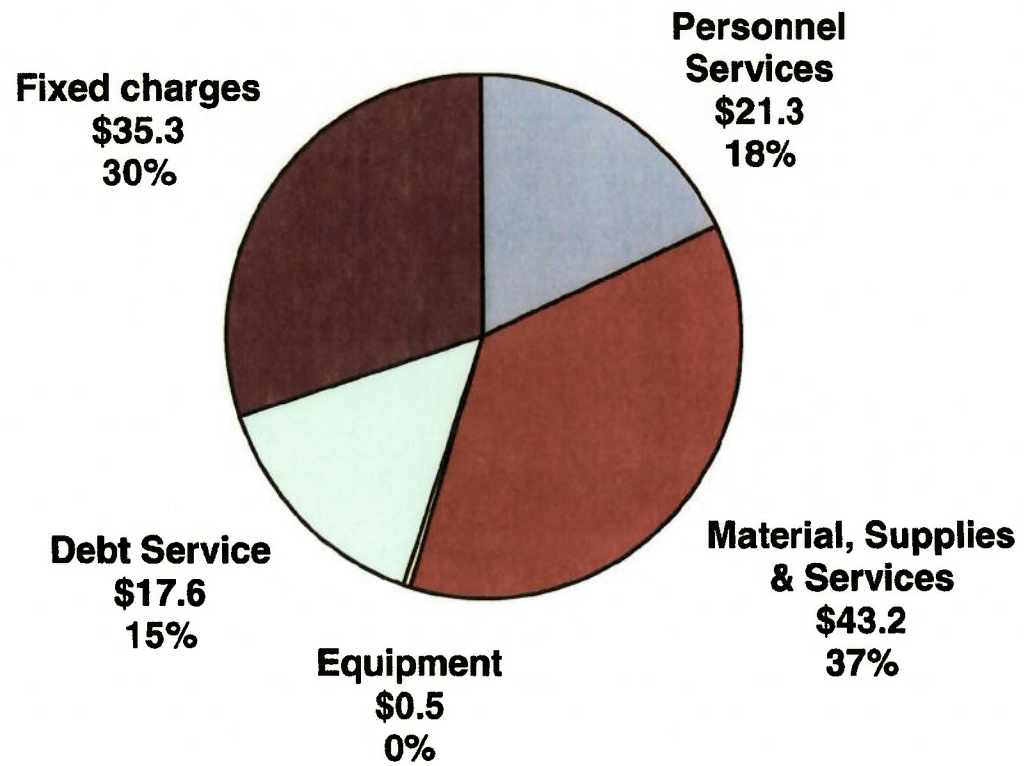
AS OF 12/31/2022

OPER UNIT ALL

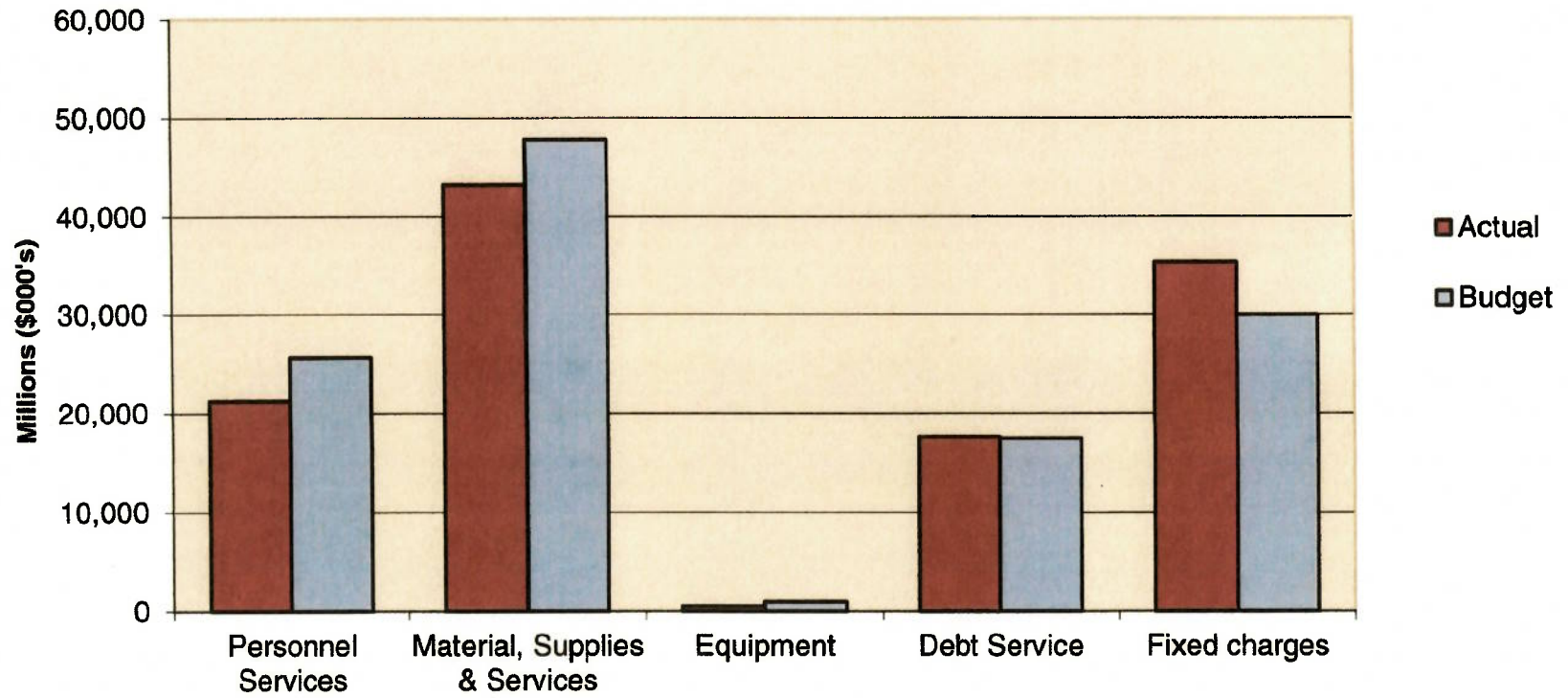
BUSINESS UNIT ALL

YTD-TO-DATE				FOR THE FISCAL YEAR					
YTD Actuals	YTD Budget	Avail/ (Over)	%	Object Description	Revenues/ Expend	Open Encumb	Annual Budget	Avail/ (Over)	%
<u>133,924</u>	<u>129,280</u>	<u>(4,644)</u>	<u>3.59-</u>	REVENUE	<u>133,924</u>		<u>258,560</u>	<u>124,636</u>	<u>48.20</u>
				OPERATING EXPENSES:					
21,263	25,656	4,393	17.12	Personnel Services	21,263		51,446	30,183	58.67
				MATERIALS AND SUPPLIES					
28,169	30,440	2,271	7.46	Services	9,242	18,927	51,607	23,438	45.42
6,419	7,953	1,534	19.29	Supplies	4,317	2,102	16,154	9,735	60.26
44	183	139	75.96	Education & Training	27	17	428	384	89.72
	6	6	100.00	Utilities			12	12	100.00
1,318	1,290	(28)	2.17-	Repairs & Maint	799	519	2,785	1,467	52.68
7,280	7,916	636	8.03	Misc	6,428	852	15,233	7,953	52.21
470	979	509	51.99	Equipment	38	432	5,087	4,617	90.76
17,562	17,430	(132)	.76-	Debt Service	17,562		34,511	16,949	49.11
				FIXED CHARGES:					
18,720	13,660	(5,060)	37.04-	Utilities	18,720		27,320	8,600	31.48
1,650	1,650			Case Fees	1,650		3,300	1,650	50.00
7,763	7,700	(63)	.82-	Retirement System Contribution	7,763		15,400	7,637	49.59
7,203	6,947	(256)	3.69-	Misc Employees' Benefits	6,774	429	13,960	6,757	48.40
<u>117,861</u>	<u>121,810</u>	<u>3,949</u>	<u>3.24</u>	TOTAL OPERATING EXPENDITURES	<u>94,583</u>	<u>23,278</u>	<u>237,243</u>	<u>119,382</u>	<u>50.32</u>
16,063	7,470	(8,593)		NET REVENUES (EXPENDITURES)	39,341	(23,278)	21,317	5,254	

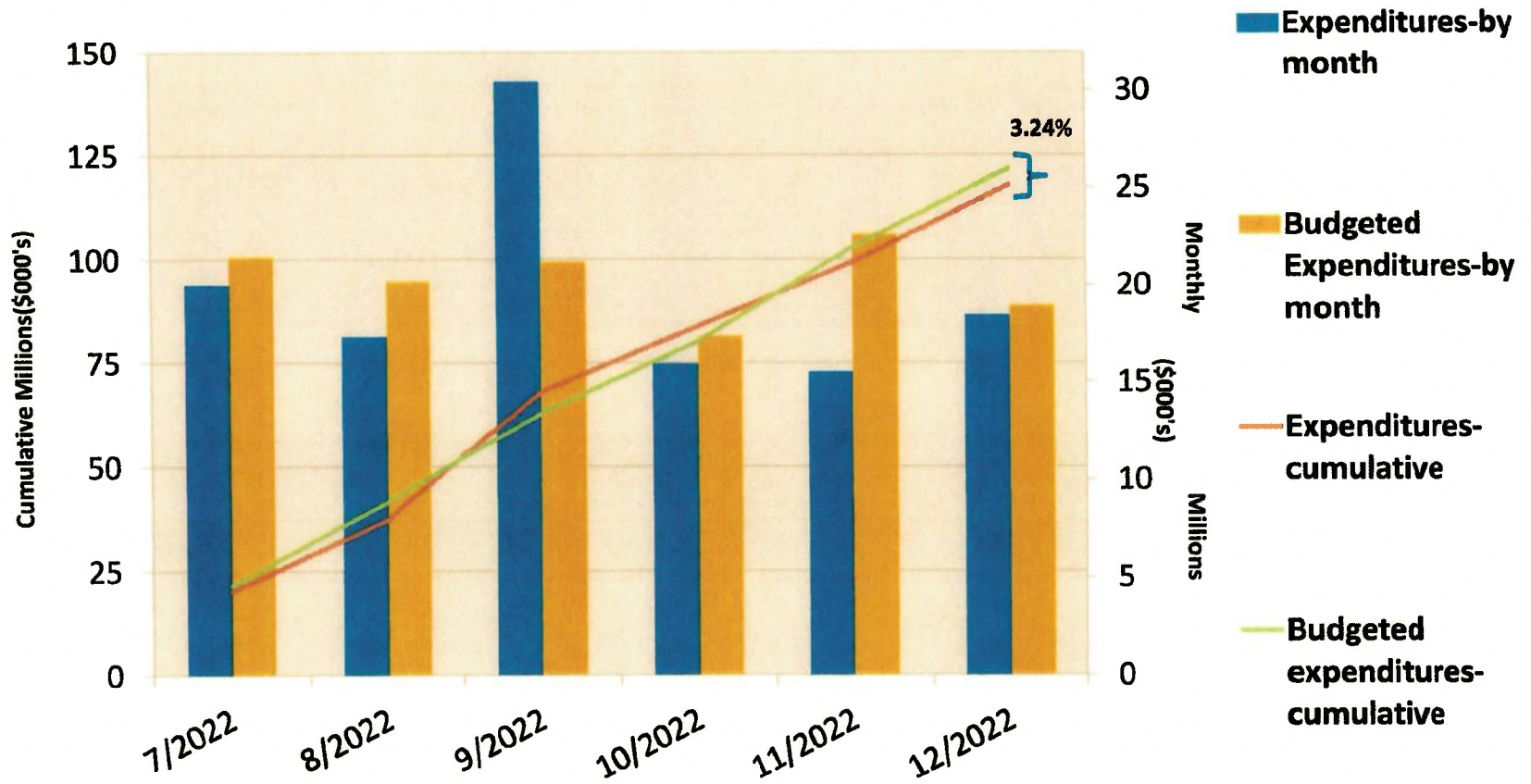
Total Operating Expenditures - \$117.9
As of December 31, 2022
(millions of dollars)



