

BOARD OF WATER SUPPLY

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



September 21, 2021

RICK BLANGIARDI, MAYOR

BRYAN P. ANDAYA, Chair
KAPUA SPROAT, Vice Chair
RAY C. SOON
MAX J. SWORD
NA'ALEHU ANTHONY

JADE T. BUTAY, Ex-Officio
ROGER BABCOCK, Jr., Ex-Officio

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

ELLEN E. KITAMURA, P.E.
Deputy Manager and Chief Engineer

NOTICE

The Board of Water Supply, City and County of Honolulu, will hold a Regular Meeting on Monday, September 27, 2021, at 2:00 p.m. in the Boardroom, Public Service Building, 630 South Beretania Street, Honolulu, Hawaii.

Pursuant to the Emergency Proclamation issued by Governor David Y. Ige on August 5, 2021, related to the COVID-19 emergency, in order to allow public participation in a manner consistent with social distancing practices, the following procedures are in effect for the meeting.

Some Board members may be participating in the meeting by interactive conference technology from remote locations.

TESTIMONY

Testimony can be submitted as follows:

- Written testimony may be emailed to board@hbws.org or faxed to (808) 748-5079. Testimony is due by Monday, September 27, 2021, at noon. Written testimonies should include the submitter's address, email address, and phone number. Written testimony will be posted to the BWS website at boardofwatersupply.com.
- Mail written testimony to Board of Water Supply, 630 S. Beretania St., Honolulu, HI 96843. Testimony is due by Monday, September 27, 2021, at noon.
- On-line testimony will be accepted at boardofwatersupply.com/testimony. Fill out the testimony form. Due by Monday, September 27, 2021, at noon.
- Telephone testimony will be accepted during the meeting at (808) 748-6040. Callers will be placed in a queue and brought up to testify one at a time.
- In-person testimony will not be accepted.

Testimony is limited to two (2) minutes and shall be presented by the registered speaker only.

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:
(1) 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**.

The agenda for the September 27, 2021, 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 August 23, 2021
2. Approval of Recommendations to the Board by the Hawaii Revised Statutes §92-2.5 Permitted Interaction Group on the Redevelopment of the Board of Water Supply Beretania Property
3. Adoption of the Six-Year Capital Improvement Program for the Period of July 1, 2020 to June 30, 2026

ITEMS FOR INFORMATION

1. Update on the Board of Water Supply Board Meeting Protocols Under Elevated COVID-19 Conditions
2. Status Update of Groundwater Levels at All Index Stations
3. Water Main Repair Report for August 2021

EXECUTIVE SESSION

1. Approval of the Minutes of the Executive Session Held on August 23, 2021
2. To Consult with the Board's Attorney on Questions and Issues Pertaining to the Board of Water Supply's Proposed Settlement of Claim #20-042-A, Relating to Property Damages at 53-470 Kamehameha Highway, Hauula, Hawaii Following a 30" Concrete Cylinder Main Break at 53-470 Kamehameha Highway, Hauula, Hawaii, on December 22, 2019 [HRS §92-5(a)(4)]
3. To Consult with the Board's Attorney on Questions and Issues Pertaining to the Board of Water Supply's Proposed Settlement of Claim #21-074, Relating to Property Damages at 3908 Sierra Drive, Honolulu, Hawaii following a 8" Cast Iron Main Break at 3908 Sierra Drive, Honolulu, Hawaii, on April 21, 2021 [HRS §92-5(a)(4)]
4. To Consult with the Board's Attorney on Questions and Issues Pertaining to the Board's Powers, Duties, Privileges, Immunities, and Liabilities Pertaining to Initiation of Legal Action Against Kapiolani Express Autospa, L.L.C. to Recover Delinquent Water and Sewer Service Charges [HRS §92-5(a)(4)]

MINUTES

THE REGULAR MEETING OF THE BOARD OF WATER SUPPLY

September 27, 2021

At 2:03 PM on September 27, 2021, 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 via WebEx
Max J. Sword, Board Member via WebEx
Ray C. Soon, Board Member via WebEx
Na'alehu Anthony, Board Member
Jade T. Butay, Board Member, Ex-Officio via WebEx
Roger Babcock, Jr., Board Member, Ex-Officio
via WebEx

Also Present: Ernest Lau, Manager and Chief Engineer
Ellen Kitamura, Deputy Manager and Chief Engineer
via WebEx
Jason Takaki, Program Administrator,
Capital Projects Division via Vimeo
Jennifer Elflein, Program Administrator,
Customer Care Division via Vimeo
Scott Poomaihealani, Assistant Program Administrator,
Customer Care Division via WebEx
Kathleen Elliott-Pahinui, Information Officer,
Communications Office via WebEx
Raelynn Nakabayashi, Executive Assistant I,
Executive Support Office via WebEx
Jason Nikaido, Acting Program Administrator,
Field Operations Division via WebEx
Joseph Cooper, Waterworks Controller,
Finance Division via Vimeo
Teriann Akana, Human Resources Specialist VI,
Human Resources Office via Vimeo
Henderson Nuuhiwa, Program Administrator,
Information Technology Division
via WebEx
Michael Matsuo, Land Administrator, Land Division
via WebEx
Erwin Kawata, Program Administrator,
Water Quality Division via WebEx
Barry Usagawa, Program Administrator,
Water Resources Division
via WebEx
Dominic Dias, Civil Engineer VI,
Water Resources Division via WebEx

Christopher Sugimoto, Civil Engineer III,
Water Resources via WebEx
Iris Oda, Civil Engineer V, Water Resources Division
Via WebEx
Kevin Ihu, Program Administrator,
Water System Operations Division
via Vimeo
Kathy Mitchell, Administrative Services Officer
via WebEx
Deanna Thyssen, Manager Secretary via WebEx
Joy Cruz-Achiu, Board Secretary
Steven Norstrom, Information Specialist II,
Communications Office via WebEx
Stella Bernardo, Information Specialist II,
Communications Office via WebEx
Blaine Fergerstrom, Information Specialist II,
Communications Office via WebEx

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

Absent: Kapua Sproat, Vice Chair

REGULAR MEETING

Chair Bryan Andaya announced he was joining the meeting via WebEx. He requested Board Secretary Joy Cruz-Achui to take a roll call for the Regular Meeting. Chair Andaya asked each Board Member to respond verbally when their names were called.

Ms. Cruz-Achui proceeded with roll call: Board Member Max Sword, aye; Board Member Na'alehu Anthony, aye; Board Member Jade Butay, aye; Board Member Roger Babcock, aye; and Chair Bryan Andaya, aye. Board Member Ray Soon was also present but was having difficulty with his audio. Vice Chair Kapua Sproat was not present for this Board 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, September 27, 2021, at noon. However, late testimony will be accepted by email, fax, or mail. Telephone testimony is accepted by calling (808)748-6040, where you will be put in the queue and allowed to testify one at a time. Unfortunately, due to the pandemic, in-person testimony is suspended. 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 MEETING Approval of the Minutes of the Regular Meeting Held on August 23, 2021.