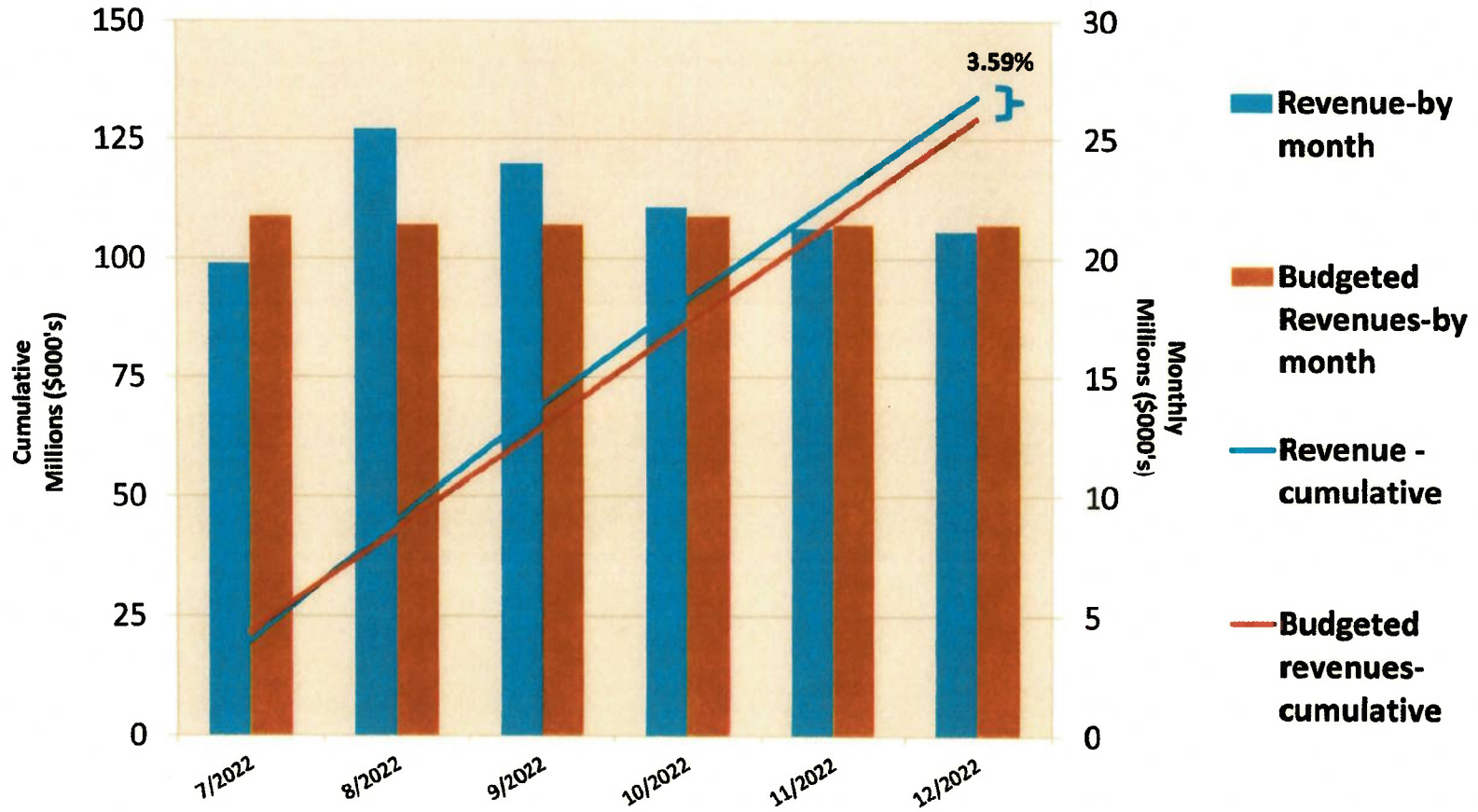
**Operating Expenditures by Category (Budget vs. Actual)
As of December 31, 2022**

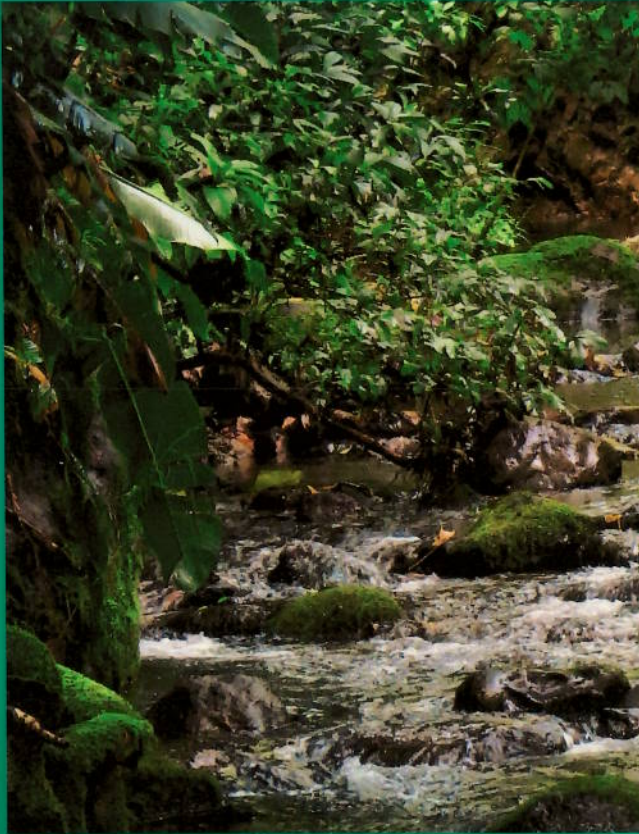


BUDGETED OPERATING EXPENDITURES FY 2023



BUDGETED OPERATING REVENUES FY 2023





FINANCIAL
PERFORMANCE
JULY 2022–DEC 2022

Joe Cooper
February 27, 2023
boardofwatersupply.com



BUDGET TO ACTUAL JULY 2022 – DEC 2022

- Actual Revenue \$133.9 million vs.
- Budgeted Revenue \$129.3 million

- Operating costs are \$117.9 million vs.
- Budgeted costs of \$121.8 million

- Actual Net Revenue \$16.0 million vs.
- Budgeted Net Expenditures \$7.5 million



COST DRIVERS

Year to Date Dec 2022

	Actual (millions)	Budget (millions)
• Personnel	\$21.3	\$25.7
• Material, Supplies & Services	\$43.2	\$47.8
• Equipment	\$ 0.5	\$ 1.0
• Debt Service	\$ 17.6	\$ 17.4
• Utilities	\$ 18.7	\$ 13.7



OPERATING BUDGET VS ACTUAL

FY2023 2ND QUARTER - YEAR TO DATE: JUL 22 – DEC 22

BUDGETED EXPENDITURES ARE \$121.8M VS. ACTUAL EXPENDITURES OF \$117.9M
OF THE (\$3.9M) VARIANCE...

Fixed Charges - \$5.4M Over Budget

- Electric Power – Water Dist. (\$4.7M Over)
- Electricity (\$333K Over)

Water Quality - \$3.2M Over Budget

- Professional Services (\$3.5M Over)

Communications Office - \$434K Over Budget

- Other Contractual Services (\$448K Over)

Water Resources - \$239K Over Budget

- Other Contractual Services (\$994K Over)
- Repair, Maintenance, Photovoltaic (\$214K Over)

Manager's Office - \$263K Over Budget

- Misc. Fees & Registration (\$197K Over)

Field Operations - \$4.9M Under Budget

- Salaries and Wages (\$1.7M Under)
- Meters Storeroom (\$912K Under)

Capital Projects- \$3.1M Under Budget

- Professional Services (\$2M Under)
- Salaries & Wages (\$574K Under)

Information Technology - \$2.6M Under Budget

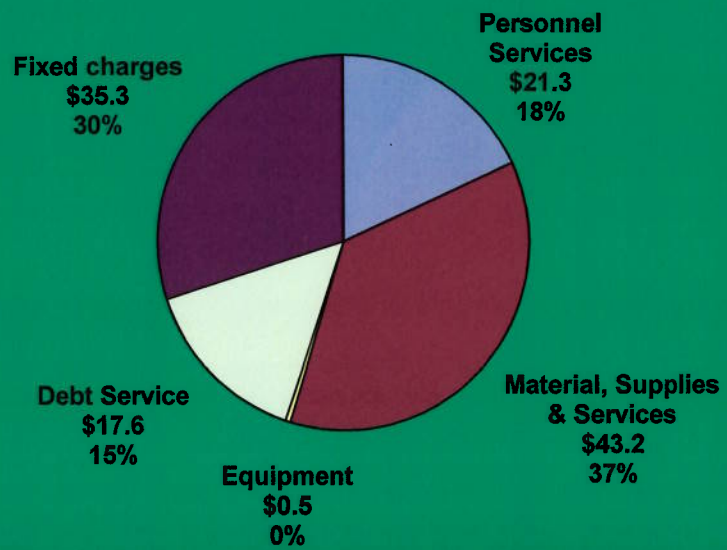
- Other Contractual Services (\$2M Under)
- Software Licenses and Maint. (\$264K Under)

Executive Support - \$910K Under Budget

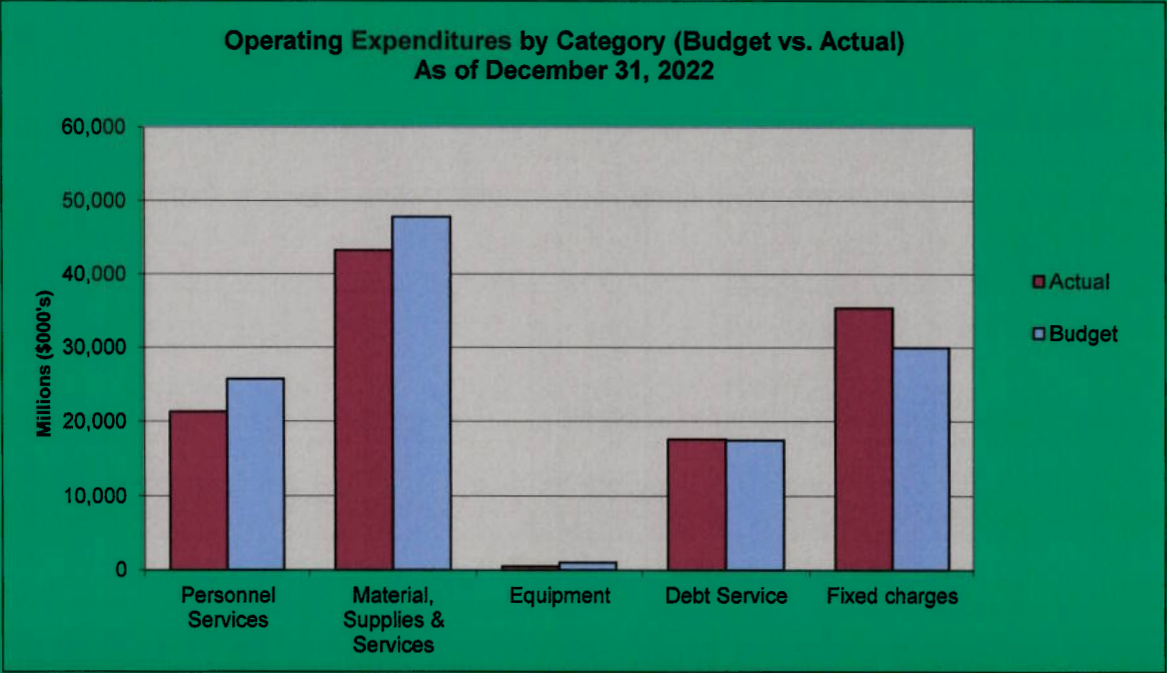
- Professional Services (\$576K Under)
- Workers Compensation Benefits (\$362K Under)



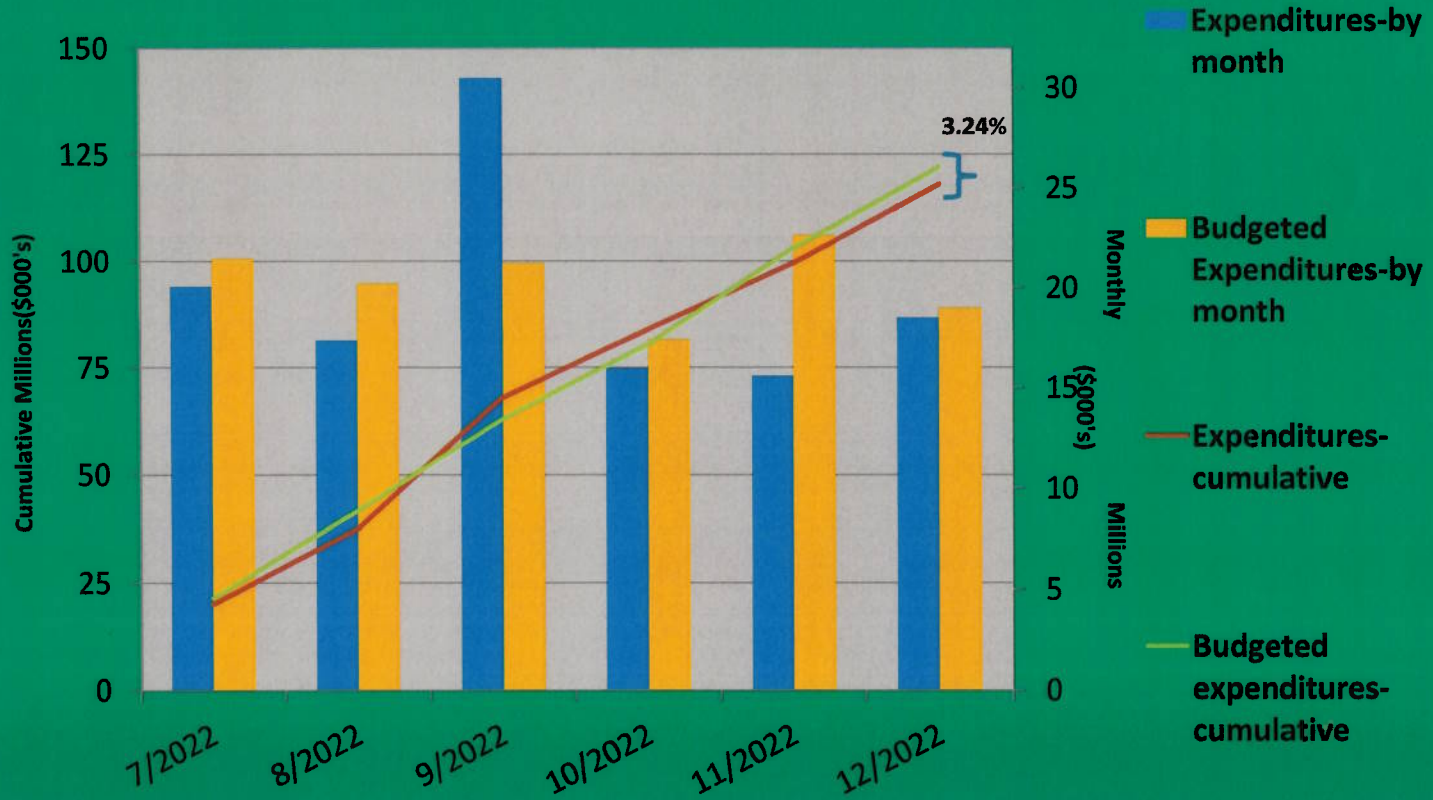
Total Operating Expenditures - \$117.9
As of December 31, 2022
(millions of dollars)