MOTION TO APPROVE Na'alehu Anthony and Max Sword motioned and seconded, respectively, to approve the Minutes of the Regular Meeting of August 23, 2021. The motion was unanimously carried.

THE MINUTES OF THE REGULAR MEETING HELD ON AUGUST 23 2021, WERE APPROVED AT THE SEPTEMBER 27, 2021 BOARD MEETING			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT			ABSENT
RAY C. SOON			ABSENT
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JADE T. BUTAY	X		
ROGER BABCOCK, JR.			ABSENT

September 27, 2021

APPROVAL OF
RECOMMEND-
ATIONS TO THE
BOARD BY THE
HAWAII REVISED
STATUTES
§92-2.5 PERMITTED
INTERACTION
GROUP ON THE
REDEVELOPMENT
OF THE BOARD
OF WATER SUPPLY
BERETANIA
PROPERTY

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

Subject: Approval of Recommendations to the Board by the Hawaii Revised Statutes §92-2.5 Permitted Interaction Group on the Redevelopment of the Board of Water Supply Beretania Property

We present for your consideration and action the following recommendations on the redevelopment of the Beretania property from the Permitted Interaction Group:

- Ask the Request for Proposals consultant to evaluate and assess what would be required to rezone the Beretania property from its current zoning of A-2, Medium Density Apartments to a higher zoning, such as BMX-3, Community Business Mixed Use, and if it would require updating or revising the Environmental Impact Statement that has already been approved and accepted.
- Rezone the Beretania Property if doing so makes economic sense and will expand the opportunities for the department in the future.
- Obtain an opinion from the Department of Corporation Counsel as to whether the redevelopment of the Beretania property has to be through a competitive process in compliance with Hawaii Revised Statutes, Chapter 103D (Procurement Code) or whether the department can approach Queen Hospital to discuss their long-term vision and the possibility of a partnership with the department where Queen Hospital's objectives are met and the department's return is maximized.
- Re-establish the Permitted Interaction Group when the economy and State have recovered to the point that redevelopment of the Beretania property can proceed with a higher level of confidence of success.

Respectfully submitted,

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

DISCUSSION:

Manager Ernest Lau stated that the presentation served as the report of the Permitted Interaction Group (PIG) members that consisted of Board Member Ray Soon, Board Member Max Sword, and former Board Member Kay Matsui. Manager Lau asked Board Member Soon and Board Member Sword had any comments regarding the presentation.

Board Member Sword asked that staff proceed with the presentation.

Manager Lau informed the Board that the PIG recommended (1) evaluating and assessing requirements to rezone the Beretania property from its current A-2, Medium Density Apartments zoning to a higher zoning, such as BMX-3, Community Business Mixed Use. The requirements may also include an updated EIS; (2) rezoning the property to expand BWS's future economic opportunities; and (3) asking Corporation Counsel if the redevelopment must comply with Hawaii Revised Statutes Procurement Code or if BWS could discuss a mutual beneficial partnership directly with Queen's Hospital.

Board Member Soon stated that the PIG met on numerous occasions to discuss the redevelopment of the BWS Beretania Property and agreed that it wasn't the right time to do so. He explained that the decision was not only based on the economics and pandemic but also the restrictions surrounding the property about the zoning and the procurement process that allows the Board to negotiate. The PIG members recommended that the BWS evaluate if up-zoning would be beneficial and determine if there are other alternatives of procuring potential developers, including Queen's Hospital, without precluding them from bidding on the redevelopment in the future. He thanked Mr. Matsuo for doing a great job of summarizing the PIG's findings.

Board Member Soon also stated that the PIG members struggled with determining a long-term vision for the Beretania property. He mentioned that each PIG member has a different perspective and needed a united vision for the Beretania property. He, therefore, wanted to add another recommendation to have the PIG engender a visioning process for the redevelopment of the Beretania property and involve as many stakeholders as possible.

Board Member Sword agreed with Board Member Soon's comments and that the PIG lacked a clear vision for the redevelopment of the Beretania property.

Board Member Soon asked Mr. Matsuo, Land Administrator, about his thoughts on the redevelopment of the Beretania property since he's been working on the redevelopment for the past 10 years.

Mr. Matsuo stated that he understands the concerns of the PIG and agreed that there is no clear vision for the redevelopment. He mentioned that the first Request for Proposals (RFP) was not successful since the scope was too broad and that the new RFP was more focused to make it less risky for developers. Mr. Matsuo mentioned that it would make sense to include

Queen's Hospital in the redevelopment but agreed that the redevelopment should not be one-sided.

Board Member Sword agreed with Mr. Matsuo that the development must benefit the BWS and the other party. The BWS and the Board need to agree on the vision for the Beretania property.

Chair Andaya thanked Board Member Soon and Board Member Sword for serving on the PIG. He gathered from the discussion that the PIG may need to continue the discussion to somehow develop a vision for the property.

Board Member Soon agreed with Chair Andaya that continued discussion and hearing from other Board Members regarding the redevelopment would be ideal. He asked if the PIG could continue.

Manager Lau requested a point of clarification from the Board's legal counsels from the Department of Corporation Counsel. He understood that when the PIG submits its report, it is dissolved. Thus, he believed the Board may need to approve the creation of a new PIG to continue with the recommendations from Board Members Soon and Sword recommended.

Deputy Corporation Counsel Jessica Wong replied she would have to look into it and get back to the Board.

Chair Andaya suggested that the Board defer the acceptance of the PIG's report while awaiting further advice from Corporation Counsel.

Board Member Roger Babcock responded that he didn't have any objections to Chair Andaya's suggestion, but requested to see the presentation.

Mr. Matsuo gave the presentation.

Board Member Soon added that due to the zoning of the property the BWS is limited on the redevelopment of the property.

Board Member Babcock inquired if the alternatives that were evaluated would not require zoning changes.

Board Member Soon replied that Board Member Babcock's statement is correct. He explained that the Council and previous Mayor were urging the redevelopment of the property instead of just using it for parking. However, PIG did not share that same urgency and felt it would be beneficial for the ratepayers if the property was up-zoned.

Board Member Babcock commented that the first RFP was too unstructured and unfocused, whereas the new RFP appears to be too restrictive. He suggested that finding something in between those RFP's might be the next step.

Board Member Soon replied that he feels BWS needs to assess what the vision is for the redevelopment and that could five years or more to accomplish.