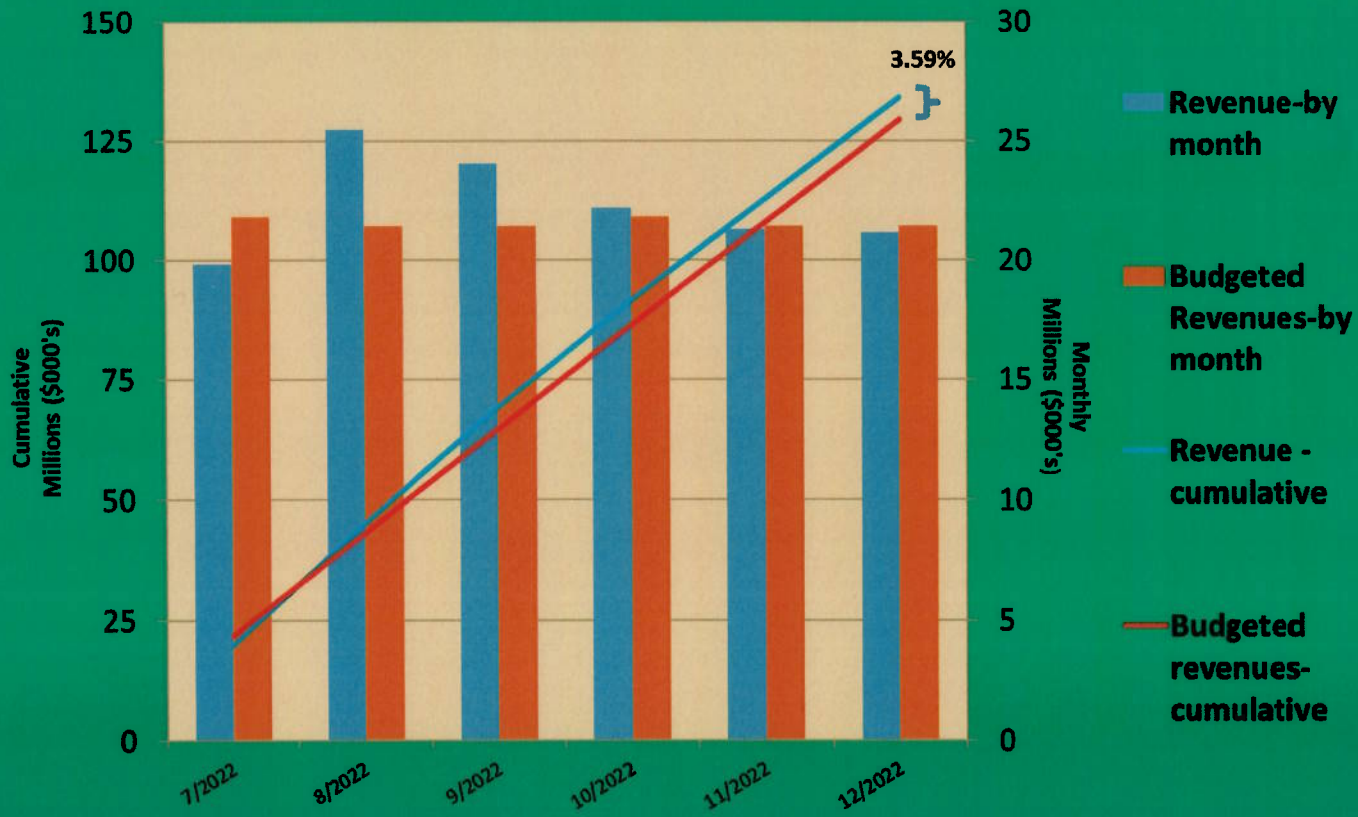
**Operating Expenditures by Category (Budget vs. Actual)
As of December 31, 2022**



BUDGETED OPERATING EXPENDITURES FY 2023



BUDGETED OPERATING REVENUES FY 2023





Mahalo!

BOARD OF WATER SUPPLY

WWW.BOARDOFWATERSUPPLY.COM



ITEM FOR INFORMATION NO. 4

"February 27, 2023

CAPITAL
IMPROVEMENT
PROGRAM
QUARTERLY
UPDATE

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

Chair and Members:

Subject: Capital Improvement Program Quarterly Update

Jadine Urasaki, Acting Program Administrator, Capital Projects Division,
will provide an update on the Capital Improvement Program

Respectfully Submitted,

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

Attachment"

The foregoing was for information only.

DISCUSSION:

Jadine Urasaki, Acting Program Administrator, Capital Projects Division,
gave the report.

Board Member Sword inquired if the pipeline project on Pensacola Street
is included in the report.

Ms. Jadine Urasaki responded that the Kalawahine Pipeline project is
currently under construction.

Manager Lau added that the Kalawahine Pipeline project is not included in
the report presented since it was awarded and included in the previous
fiscal year.

Board Member Szewczyk asked if there have been any challenges in
awarding contracts due to cost increases.

Ms. Urasaki replied that there was one pipeline bid that was lower than the
BWS's estimate, another pipeline bid about the same amount as the
BWS's estimate, and a third pipeline bid that was higher than the BWS's
estimate. There was one contractor for one exploratory well project, which
may not have necessarily been due to cost increases but possibly because
the contractors were also bidding or obtaining contracts with the Navy's
Red Hill well projects. However, the BWS has not seen much of a
challenge in the latest bids, which are inconsistent; some come in low,
some high, and some close.

Manager Lau mentioned that the BWS had seen longer lead times on
materials and equipment.

Board Member Szewczyk mentioned that there had been a 20% to 30% increase in concrete cost and asked if it's affected any of the BWS projects.

Manager Lau stated that the BWS uses a minimal amount of concrete.

Board Member Sword inquired if there was a shortage of concrete.

Ms. Urasaki responded that shipping issues caused the concrete shortage but have since been resolved.

Chair Andaya asked how the BWS is dealing with supply chain issues.

Manager Lau responded that the BWS had asked contractors for the option to order specialty materials in advance if paid upfront and delivered on-site.

Chair Andaya commented that the metric "Awarded Price per Linear Square Foot" presented in August 2022 was great for monitoring the trends and suggested including it in the next CIP Quarterly Update.

Quarterly Capital Improvement Program Status Report
All Divisions
as of December 31, 2022

Quarter Awarded	JUL - SEP		OCT - DEC		JAN - MAR		APR - JUN		Awarded to Date	Total Budgeted
Design Contracts Awarded (#/\$)	0	\$0.00	1	\$300,000.00	0	\$0.00	0	\$0.00	\$300,000.00	\$23,554,000.00
Construction Contracts Awarded (#/\$)	2	937,349.00	2	295,912.00	0	0.00	0	0.00	1,233,261.00	120,845,500.00
Land Purchases (#/\$)	0	0.00	0	0.00	0	0.00	0	0.00	0.00	100,000.00
Project Totals	2	\$937,349.00	3	\$595,912.00	0	\$0.00	0	\$0.00	\$1,533,261.00	\$144,499,500.00

Quarter Completed	JUL - SEP		OCT - DEC		JAN - MAR		APR - JUN		Totals
Design Contracts Completed (#/\$)	0	\$0.00	6	\$1,148,091.61	0	\$0.00	0	\$0.00	\$1,148,091.61
Construction Contracts Completed (#/\$)	1	1,467,700.00	7	3,162,978.29	0	0.00	0	0.00	4,630,678.29
Totals	1	\$1,467,700.00	13	\$4,311,069.90	0	\$0.00	0	\$0.00	\$5,778,769.90

Ongoing Projects	
Ongoing Design Projects (#)	242
Ongoing Design Projects (\$)	\$106,457,305.50
Ongoing Construction Projects (#)	149
Ongoing Construction Projects (\$)	\$349,006,557.37



Quarterly Capital Improvement Program Status Report
All Divisions

DESIGN AND CONSTRUCTION PROJECTS AWARDED - SECOND QUARTER FY 2023

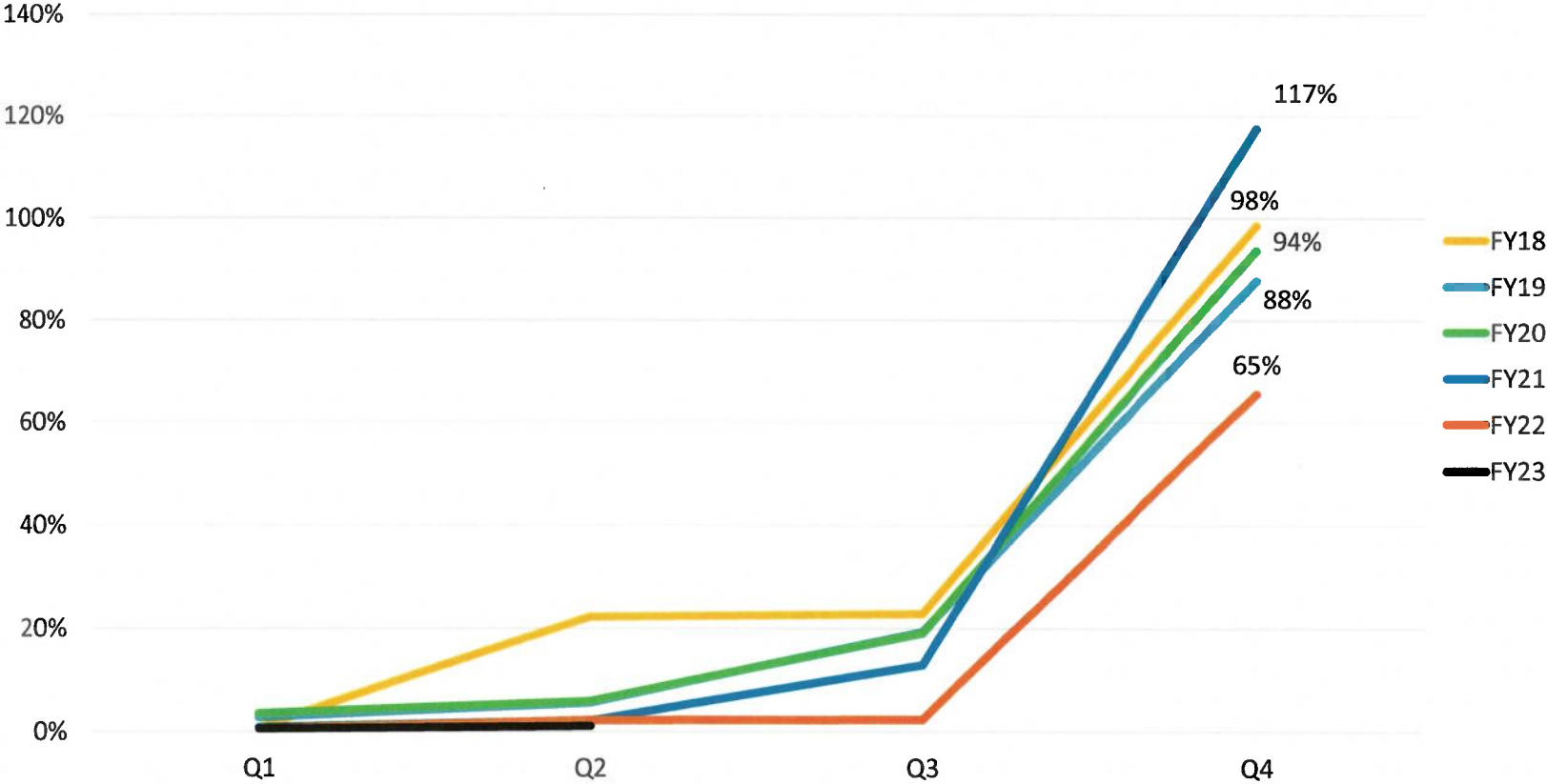
Item #	Project Title	Expend Type	Budget Amount	Awarded
23-010A	Kapalama Wells Replacement of Pump No.2	CONST	\$272,774.00	\$ 272,774.00
23-033A	Pearl City Booster No.3 Control Building Reroofing	CONST	23,138.00	\$ 23,138.00
23-038	Pump Station Assessment and Operations	P&E	300,000.00	\$ 300,000.00
2nd Quarter totals			\$595,912.00	\$595,912.00

DESIGN AND CONSTRUCTION PROJECTS COMPLETED - SECOND QUARTER FY 2023

Job #	Project Title	Completion Date	Contract Amount
2019-025	Farrington Highway 24-Inch Main Rehabilitation	10/3/2022	\$ 760,343.00
2021-046	Halawa Xeriscape Garden Multipurpose Building	10/3/2022	\$ 118,051.63
2013-033B	Geotechnical Survey for FY14 Pipeline Projects	10/4/2022	\$ 152,623.84
2011-032	Microbiological Laboratory Air Conditioning Upgrade	10/4/2022	\$ 109,964.00
19-050B	2019 Fencing Improvements at Various Sites Across Oahu - Phase I	10/5/2022	\$ 845,603.00
2014-060	Kalakaua Avenue Water System Improvements	10/5/2022	\$ 928,632.99
2012-039D	Beretania Engineering Building Window Repairs	10/06/2022	\$ 219,458.62
21-041J	Repainting of Waialae Iki 640 and 1080 Reservoirs	10/18/2022	\$ 369,950.00
15-015	Mililani Wells IV Replacement of Pump No. 2	11/07/2022	\$ 995,598.63
15-013	Kaonohi Booster I Replacement of Pumping Units	11/14/2022	\$ 568,369.98
21-009B	Kahana Wells Replacement of Pump No. 2	11/16/2022	\$ 196,530.00
20-010X	Hoaeae Wells Replacement of Pump No. 6	11/22/2022	\$ 133,247.01
21-009E	Hoaeae Wells Replace Pump 6 Bowl Assembly	11/22/2022	\$ 53,679.67
2nd Quarter totals			\$4,311,069.90



Cummulative % Budget execution by quarter



ITEM FOR INFORMATION NO. 5

“February 27, 2023

STATUS
UPDATE OF
GROUNDWATER
LEVELS AT
ALL INDEX
STATIONS

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

This Status Update includes the January 2023 and February 2023 Updates because the January 2023 status update was deferred from the January 2023 Board Meeting.

Five aquifer index stations were in low groundwater condition for the production months of December 2022 and January 2023. Kaimuki, Pearl City, Kaluanui, and Waialua are in Caution Status. Punaluu is in Alert Status. The monthly production average for December 2022 was 129.27 million gallons per day, while in January 2023, it was 131.20 million gallons per day.

The Board of Water Supply rainfall index for the month of December 2022 was 64 percent of normal, while for the month of January 2023, it was 105 percent of normal. The rainfall index 5-month moving average was 78 percent in January 2023. As of January 31, 2023, the Hawaii Drought Monitor shows zero drought to abnormally dry conditions moving roughly southwest across Oahu. The National Weather Service is forecasting above-normal precipitation through April 2023.

Most monitoring wells exhibited stable to slightly increasing head levels for the month of January 2023, likely reflecting the lower overall groundwater production combined with the relatively higher rainfall for the month of January. Average monthly production for January 2023 was higher than in January 2022 but similar to the 5-year monthly average.

Respectfully Submitted,

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

Attachment”

The foregoing was for information only.

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

**PRODUCTION, HEAD AND RAINFALL REPORT
MONTH OF DECEMBER 2022**

POTABLE

STATION	MGD
HONOLULU (1)	
KULIOUOU	0.00
WAILUPE	0.13
AINA KOA	0.00
AINA KOA II	0.66
MANOA II	0.92
PALOLO	1.10
KAIMUKI HIGH	2.00
KAIMUKI LOW	1.10
WILDER	8.90
BERETANIA HIGH	2.56
BERETANIA LOW	0.76
KALIHI HIGH	0.00
KALIHI LOW	5.00
KAPALAMA	1.33
KALIHI SHAFT	8.21
MOANALUA	0.69
HALAWA SHAFT	0.00
KAAMILO	0.58
KALAUAO	8.99
PUNANANI	12.33
KAAHUMANU	0.25
HECO WAIU	1.02
MANANA	0.20
WAIALAE IKI	0.27
WELLS SUBTOTAL:	56.98
MANOA TUNNEL	0.17
PALOLO TUNNEL	0.00
GRAVITY SUBTOTAL:	0.17
HONO. SUBTOTAL:	57.15

STATION	MGD
WINDWARD (2)	
WAIMANALO II	0.17
WAIMANALO III	0.00
KUOU I	0.97
KUOU II	0.52
KUOU III	0.62
LULUKU	0.80
HAIKU	0.32
IOLEKAA	0.00
KAHALUU	0.66
KAHANA	0.98
PUNALUU I	0.00
PUNALUU II	3.06
PUNALUU III	0.00
KALUANUI	1.47
MAAKUA	0.27
HAUULA	0.25
WELLS SUBTOTAL:	10.09
WAIM. TUNNELS I & II	0.00
WAIM. TUNNELS III&IV	0.19
WAIHEE INCL. WELLS	0.29
WAIHEE TUNNEL	3.74
LULUKU TUNNEL	0.19
HAIKU TUNNEL	0.26
KAHALUU TUNNEL	1.23
GRAVITY SUBTOTAL:	5.89
WIND. SUBTOTAL:	15.98

STATION	MGD
NORTH SHORE (3)	
KAHUKU	0.32
OPANA	0.97
WAIALEE I	0.19
WAIALEE II	0.03
HALEIWA	0.00
WAIALUA	1.66
N.SHORE SUBTOTAL:	3.18

STATION	MGD
MILILANI (4)	
MILILANI I	1.36
MILILANI II	0.00
MILILANI III	0.56
MILILANI IV	2.12
MILILANI SUBTOTAL:	4.04

STATION	MGD
WAHIAWA (5)	
WAHIAWA	1.26
WAHIAWA II	1.49
WAHIAWA SUBTOTAL:	2.75

STATION	MGD
PEARL CITY-HALAWA (6)	
HALAWA 277	0.00
HALAWA 550	0.00
AIEA	0.00
AIEA GULCH 497	0.00
AIEA GULCH 550	0.21
KAONOHI I	1.82
WAIMALU I	0.00
NEWTOWN	1.65
WAIU	1.76
PEARL CITY I	0.84
PEARL CITY II	1.00
PEARL CITY III	0.22
PEARL CITY SHAFT	0.91
PEARL CITY-HALAWA SUBTOTAL:	8.42

STATION	MGD
WAIPAHU-EWA (7)	
WAIPIO HTS.	1.17
WAIPIO HTS. I	0.00
WAIPIO HTS. II	0.33
WAIPIO HTS. III	1.22
WAIPAHU	6.74
WAIPAHU II	1.70
WAIPAHU III	4.07
WAIPAHU IV	2.34
KUNIA I	0.70
KUNIA II	1.58
KUNIA III	0.25
HOAEAE	6.70
HONOULIULI I	0.00
HONOULIULI II	6.87
MAKAKILO	0.15
WAIPAHU-EWA SUBTOTAL:	33.81

STATION	MGD
WAIANAE (8)	
MAKAHA I	0.61
MAKAHA II	0.00
MAKAHA III	0.11
MAKAHA V	0.16
MAKAHA VI	0.00
MAKAHA SHAFT	0.00
KAMAILE	0.07
WAIANAE I	0.29
WAIANAE II	0.34
WAIANAE III	0.80
WELLS SUBTOTAL:	2.37
WAI. C&C TUNNEL	1.40
WAI. PLANT. TUNNELS	0.16
GRAVITY SUBTOTAL:	1.56
WAIANAE SUBTOTAL:	3.93

NONPOTABLE

NONPOTABLE	MGD
KALAUAO SPRINGS	0.45
BARBERS POINT WELL	0.98
GLOVER TUNNEL NP	0.30
NONPOTABLE TOTAL:	1.73

RECYCLED WATER (NOVEMBER 2022)

RECYCLED WATER	MGD
HONOULIULI WRF R-1	6.13
HONOULIULI WRF RO	1.54
RECYCLED TOTAL:	7.67

**PRODUCTION, HEAD AND RAINFALL REPORT
MONTH OF DECEMBER 2022**

PRODUCTION SUMMARIES

TOTAL WATER	MGD
PUMPAGE	121.65
GRAVITY	7.62
POTABLE TOTAL:	129.27
NONPOTABLE	1.73
RECYCLED WATER	7.67
TOTAL WATER:	138.66

CWRM PERMITTED USE AND BWS ASSESSED YIELDS FOR BWS POTABLE SOURCES				
WATER USE DISTRICTS		A	B	C
		PERMITTED USE/ BWS YLDS	DEC 2022	DIFF. A-B
1	HONOLULU	83.32	56.98	26.34
2	WINDWARD	25.02	15.98	9.04
3	NORTH SHORE	4.70	3.18	1.52
4	MILILANI	7.53	4.04	3.49
5	WAHIAWA	4.27	2.75	1.52
6	PEARL CITY-HALAWA	12.25	8.42	3.83
7	WAIPAHAU-EWA	50.63	33.81	16.82
8	WAIANAЕ	4.34	3.93	0.41
TOTAL:		192.06	129.10	62.96

CWRM PERMITTED USE FOR BWS NONPOTABLE SOURCES				
WATER USE DISTRICTS		A	B	C
		PERMITTED USE	DEC 2022	DIFF. A-B
7	WAIPAHAU-EWA (BARBERS POINT WELL)	1.00	0.98	0.02
TOTAL:		1.00	0.98	0.02

EFFECTIVE WATER DEMAND PER DISTRICT

IMPORT/EXPORT BETWEEN WATER USE DISTRICTS			
FROM	TO		MGD
2	1	WINDWARD EXPORT	0.60
7	8	BARBERS PT LB	4.95

WATER USE DISTRICTS		SUBTOTAL	IMPORT	EXPORT	EFFECTIVE WATER DEMAND
1	HONOLULU	57.15	0.60	-	57.75
2	WINDWARD	15.98	-	0.60	15.38
3	NORTH SHORE	3.18	-	-	3.18
4	MILILANI	4.04	-	-	4.04
5	WAHIAWA	2.75	-	-	2.75
6	PEARL CITY-HALAWA	8.42	-	-	8.42
7	WAIPAHAU-EWA	33.81	-	4.95	28.86
8	WAIANAЕ	3.93	4.95	-	8.88
TOTAL:		129.27	5.55	5.55	129.27

**PRODUCTION, HEAD AND RAINFALL REPORT
MONTH OF JANUARY 2023**

POTABLE

STATION	MGD
HONOLULU (1)	
KULIOUOU	0.00
WAILUPE	0.13
AINA KOA	0.00
AINA KOA II	0.40
MANOA II	0.94
PALOLO	1.10
KAIMUKI HIGH	2.02
KAIMUKI LOW	1.42
WILDER	9.17
BERETANIA HIGH	2.67
BERETANIA LOW	2.00
KALIHI HIGH	0.00
KALIHI LOW	5.12
KAPALAMA	1.38
KALIHI SHAFT	8.57
MOANALUA	0.72
HALAWA SHAFT	0.00
KAAMILO	0.59
KALAUAO	9.14
PUNANANI	12.26
KAAHUMANU	0.32
HECO WAIU	0.00
MANANA	0.32
WAIALAE IKI	0.29
WELLS SUBTOTAL:	58.56
MANOA TUNNEL	0.17
PALOLO TUNNEL	0.00
GRAVITY SUBTOTAL:	0.17
HONO. SUBTOTAL:	58.73

STATION	MGD
WINDWARD (2)	
WAIMANALO II	0.17
WAIMANALO III	0.00
KUOU I	0.75
KUOU II	0.30
KUOU III	0.49
LULUKU	0.83
HAIKU	0.35
IOLEKAA	0.00
KAHALUU	0.68
KAHANA	0.94
PUNALUU I	0.00
PUNALUU II	3.23
PUNALUU III	0.00
KALUANUI	1.50
MAAKUA	0.31
HAUULA	0.24
WELLS SUBTOTAL:	9.78
WAIM. TUNNELS I & II	0.00
WAIM. TUNNELS III&IV	0.19
WAIHEE INCL. WELLS	0.29
WAIHEE TUNNEL	3.83
LULUKU TUNNEL	0.17
HAIKU TUNNEL	0.27
KAHALUU TUNNEL	1.33
GRAVITY SUBTOTAL:	6.08
WIND. SUBTOTAL:	15.86

STATION	MGD
NORTH SHORE (3)	
KAHUKU	0.33
OPANA	0.99
WAIALEE I	0.20
WAIALEE II	0.01
HALEIWA	0.00
WAIALUA	1.62
N.SHORE SUBTOTAL:	3.15

STATION	MGD
MILILANI (4)	
MILILANI I	1.04
MILILANI II	0.00
MILILANI III	0.57
MILILANI IV	2.45
MILILANI SUBTOTAL:	4.05

STATION	MGD
WAHIAWA (5)	
WAHIAWA	1.21
WAHIAWA II	1.57
WAHIAWA SUBTOTAL:	2.78

STATION	MGD
PEARL CITY-HALAWA (6)	
HALAWA 277	0.00
HALAWA 550	0.00
AIEA	0.00
AIEA GULCH 497	0.00
AIEA GULCH 550	0.23
KAONOHI I	1.81
WAIMALU I	0.00
NEWTOWN	1.77
WAIU	1.87
PEARL CITY I	0.84
PEARL CITY II	1.09
PEARL CITY III	0.23
PEARL CITY SHAFT	0.90
PEARL CITY-HALAWA SUBTOTAL:	8.73

STATION	MGD
WAIPAHU-EWA (7)	
WAIPIO HTS.	0.61
WAIPIO HTS. I	0.00
WAIPIO HTS. II	0.28
WAIPIO HTS. III	1.23
WAIPAHU	6.50
WAIPAHU II	1.73
WAIPAHU III	5.10
WAIPAHU IV	2.53
KUNIA I	1.67
KUNIA II	1.62
KUNIA III	0.00
HOAEAE	6.76
HONOULIULI I	0.13
HONOULIULI II	5.57
MAKAKILO	0.15
WAIPAHU-EWA SUBTOTAL:	33.87

STATION	MGD
WAIANAE (8)	
MAKAHA I	0.68
MAKAHA II	0.00
MAKAHA III	0.09
MAKAHA V	0.11
MAKAHA VI	0.00
MAKAHA SHAFT	0.00
KAMAILE	0.06
WAIANAE I	0.29
WAIANAE II	0.35
WAIANAE III	0.82
WELLS SUBTOTAL:	2.40
WAI. C&C TUNNEL	1.40
WAI. PLANT. TUNNELS	0.23
GRAVITY SUBTOTAL:	1.63
WAIANAE SUBTOTAL:	4.03

NONPOTABLE

NONPOTABLE	MGD
KALAUAO SPRINGS	0.50
BARBERS POINT WELL	0.97
GLOVER TUNNEL NP	0.31
NONPOTABLE TOTAL:	1.78

RECYCLED WATER (DECEMBER 2022)

RECYCLED WATER	MGD
HONOULIULI WRF R-1	4.67
HONOULIULI WRF RO	1.46
RECYCLED TOTAL:	6.13

**PRODUCTION, HEAD AND RAINFALL REPORT
MONTH OF JANUARY 2023**

PRODUCTION SUMMARIES

TOTAL WATER	MGD
PUMPAGE	123.32
GRAVITY	7.88
POTABLE TOTAL:	131.20
NONPOTABLE	1.78
RECYCLED WATER	6.13
TOTAL WATER:	139.11

CWRM PERMITTED USE AND BWS ASSESSED YIELDS FOR BWS POTABLE SOURCES				
WATER USE DISTRICTS		A	B	C
		PERMITTED USE/ BWS YLDS	JAN 2022	DIFF. A-B
1	HONOLULU	83.32	58.56	24.76
2	WINDWARD	25.02	15.86	9.16
3	NORTH SHORE	4.70	3.15	1.55
4	MILILANI	7.53	4.05	3.48
5	WAHIAWA	4.27	2.78	1.49
6	PEARL CITY-HALAWA	12.25	8.73	3.52
7	WAIPAHAU-EWA	50.63	33.87	16.76
8	WAIANAE	4.34	4.03	0.31
TOTAL:		192.06	131.03	61.02