Board Member Babcock inquired how BWS could begin the visioning process.

Board Member Soon responded that he wasn't sure and suggested that a PIG might be the best avenue to determine how to move the visioning process forward.

Chair Andaya suggested continuing discussion within the current PIG and develop a vision within the parameters of the law. He mentioned that in conversations with Manager Lau that the BWS is due for an update of the BWS Strategic Plan and indicated that the redevelopment revisioning could be included in the planning effort.

Board Member Babcock asked for Manager Lau's thoughts.

Manager Lau replied that there are legal questions regarding whether or not the current PIG can remain active since it already presented its report to the Board. He mentioned that the PIG originally started with three Board members of which only two remain. He felt involving more Board members in a new PIG might be the best course.

Chair Andaya agreed, he stated that he wouldn't be opposed to ending the current PIG and creating a new PIG since there are unanswered legal questions regarding keeping the current PIG active.

Ms. Wong commented that creating a new PIG would be the better option for adding more Board members to a PIG. The Office of Information Practices (OIP) stated in an informal opinion that if a PIG operates continuously and submits regular reports to other members, the PIG could be seen as a standing committee rather than a PIG. Ms. Wong suggested that the Board consider starting a new PIG.

Board Member Soon suggested that to move on and avoid legal issues, the Board should end the PIG, reject the PIG's recommendations and then approve the creation of a new PIG with more Board members.

Chair Andaya commented that given the previous discussion, he would entertain a motion to accept the PIG's report. He wasn't sure if the Board needs to accept or reject the PIG's recommendations, but that the Board can accept the PIG's report, terminate the PIG, and place on the agenda for the next Board meeting the creation of a new PIG.

Board Member Sword agreed that the formation of a new PIG could be added to the agenda for the Board's October meeting.

Chair Andaya agreed with Board Member Sword.

Chair Andaya asked if there were any further questions or comments. Hearing none, Chair Andaya asked for a motion.

**MOTION
TO APPROVE**

Roger Babcock and Na’alehu Anthony motioned and seconded, respectively, to approve the Approval of Recommendations to the Board by the Hawaii Revised Statutes §92-2.5 Permitted Interaction Group on the Redevelopment of the Board of Water Supply Beretania Property. The motion was unanimously carried.

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.

APPROVAL OF RECOMMENDATIONS TO THE BOARD BY THE HAWAII REVISED STATUTES §92-2.5 PERMITTED INTERACTION GROUP ON THE REDEVELOPMENT OF THE BOARD OF WATER SUPPLY BERETANIA PROPERTY			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT			ABSENT
RAY C. SOON	X		
MAX J. SWORD	X		
NA’ALEHU ANTHONY	X		
JADE T. BUTAY	X		
ROGER BABCOCK JR.	X		



APPROVAL OF
PERMITTED INTERACTION
GROUP RECOMMENDATIONS
REGARDING THE
REDEVELOPMENT OF THE
BERETANIA PROPERTY

Michael Matsuo
September 27, 2021
boardofwatersupply.com



BOARD OF WATER SUPPLY

APPROVAL OF PERMITTED INTERACTION GROUP RECOMMENDATIONS
REGARDING THE REDEVELOPMENT OF THE BERETANIA PROPERTY
MICHAEL MATSUO
SEPTEMBER 27, 2021

WWW.BOARDOFWATERSUPPLY.COM



BERETANIA PROPERTY REDEVELOPMENT SUMMARY



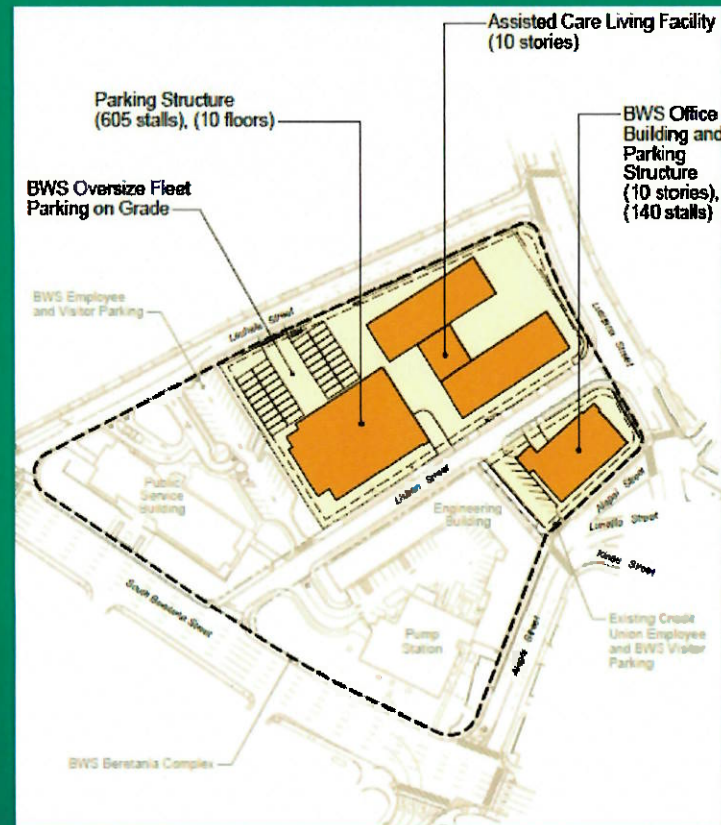
- AT THE URGING OF THE CITY COUNCIL, BWS BEGAN AN EFFORT TO REDEVELOP ITS BERETANIA PROPERTY IN 2012
- BWS RELEASED A REQUEST FOR PROPOSALS FOR THE REDEVELOPMENT IN 2013, BUT ULTIMATELY NO DEVELOPER WAS CHOSEN
- INFORMAL DISCUSSIONS WITH DEVELOPERS INDICATED THAT THE REDEVELOPMENT REQUIREMENTS WERE TOO “RISKY”



BERETANIA PROPERTY REDEVELOPMENT SUMMARY (CONT.)