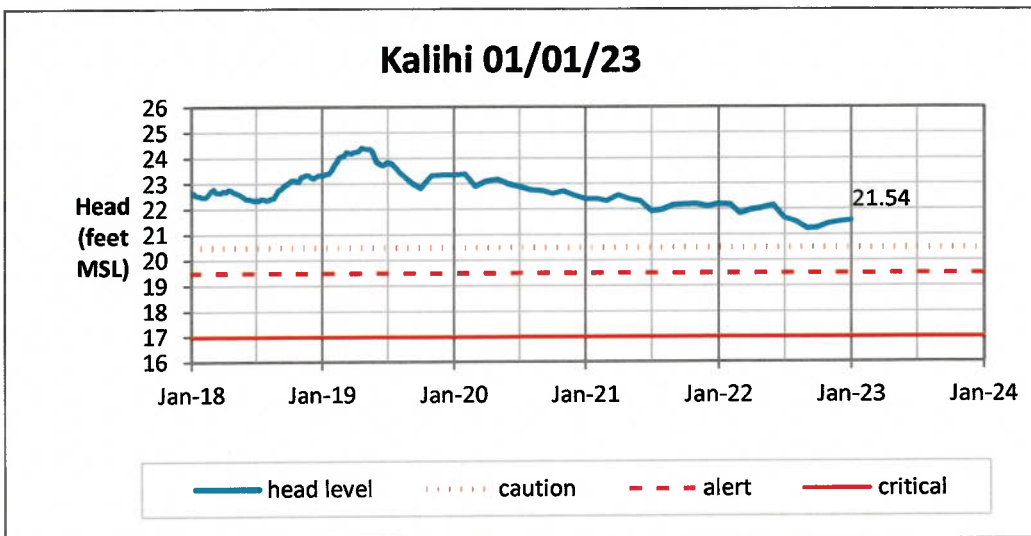
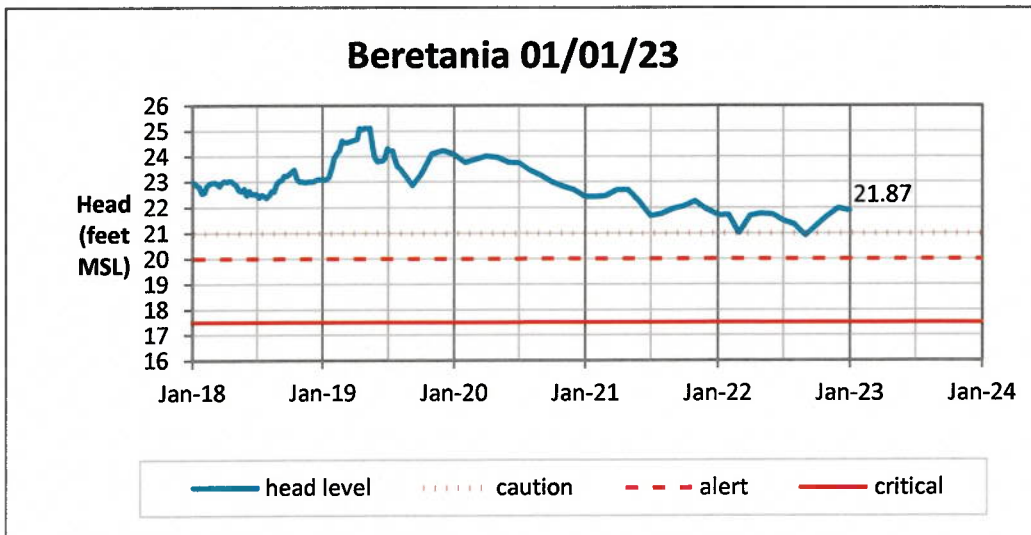
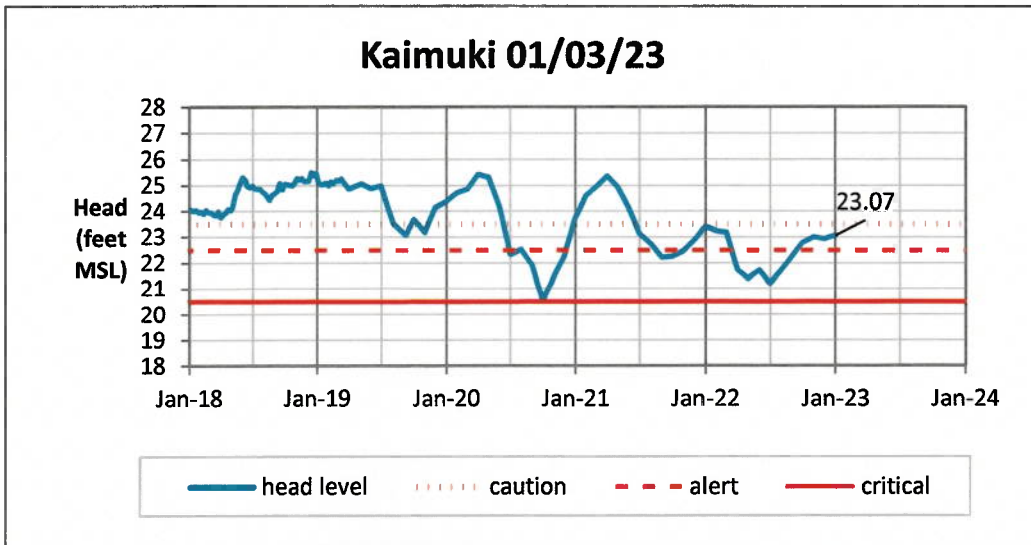
CWRM PERMITTED USE FOR BWS NONPOTABLE SOURCES				
WATER USE DISTRICTS		A	B	C
		PERMITTED USE	JAN 2022	DIFF. A-B
7	WAIPAHAU-EWA (BARBERS POINT WELL)	1.00	0.97	0.03
TOTAL:		1.00	0.97	0.03

EFFECTIVE WATER DEMAND PER DISTRICT

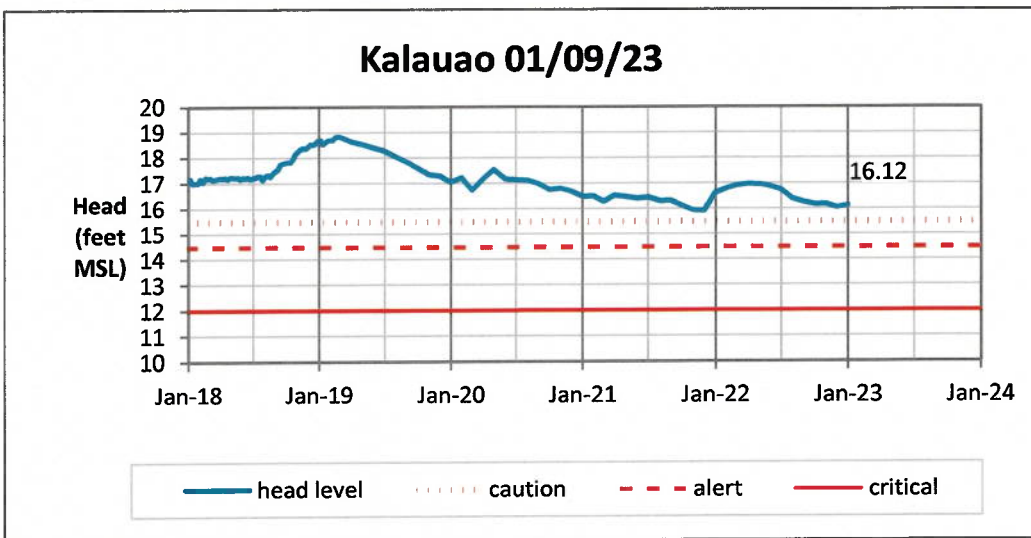
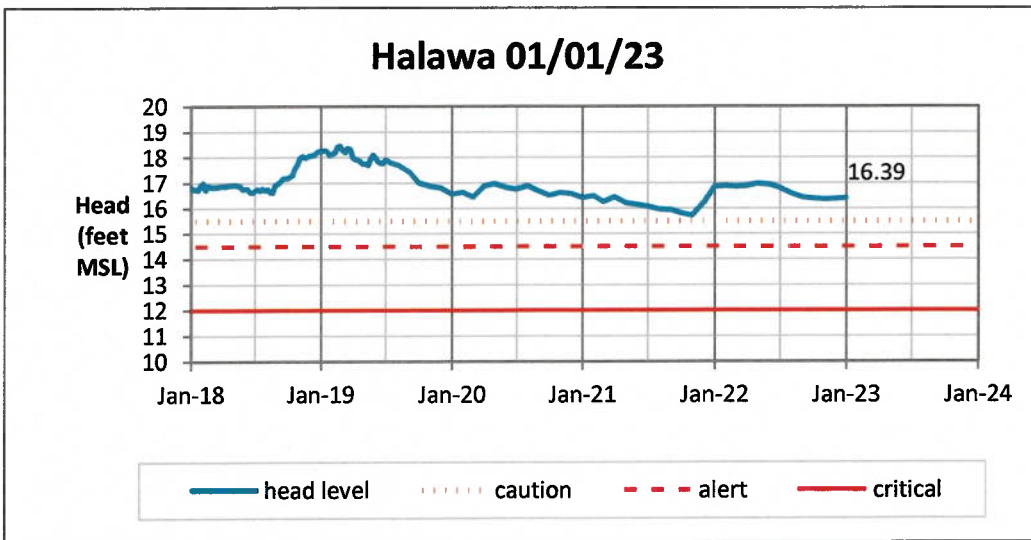
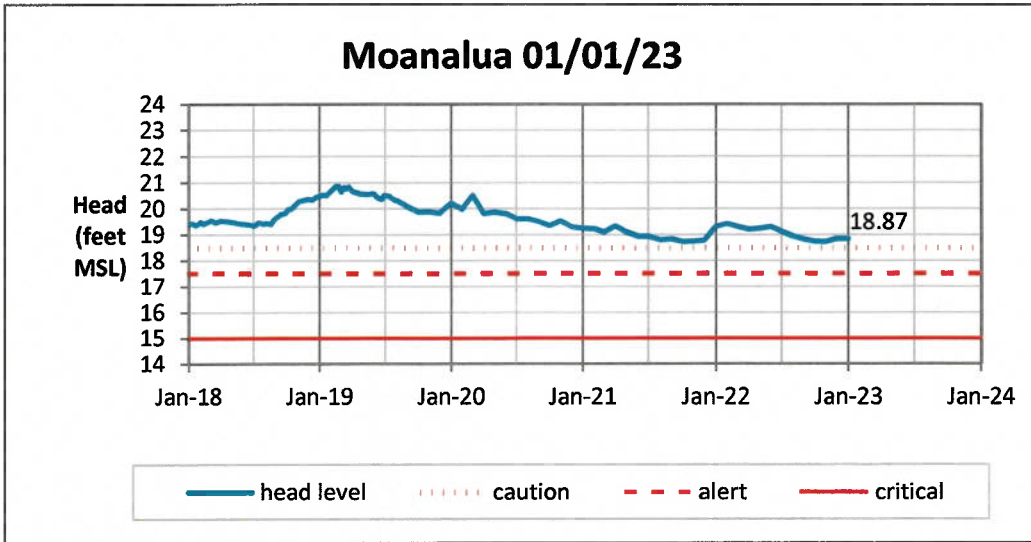
IMPORT/EXPORT BETWEEN WATER USE DISTRICTS			
FROM	TO		MGD
2	1	WINDWARD EXPORT	0.02
7	8	BARBERS PT LB	4.87

WATER USE DISTRICTS		SUBTOTAL	IMPORT	EXPORT	EFFECTIVE WATER DEMAND
1	HONOLULU	58.73	0.02	-	58.75
2	WINDWARD	15.86	-	0.02	15.84
3	NORTH SHORE	3.15	-	-	3.15
4	MILILANI	4.05	-	-	4.05
5	WAHIAWA	2.78	-	-	2.78
6	PEARL CITY-HALAWA	8.73	-	-	8.73
7	WAIPAHAU-EWA	33.87	-	4.87	28.99
8	WAIANAE	4.03	4.87	-	8.90
TOTAL:		131.20	4.89	4.89	131.20