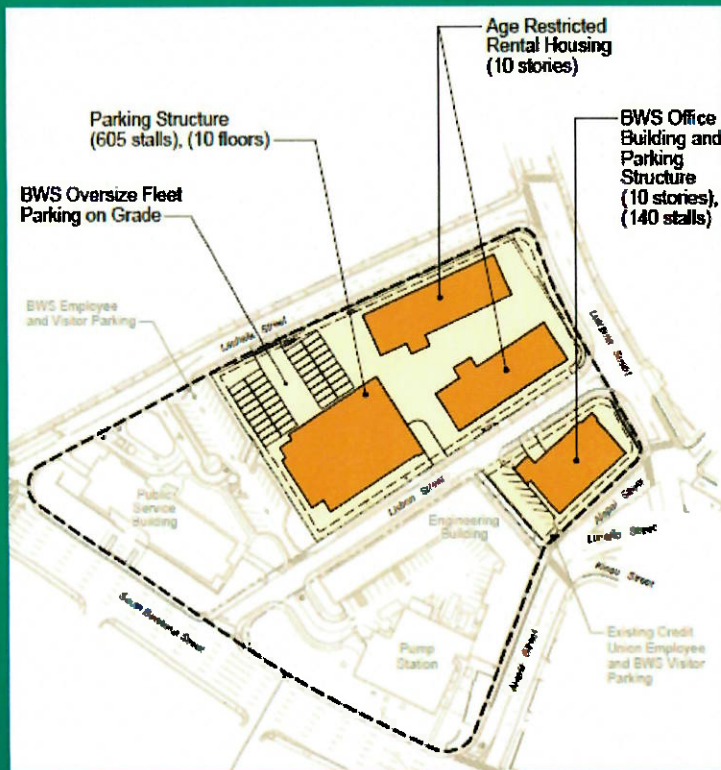
- TO MAKE THE REDEVELOPMENT LESS “RISKY,” BWS IDENTIFIED THE THREE MOST LIKELY SCENARIOS BASED ON A MARKET ANALYSIS AND PREPARED AN ENVIRONMENTAL IMPACT STATEMENT TO IDENTIFY THE POTENTIAL ENVIRONMENTAL ISSUES AND OTHER DEVELOPMENT CHALLENGES FOR THESE SCENARIOS

- SCENARIO 1: ASSISTED CARE FACILITY & PARKING STRUCTURE

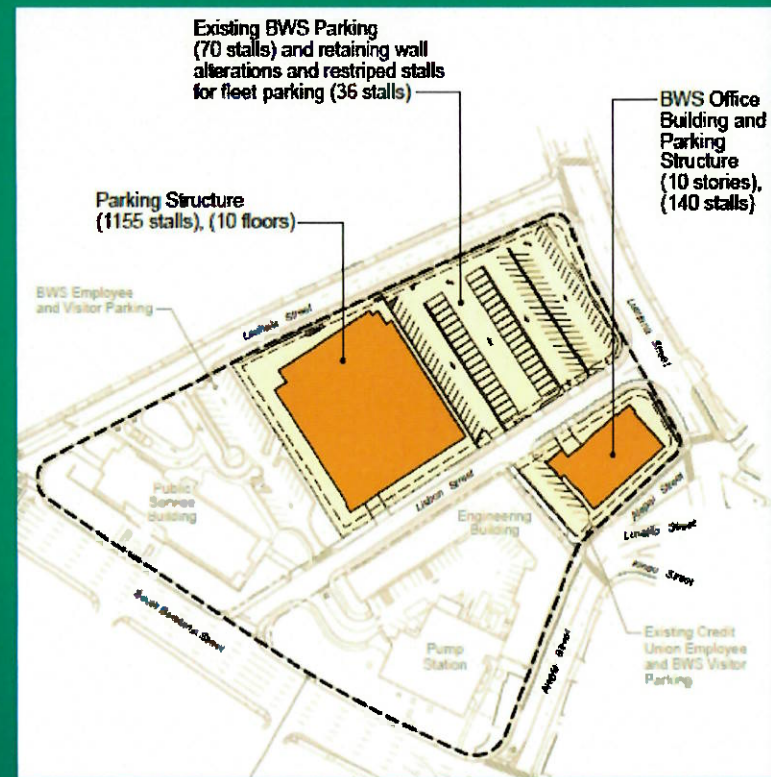


BERETANIA PROPERTY REDEVELOPMENT SUMMARY (CONT.)

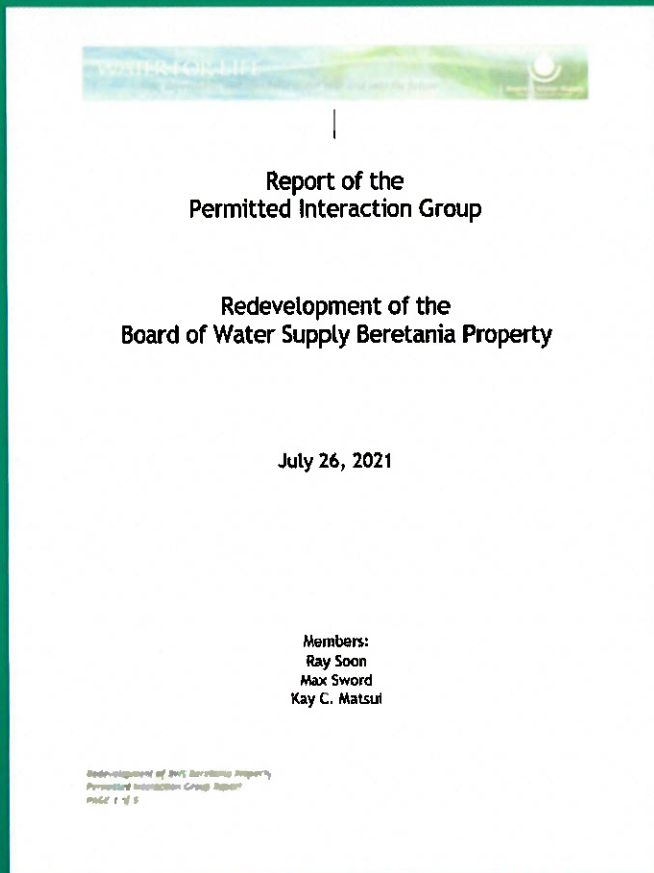
- SCENARIO 2: AFFORDABLE SENIOR RENTAL APARTMENTS & PARKING STRUCTURE



- SCENARIO 3: PARKING STRUCTURE



BERETANIA PROPERTY REDEVELOPMENT PERMITTED INTERACTION GROUP



- ON OCTOBER 22, 2018, IN ACCORDANCE WITH HRS SECTION 92-2.5, THE BOARD CREATED A PERMITTED INTERACTION GROUP TO ENSURE THAT THE REDEVELOPMENT OF THE BERETANIA PROPERTY ADEQUATELY SERVES THE NEEDS OF BWS AND ITS CUSTOMERS; AND TO SERVE AS AN AVENUE TO FREELY DISCUSS ISSUES AND EXCHANGE INFORMATION AND IDEAS WITHOUT VIOLATING THE SUNSHINE LAW
- THE PERMITTED INTERACTION GROUP MET SEVERAL TIMES BETWEEN 2018 AND 2021 TO DISCUSS THE REDEVELOPMENT AND SUBMITTED ITS REPORT TO THE BOARD ON JULY 26, 2021