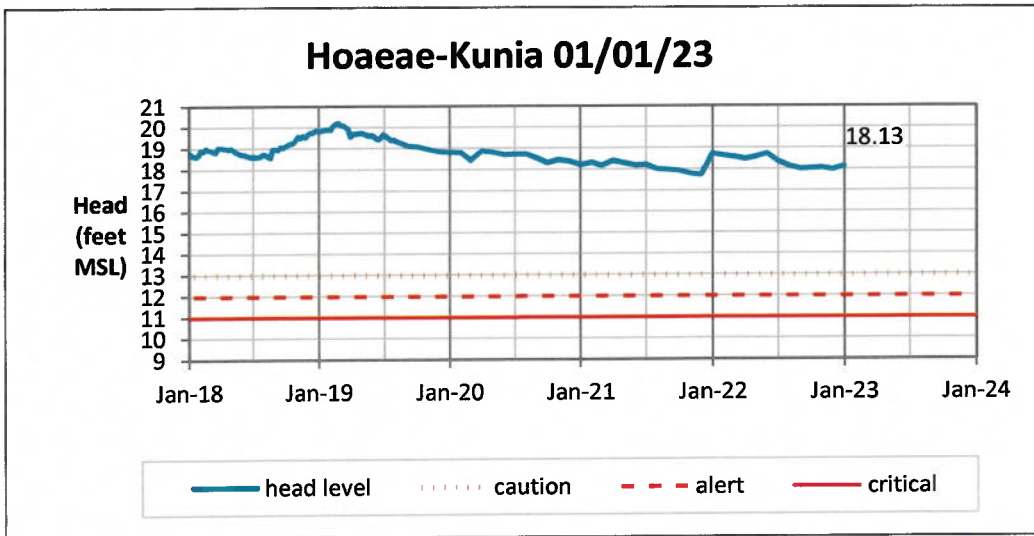
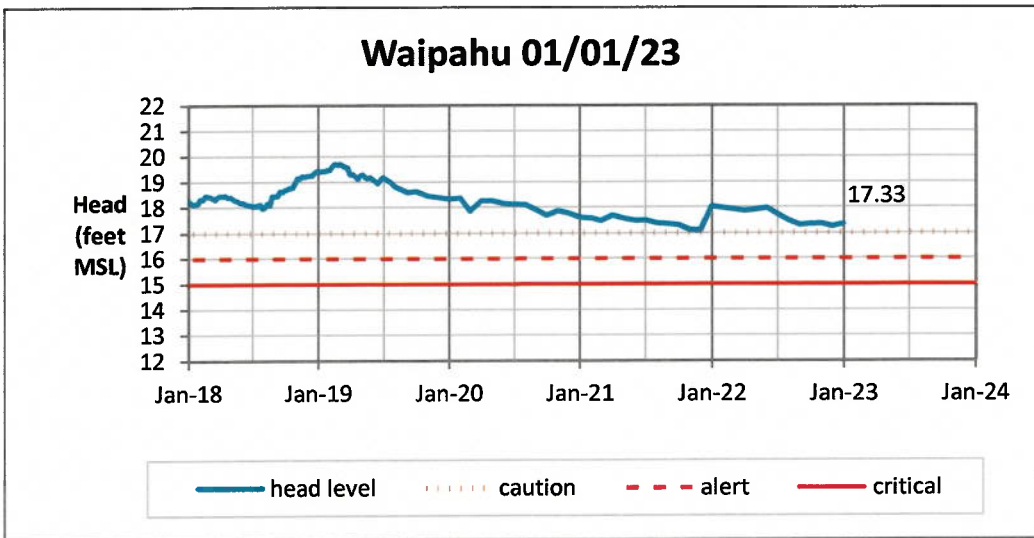
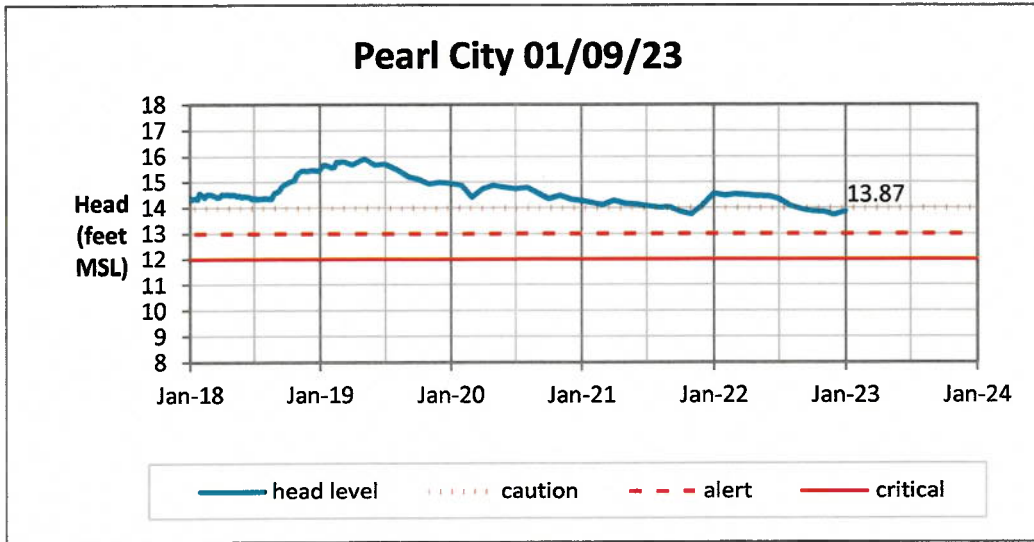
Head Report



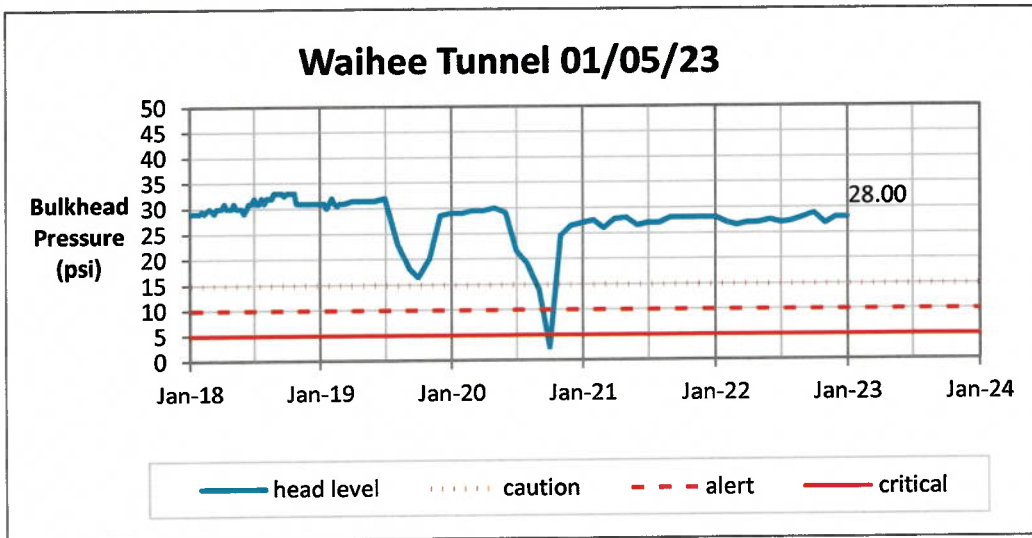
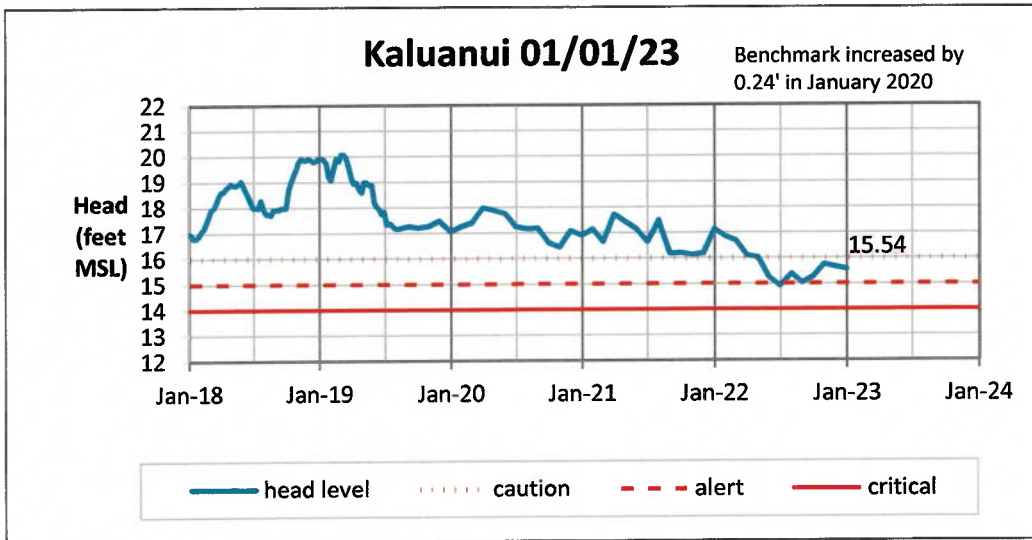
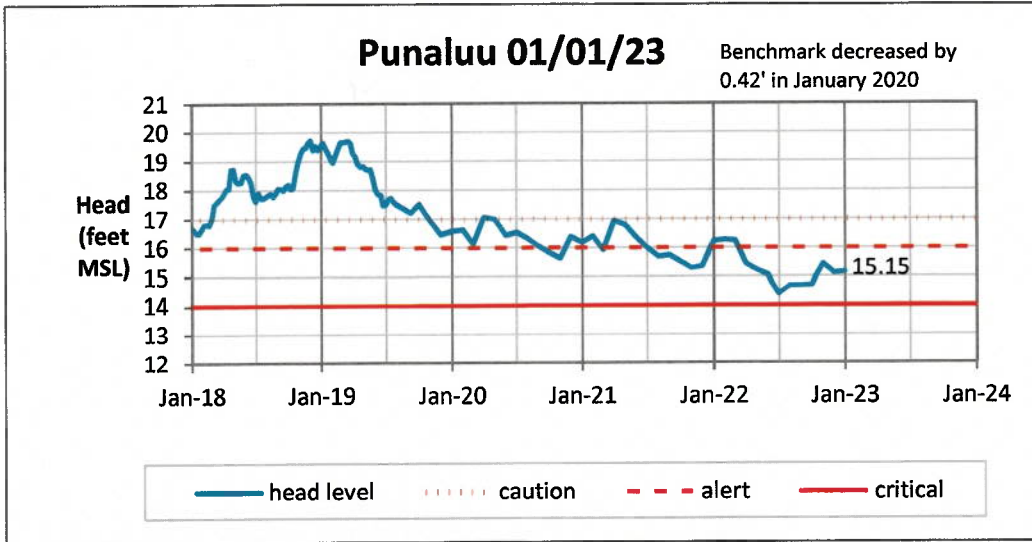
Head Report



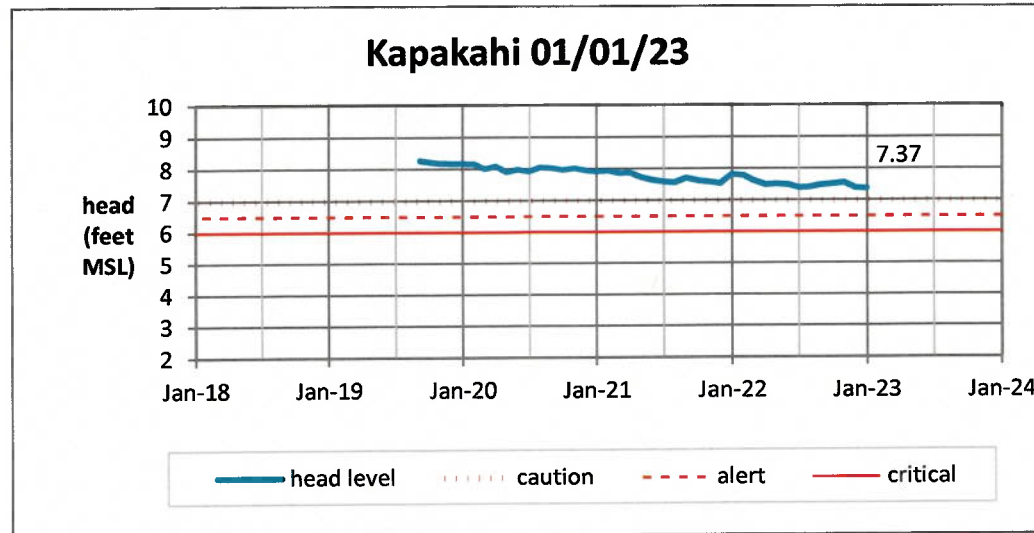
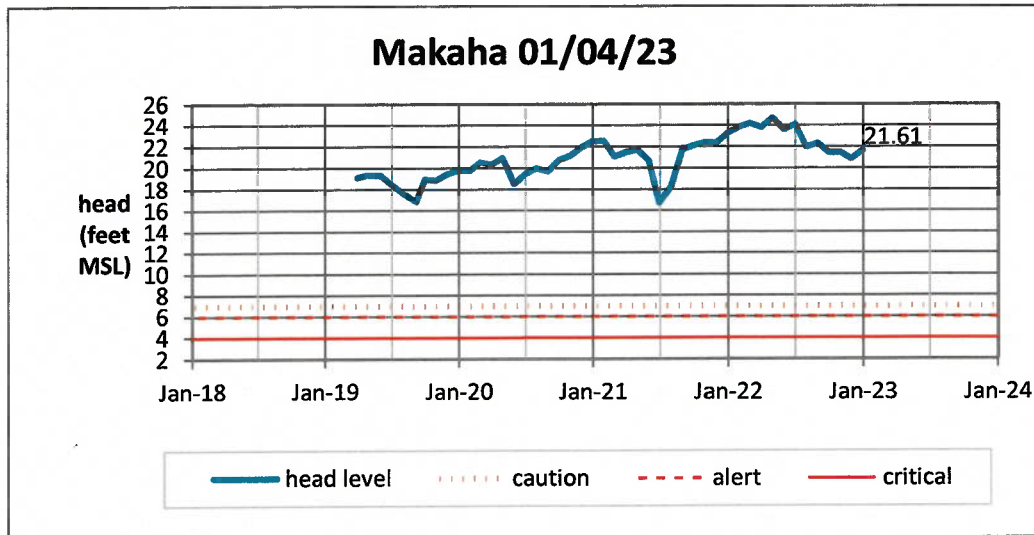
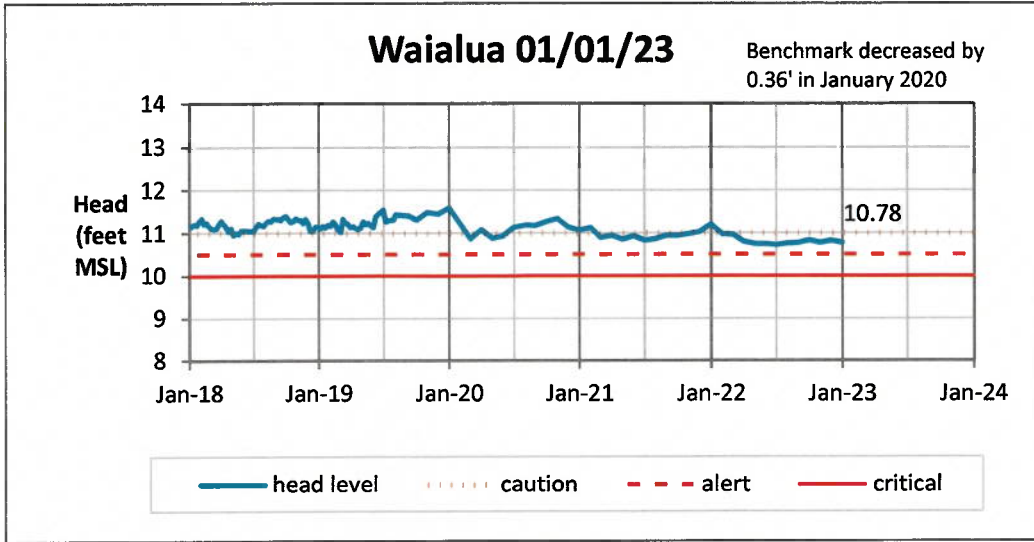
Head Report