BERETANIA REDEVELOPMENT PERMITTED INTERACTION GROUP FINDINGS

- THE MEMBERS OF THE PERMITTED INTERACTION GROUP ARE NOT CONVINCED BWS SHOULD PROCEED WITH THE REDEVELOPMENT FOR THE FOLLOWING REASONS:
 - THE CURRENT ECONOMIC TURMOIL & UNCERTAINTY
 - THE RECOMMENDED SCENARIOS MAY NOT MAXIMIZE THE USE OF THE BERETANIA PROPERTY
 - HIGHEST & BEST FUTURE USES WILL PROBABLY BE HOSPITAL- AND/OR MEDICAL-RELATED, E.G. LONG-TERM CARE, EXPANDED HOSPITAL SERVICES, MEDICAL RESEARCH & GERIATRICS; AND BWS IS NOT IN A POSITION TO CAPITALIZE ON THESE FUTURE USES



BERETANIA REDEVELOPMENT PERMITTED INTERACTION GROUP FINDINGS (CONT.)

- MAY BE BEST TO PARTNER WITH A MEDICAL PROVIDER SUCH AS QUEEN'S, BUT PARTNERSHIP HAS TO:
 - BE MUTUALLY BENEFICIAL, ESPECIALLY TO OUR RATE PAYERS
 - PROVIDE AN ACCEPTABLE RATE OF RETURN
- FIRST STEP SHOULD BE UPZONING THE BERETANIA PROPERTY TO MAXIMIZE FUTURE OPTIONS
- TO THIS END, THE PERMITTED INTERACTION GROUP DEVELOPED FOUR (4) RECOMMENDATIONS FOR THE BOARD'S CONSIDERATION AND APPROVAL



BERETANIA REDEVELOPMENT PERMITTED INTERACTION GROUP RECOMMENDATIONS

- EVALUATE & ASSESS WHAT WOULD BE REQUIRED TO REZONE THE BERETANIA PROPERTY FROM A-2 ZONING TO HIGHER ZONING, LIKE BMX-3, COMMUNITY BUSINESS MIXED USE, & IF IT WOULD REQUIRE UPDATING OR REVISING THE ENVIRONMENTAL IMPACT STATEMENT
- REZONE THE BERETANIA PROPERTY IF DOING SO MAKES ECONOMIC SENSE & WILL EXPAND FUTURE BWS OPPORTUNITIES
- ASK CORPORATION COUNSEL TO DETERMINE IF BERETANIA REDEVELOPMENT MUST COMPLY WITH HAWAII REVISED STATUTES PROCUREMENT CODE OR IF WE CAN APPROACH QUEEN'S TO DISCUSS THEIR LONG-TERM VISION & THE POSSIBILITY OF ENTERING INTO A MUTUALLY BENEFICIAL PARTNERSHIP
- RE-ESTABLISH PERMITTED INTERACTION GROUP WHEN ECONOMY AND STATE HAVE RECOVERED AND REDEVELOPMENT CAN PROCEED WITH A HIGH LEVEL OF CONFIDENCE





Mahalo!

BOARD OF WATER SUPPLY

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Mahalo!

BOARD OF WATER SUPPLY

Approval of Permitted Interaction Group Recommendations
Regarding Redevelopment of the Beretania Property

Michael Matsuo

(808) 748-5951, mmatsuo@hbws.org

boardofwatersupply.com for more information

September 27, 2021

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

September 27, 2021

ADOPTION OF
SIX-YEAR
CAPITAL
IMPROVEMENT
PROGRAM FOR
THE PERIOD OF
JULY 1, 2020 TO
JUNE 30, 2026

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

Subject: Adoption of the Six-Year Capital Improvement Program
for the Period July 1, 2020 to June 30, 2026

We submit and recommend for adoption the proposed Six-Year Capital Improvement Program (CIP) for the period beginning July 1, 2020 and ending June 30, 2026, with the understanding that it may, as needs dictate, be amended, or modified by the Board.

The proposed Six-Year CIP has been reviewed by the City's Department of Planning and Permitting in accordance with the provisions of Section 7-105(d) of the City Charter.

The Six-Year CIP includes projects that address system renewal and replacement and capacity expansion to accommodate planned growth, pipeline, and facility improvements. It improves system capacity and reliability to ensure that we meet the challenges of providing a consistent and high-quality water supply for our customers.

Staff will present the Six-Year CIP highlights.

Respectfully submitted,

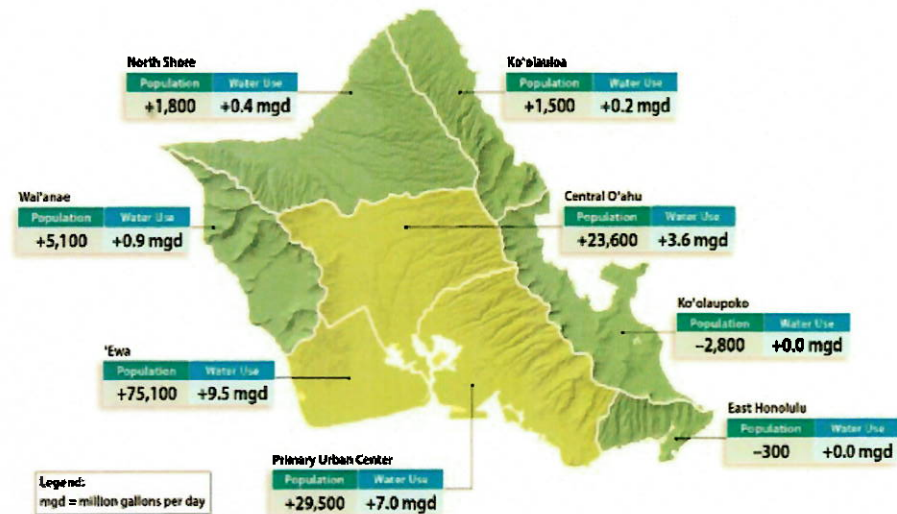
ERNEST Y. W. LAU
Manager and Chief Engineer

Attachments

DISCUSSION: Barry Usagawa, Program Administrator, Water Resources Division, and Dominic Dias, Civil Engineer VI, Water Resources Division, gave the report.

During Barry Usagawa's presentation Board Member Babcock asked to clarify the population noted on slide 6 (shown below). Board Member Babcock inquired if the population stood for water connections or people.

Changes in Population and Water Use Projections by 2040



Mr. Usagawa responded population stood for the number of people within that district.

Mr. Usagawa continued with his portion of the presentation then introduced Dominic Diaz for the second half of the presentation.

Chair Andaya thanked Mr. Usagawa and Mr. Dias for a very comprehensive report and asked the Board Members if there were any questions?

Board Member Soon asked Mr. Dias to define what construction adjustment accounts mean.

Mr. Dias explained that construction adjustment accounts were additional monies allocated to a project to cover changes or discrepancies in cost encountered during construction. It is an account that is set up in the annual CIP budget and approved by the Board prior to the start of the fiscal year.

Board Member Soon inquired if the construction adjustment accounts are set up project by project.

Mr. Dias confirmed that construction adjustments accounts are identified for each project.

Board Member Soon asked when the project is completed, where does the unused money in the construction adjustment account go.

Manager Lau explained that any unspent money from contract adjustment accounts would be carried forward to the next fiscal year.

Board Member Jade Butay inquired if the contract adjustment account is similar to contingency accounts.

Manager Lau replied that contract adjustment accounts are contingency accounts specifically for projects. The contingency account amount is limited to 10% of the project cost.

Board Member Butay inquired if the BWS would be receiving any Federal funding from the Infrastructure Investment and Jobs Act to assist with the 6-year CIP.

Manager Lau replied that the BWS is closely watching and monitoring the events happening in Congress. The BWS anticipates continuing the use of the revolving loan funds from the Environmental Protection Agency (EPA) for the State of Hawaii State Revolving Fund (SRF) for Drinking Water and Clean Water Program. The BWS is also hoping to receive 25% of the project cost from the United States Bureau of Reclamation Federal Funds to assist with the Desalination Project in Kalaeloa. He mentioned that the projects described above were included in the annual budget approved by the Board. Manager Lau explained that if the BWS receives any additional funds from Federal government grants, the BWS would return to the Board to ask for approval to amend the CIP to utilize these funds. He also mentioned that the BWS is also exploring the use of loans from the Water Infrastructure Finance and Innovation Act (WIFIA) Program.

Board Member Butay mentioned that in 2020 the State of Hawaii, Department of Transportation issued 100 million in funding and another million in 2021. He inquired if the BWS would be issuing bonds every year to assist funding for the CIP.

Manager Lau replied the BWS is currently using a balance of cash and borrowing to fund the CIP. He stated that the BWS is planning to conduct a rate study that would focus on the next five years of the CIP and operating needs. The rate study would help identify and determine the revenue requirements and/or rate increases to fund the projected operating and CIP expenditures.

Manager Lau expressed his appreciation for the Board's support in long-term planning such as the BWS 6-year CIP and long-term financial plan. He stated that it is important to continue to invest in the water system but at the same time keep it affordable for BWS customers.

Chair Andaya echoed Manager Lau's comments regarding long-term planning. He stated that reports are available to anyone that would be interested in reviewing the documents.

Chair Andaya asked if there were any further questions or comments. Hearing none, Chair Andaya requested a motion.

**MOTION
TO APPROVE**

Jade Butay and Max Sword motioned and seconded, respectively, to approve the Adoption of the Six-Year Capital Improvement Program for the Period July 1, 2020 to June 30, 2026. The motion was unanimously carried.

After the motion and adoption, vote Board Member Na'alehu had further questions and comments.

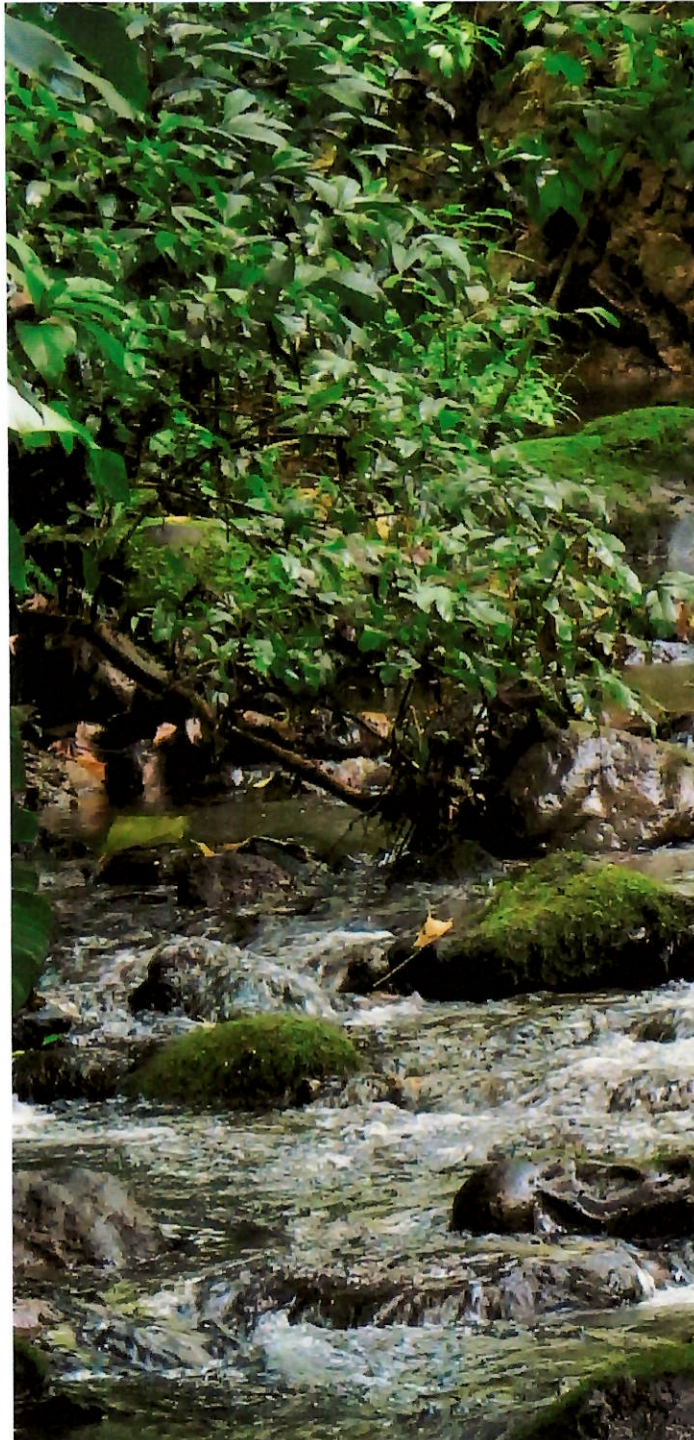
Board Member Na'alehu Anthony inquired if the BWS has someone monitoring the infrastructure bill?

Manager Lau responded that the BWS has a designated position to monitor Federal, State, and City bills.

Board Member Anthony commented that since the infrastructure bill has not yet passed. He suggested the BWS get a briefing from congressional staff to get a better understanding of what is available to the BWS since the BWS is working to continue with the repair and replacement of more miles of pipeline, clean water, and wastewater. Board Member Anthony encourages the BWS to take advantage of all that is available to the BWS.