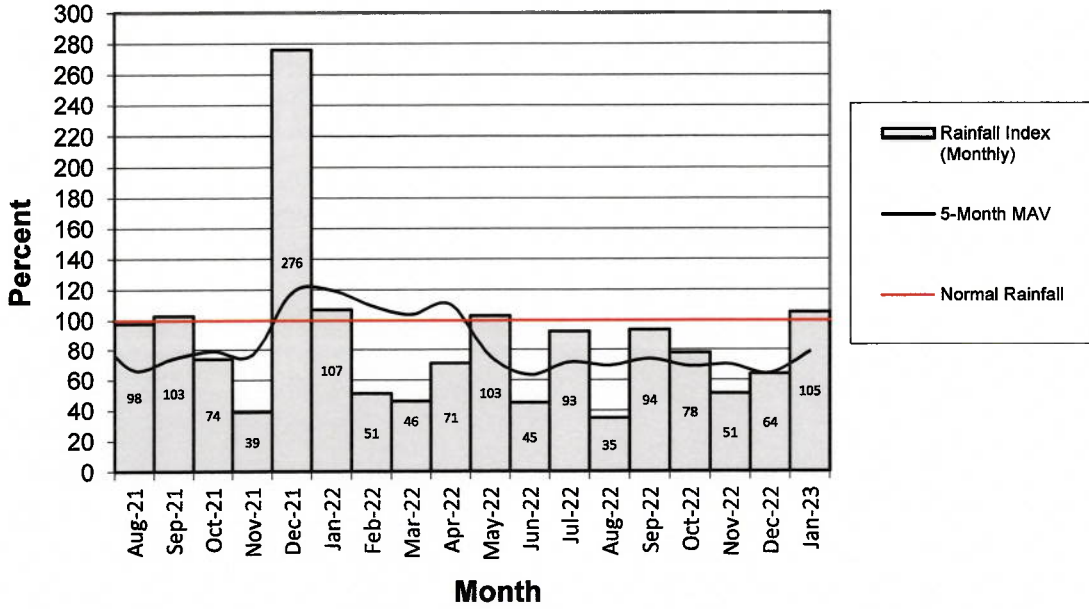
Head Report



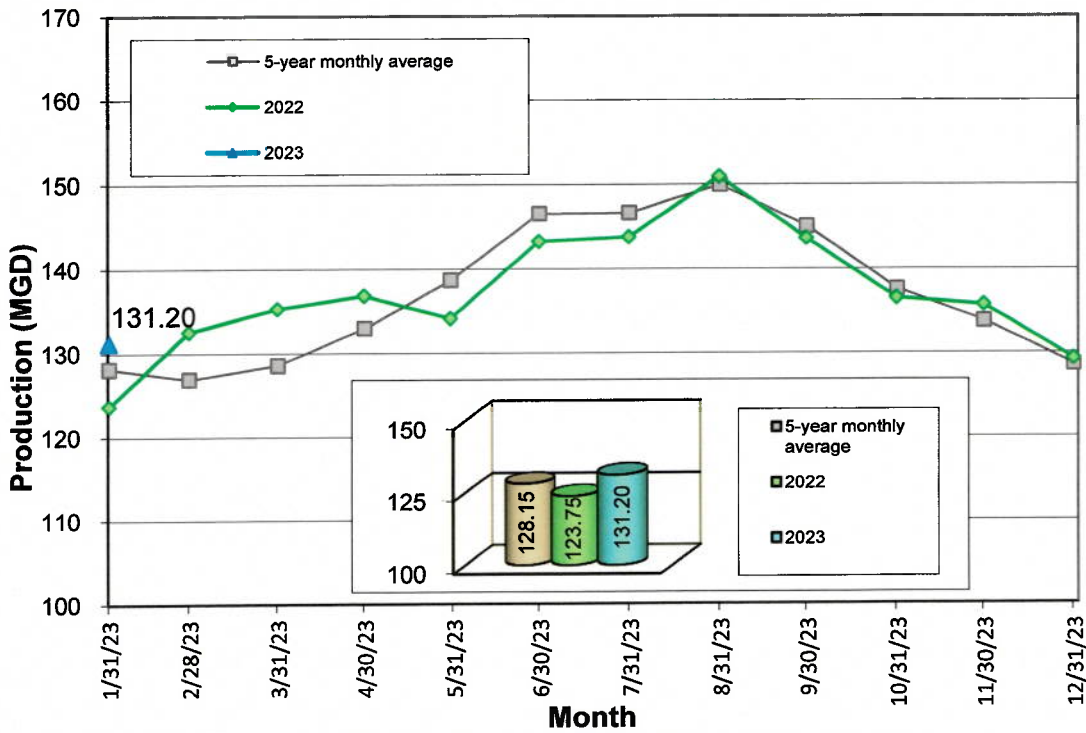
Head Report



HONOLULU WATERSHED AREA Rainfall Intake



Monthly Production



ITEM FOR INFORMATION NO. 6

"February 27, 2023

WATER MAIN
REPAIR
REPORT FOR
DECEMBER
2022 AND
JANUARY 2023

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

Chair and Members:

Subject: Water Main Repair Report for December 2022 and
January 2023

Jason Nikaido, Program Administrator, Field Operations Division, will report on water main repair work for the month of December 2022 and January 2023.

Respectfully submitted,

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

Attachment"

The foregoing was for information only.

DISCUSSION:

Jason Nikaido, Program Administrator, Field Operations Division, gave the report.

Board Member Szewczyk commented that the leaks found in January compared to last year during the same time seemed lower.

Mr. Jason Nikaido explained that due to the arrival of new employees, staff needed to train them, which meant fewer resources in the satellite section. He also mentioned that the BWS is updating its contract to include updated data.

Board Member Anthony asked who provides the satellite technology.

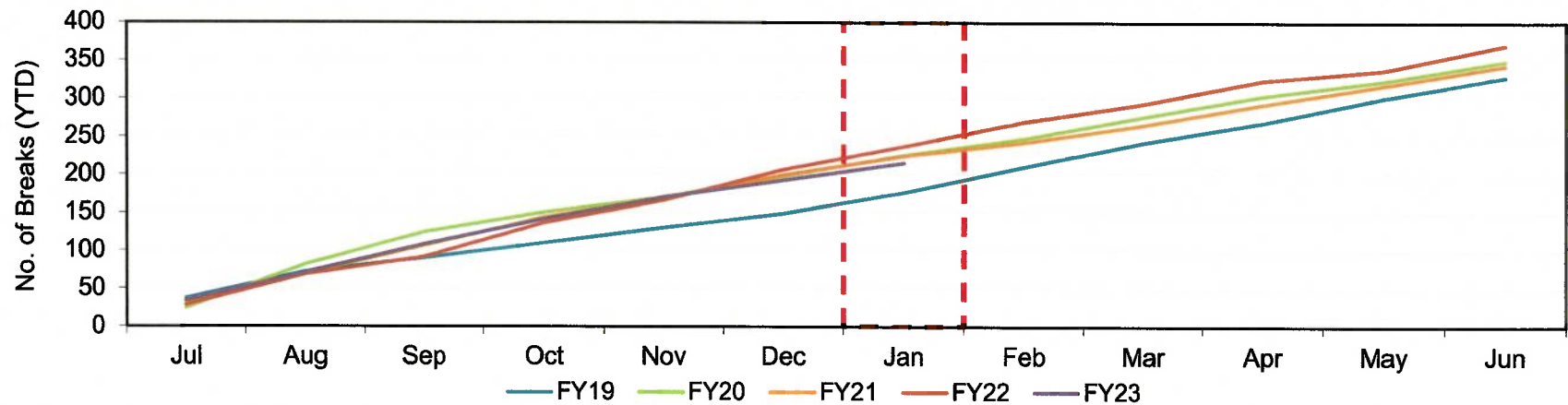
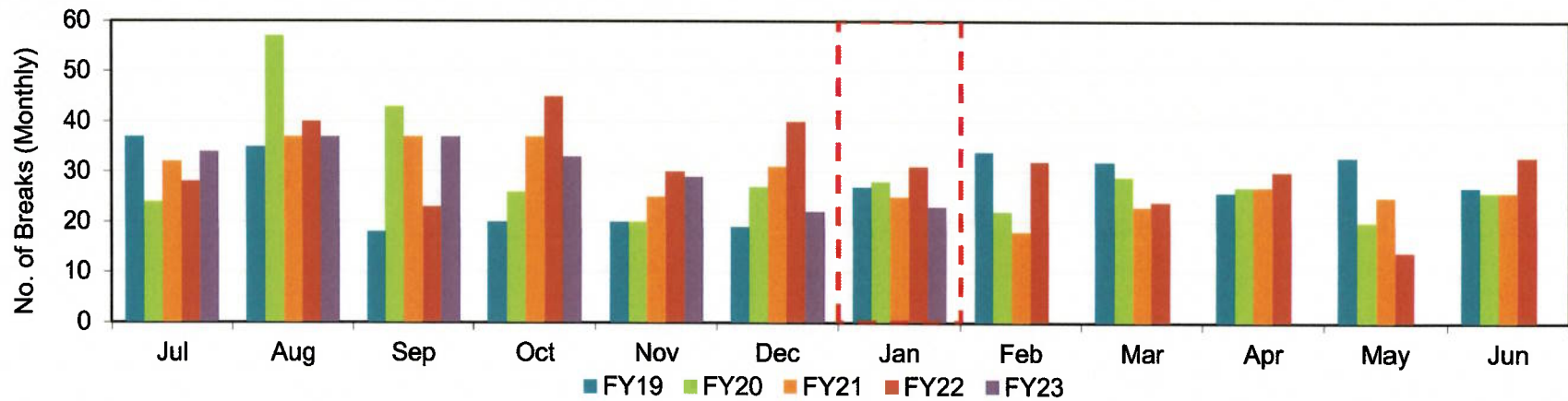
Mr. Nikaido responded it's a company based in Israel named Asterra. He shared that Asterra is the only company in the industry that offers satellite imagery worldwide.

Manager Lau added that the satellite imagery captures areas of chlorinated water below the surface of about one to two meters, and its accuracy is 50% in indicating points of interest (POI).

WATER MAIN REPAIR REPORT
for January 2023

Monthly Main Breaks

FY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2023	34	37	37	33	29	22	23						215
2022	28	40	23	45	30	40	31	32	24	30	14	33	370
2021	32	37	37	37	25	31	25	18	23	27	25	26	343
2020	24	57	43	26	20	27	28	22	29	27	20	26	349
2019	37	35	18	20	20	19	27	34	32	26	33	27	328



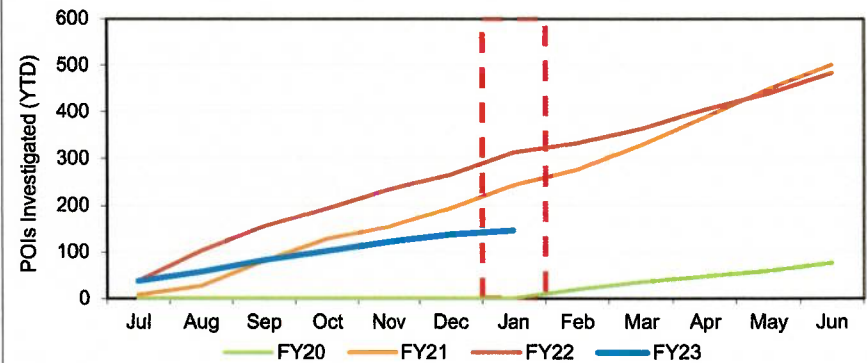
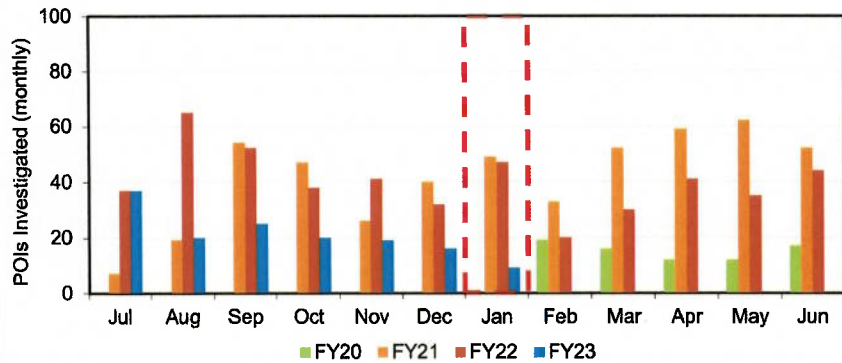
Date	Address	Size (In)	Pipe Type
12/1/2022	1676 Hooheke St, Pearl City	8	PVC
12/1/2022	324 Kawaena Pl, Honolulu	4	CI
12/3/2022	1144 Kaluanui Rd, Honolulu	8	DI
12/3/2022	137 Kapaa St, Kailua	6	CI
12/6/2022	3849 Likini St, Honolulu	4	CI
12/7/2022	94-524 Mahoe St, Waipahu	12	CI
12/8/2022	87-166 Saint Johns Rd, Waianae	8	DI
12/8/2022	87-186 Manuulaula St, Waianae	8	CI
12/10/2022	502 Hao St, Honolulu	4	CI
12/12/2022	333 Queen St, Honolulu	6	CI
12/13/2022	1314 Kainui Dr, Kailua	12	CI
12/14/2022	702 Keolu Dr, Kailua	12	AC
12/14/2022	2452 Aumakua St, Pearl City	8	CI
12/14/2022	3350 Keanu St, Honolulu	8	PVC
12/15/2022	1320 Kainui Dr, Kailua	12	CI
12/18/2022	3468 Maluhia St, Honolulu	16	CI
12/19/2022	2088 Makiki Heights Dr, Honolulu	8	CI
12/22/2022	363 N Circle Mauka Pl, Wahiawa	6	CI
12/23/2022	111 Kaiolino Way, Kailua	4	CI
12/25/2022	91-1373 Karayan St, Ewa Beach	12	DI
12/27/2022	2055 Puowaina Dr, Honolulu	8	CI
12/30/2022	86-204 Kawili St, Waianae	8	PVC

Date	Address	Size (In)	Pipe Type
1/2/2023	41 Dowsett Ave, Honolulu	8	PVC
1/4/2023	94-832 Penakii Way, Waipahu	8	AC
1/5/2023	2664 East Manoa Rd, Honolulu	8	CI
1/6/2023	98-1155 Kaonohi St, Aiea	12	CI
1/6/2023	1452 Kamehameha IV Rd, Honolulu	8	PVC
1/6/2023	94-975 Lumimoe St, Waipahu	8	CI
1/7/2023	94-930 Lumimoe St, Waipahu	8	CI
1/8/2023	599 Keolu Dr, Kailua	12	CI
1/9/2023	3618 Loulu St, Honolulu	8	CI
1/10/2023	3116 Alika Ave, Honolulu	8	PVC
1/11/2023	125 Kapaa St, Kailua	6	CI
1/12/2023	1702 Kalaepaa Dr, Honolulu	6	CI
1/12/2023	276 Ilima St, Wahiawa	8	PVC
1/13/2023	725 Auahi St, Honolulu	8	DI
1/13/2023	544 Ward Ave, Honolulu	4	CI
1/15/2023	723 Auahi St, Honolulu	8	DI
1/15/2023	92-109 Palahia Pl, Kapolei	4	CI
1/17/2023	94-987 Lumihohu St, Waipahu	8	CI
1/18/2023	91-1115 Kuanoo St, Ewa Beach	8	PVC
1/20/2023	98-835D Iho Pl, Aiea	12	CI
1/26/2023	99-1208 Aiea Heights Dr, Aiea	4	CI
1/27/2023	1421 Koaha Pl, Aiea	12	DI
1/29/2023	787 Hahaione St, Honolulu	8	DI

**LEAK DETECTION
for January 2023**

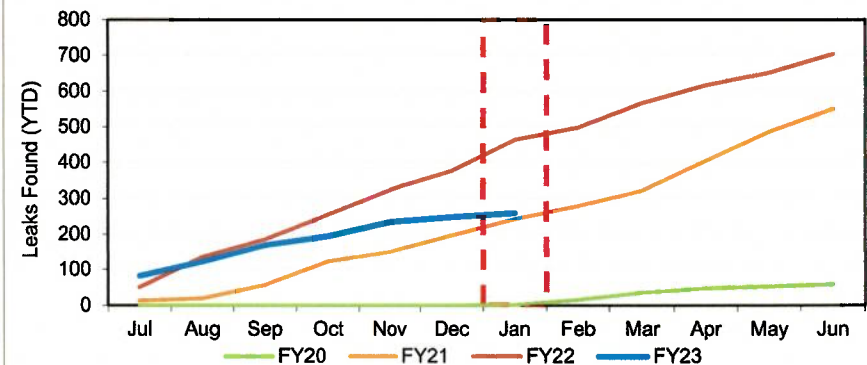
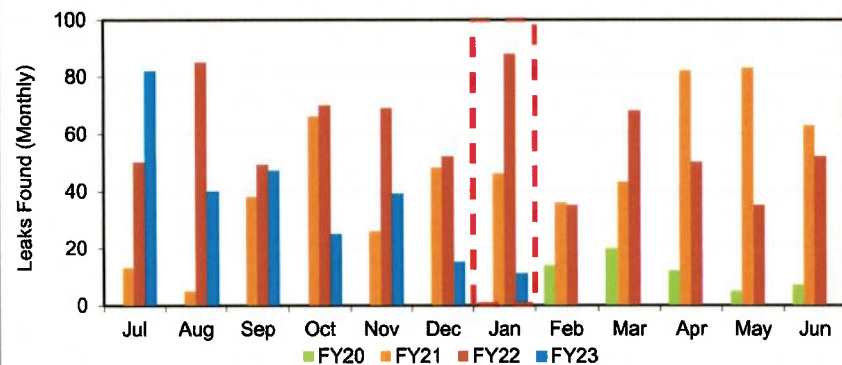
POIs Investigated

FY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2023	37	20	25	20	19	16	9						146
2022	37	65	52	38	41	32	47	20	30	41	35	44	482
2021	7	19	54	47	26	40	49	33	52	59	62	52	500
2020								19	16	12	12	17	76



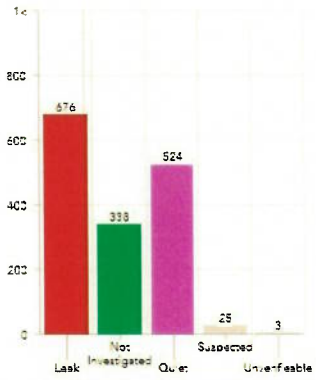
Leaks Found

FY	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	TOTAL
2023	82	40	47	25	39	15	11						259
2022	50	85	49	70	69	52	88	35	68	50	35	52	703
2021	13	5	38	66	26	48	46	36	43	82	83	63	549
2020							1	14	20	12	5	7	59



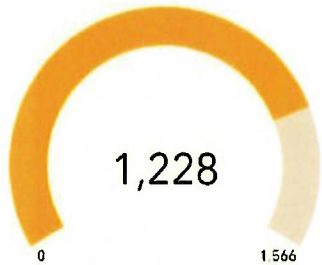
Leak Detection (Dashboard)

POIs by Status



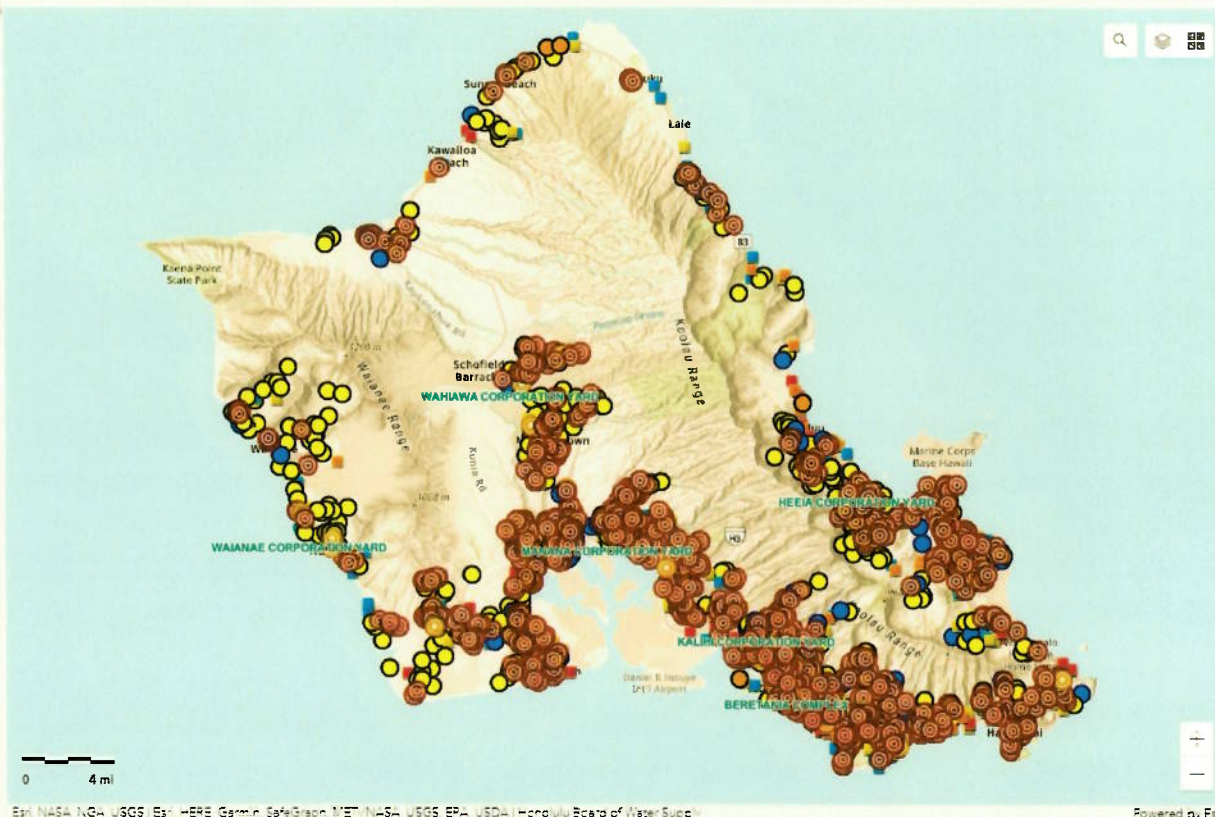
Status Priority

POIs Investigated



Leaks Found
1,579

Pipeline Inspected
458.16 mi.



Leaks

Investigation Result

- Leak
- Suspected

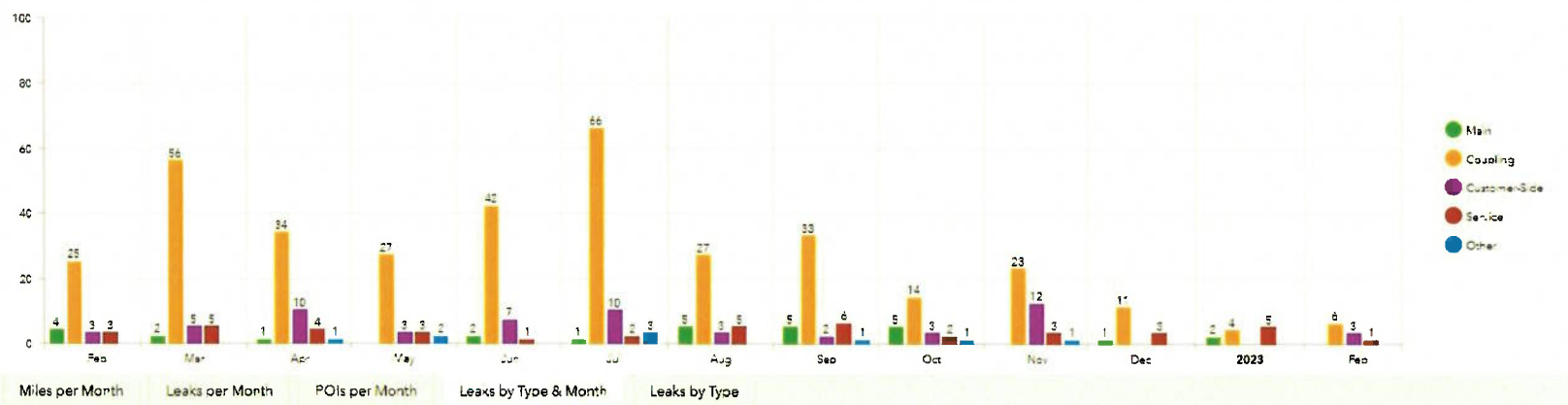
POI Centroids

Priority - Status

- Top - Not Investigated
- Top - Leak
- Top - Quiet
- Top - Suspected
- Top - Unverifiable
- High - Not Investigated
- High - Leak
- High - Quiet
- High - Suspected
- High - Unverifiable
- Moderate - Not Investigated
- Moderate - Leak
- Moderate - Quiet
- Moderate - Suspected
- Moderate - Unverifiable
- Low - Not Investigated
- Low - Leak

Legend Inspected POI Leaks

Leaks by type & month (suspected leaks not included)



Miles per Month Leaks per Month POIs per Month Leaks by Type & Month Leaks by Type

MOTION TO RECESS INTO EXECUTIVE SESSION

There being no further business Chair Andaya at 4:07 PM, called for a motion to adjourn the Open Session. Max Sword so moved; seconded by Dawn Szewczyk and unanimously carried.

Upon unanimous approved motion, the Board recessed into Executive Session Pursuant to [HRS § 92-5 (a)(4)] at 4:08 PM to Consider Issues Pertaining to Matters Posted for Discussion at an Executive Session.

OPEN SESSION

The Board reconvened in Open Session at 4:44 PM.

MOTION TO ADJOURN


There being no further business Chair Andaya at 4:45 PM called for a motion to adjourn the Regular Session. Max Sword so moved, seconded by Na'alehu Anthony and unanimously carried.

The minutes of the Regular Meeting held on February 27, 2023, are respectfully submitted,

THE MINUTES OF THE REGULAR MEETING HELD ON FEBRUARY 27, 2023, WAS APPROVED AT THE MARCH 28, 2023, BOARD MEETING			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JONATHAN KANESHIRO	X		
DAWN B. SZEWCZYK			ABSENT
EDWIN H. SNIFFEN			ABSENT


 JOY CRUZ-ACHIU

APPROVED:


 BRYAN P. ANDAYA
 Chair of the Board
 MAR 28 2023

Date _____