Manager Lau replied that the BWS would reach out to the congressional delegation if they'd be willing to share any updates.

ADOPTION OF THE SIX-YEAR CAPITAL IMPROVEMENT PROGRAM FOR THE PERIOD JULY 1, 2020 TO JUNE 30, 2026			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT			ABSENT
RAY C. SOON	X		
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JADE T. BUTAY	X		
ROGER BABCOCK JR.	X		



6-YEAR CAPITAL IMPROVEMENT PROGRAM FY21-FY26

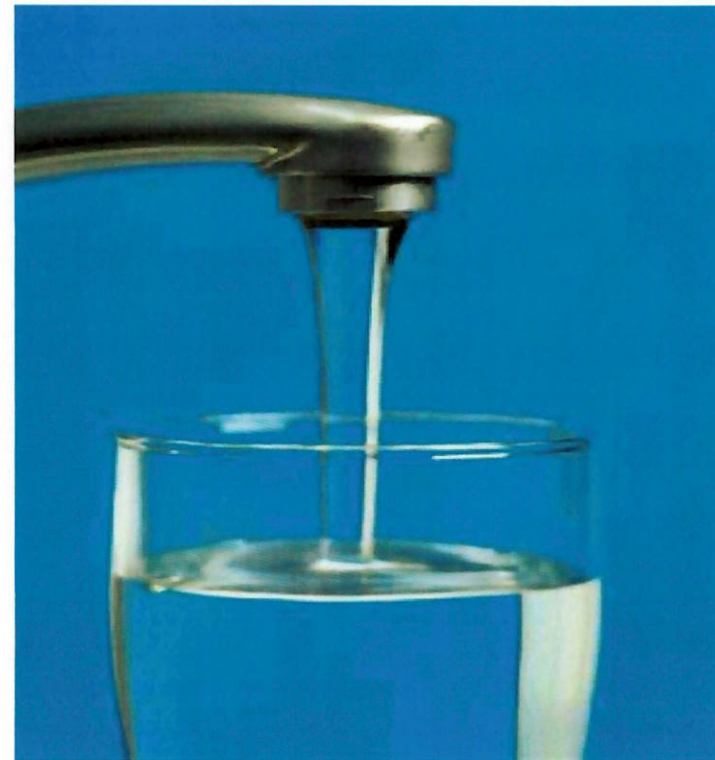
Presenters: Barry Usagawa and Dominic Dias

September 27, 2021

www.boardofwatersupply.com

CAPITAL IMPROVEMENT PROGRAM PRESENTATION

- City Charter Requirement
- CIP Basis
- CIP Project Highlights



REVISED CHARTER OF HONOLULU

Section 7-105 (d), Powers, Duties & Functions of the BWS:

The Board of Water Supply shall:

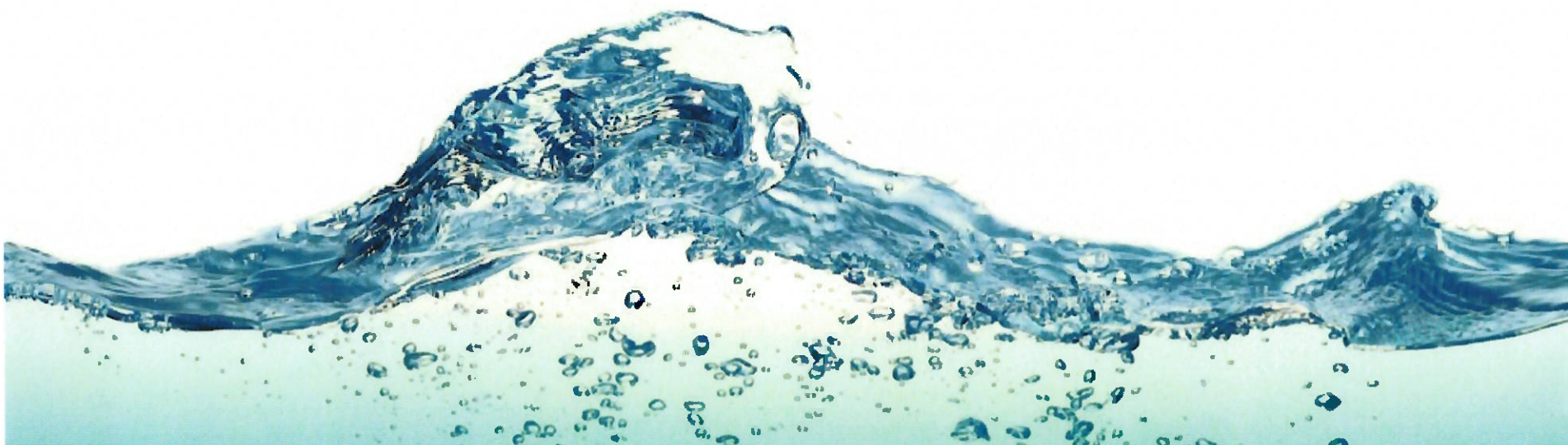
“Determine the policy for construction, additions, extensions and improvements to the water systems of the city which shall include a long-range capital improvement program covering a period of at least six years which shall be adopted after consultation with the director of planning and permitting and which may be amended or modified by the board from time to time.”



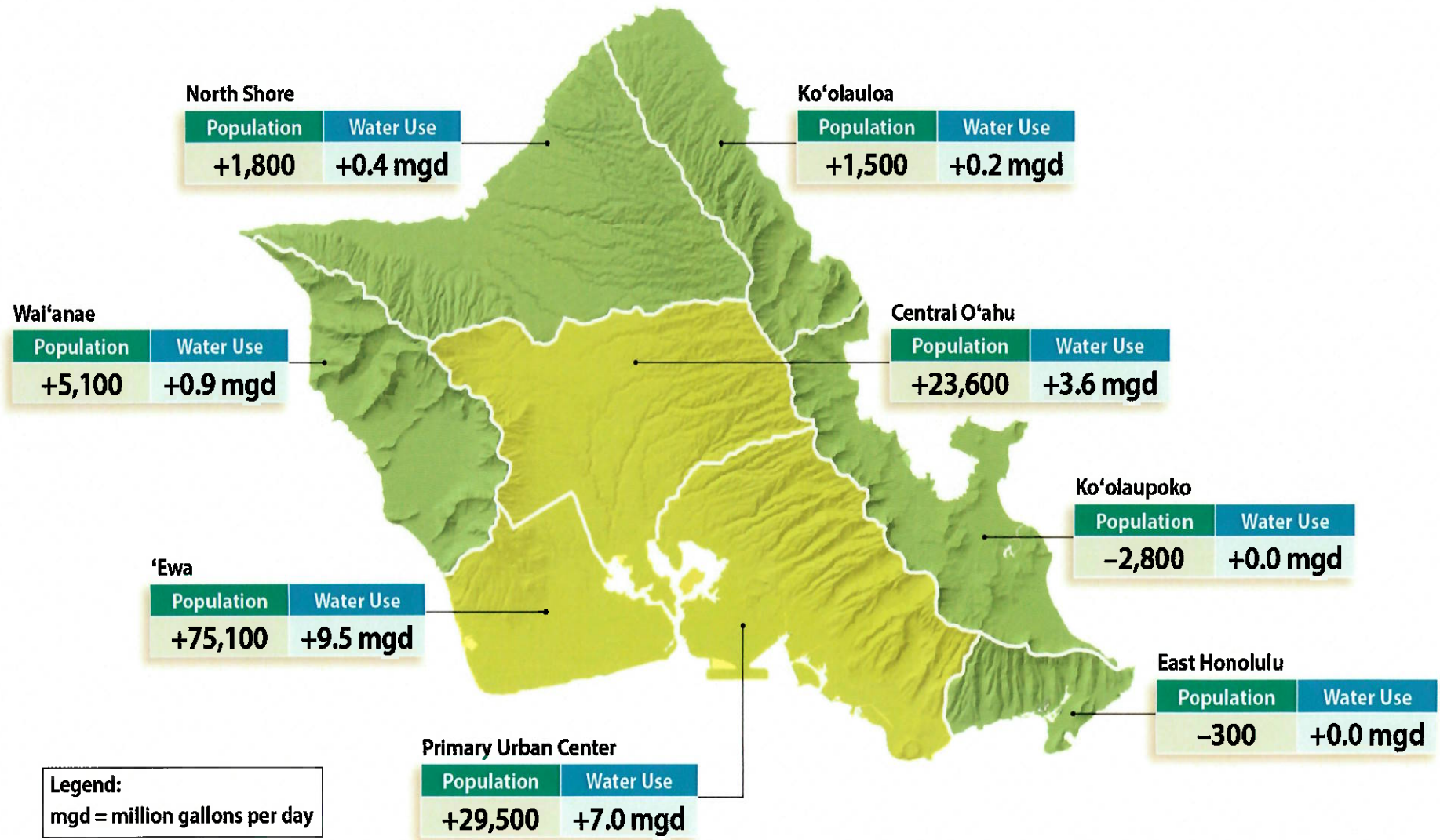
BWS PLANS CENTER ON BWS MISSION OF WATER FOR LIFE



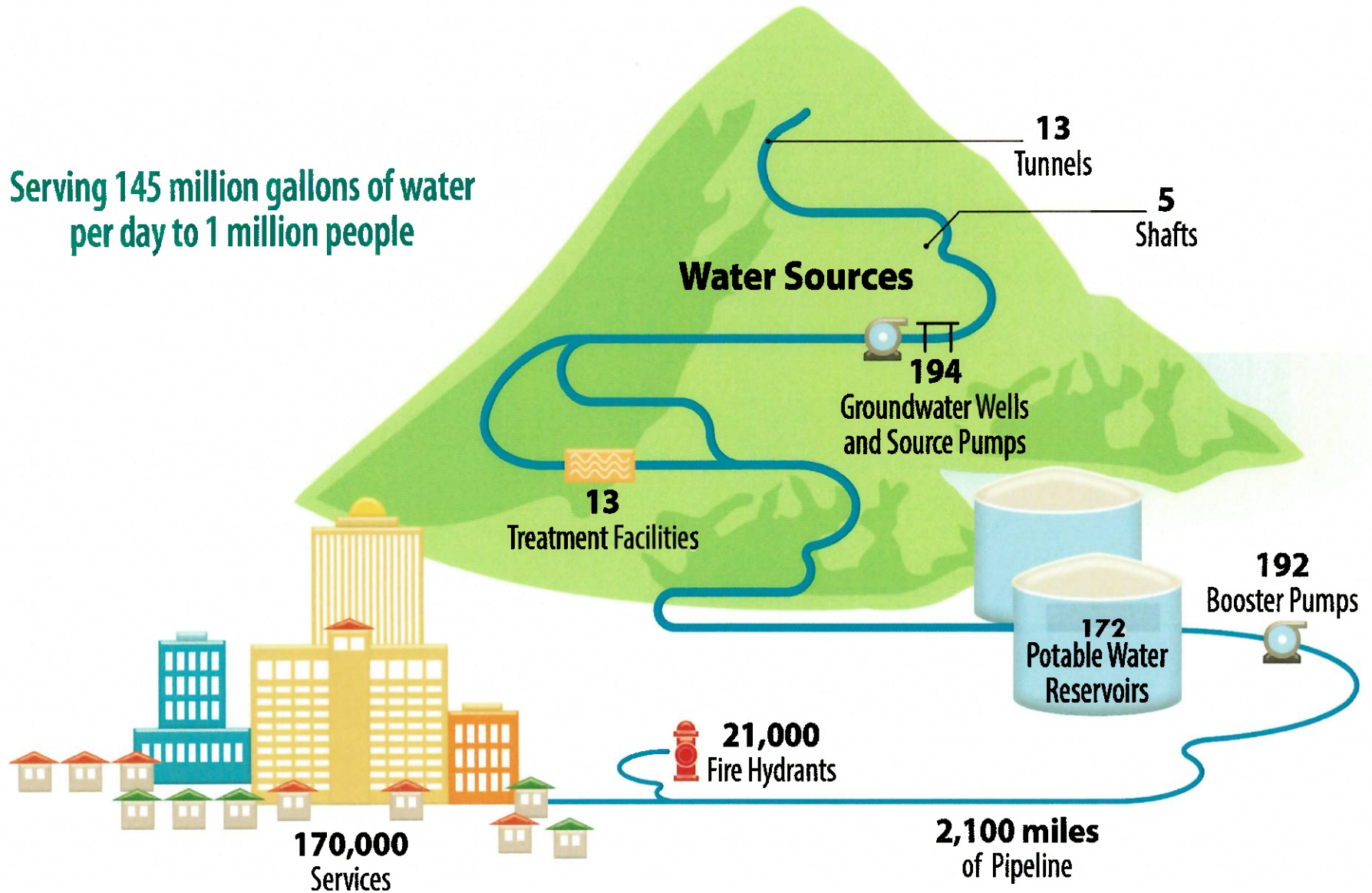
The BWS Water Master Plan...

- 
- ... **Looks ahead** 30 years
 - ... **Evaluates** the entire water system
 - ... **Identifies** necessary improvements
 - ... **Balances needs with costs** of providing water to our customers

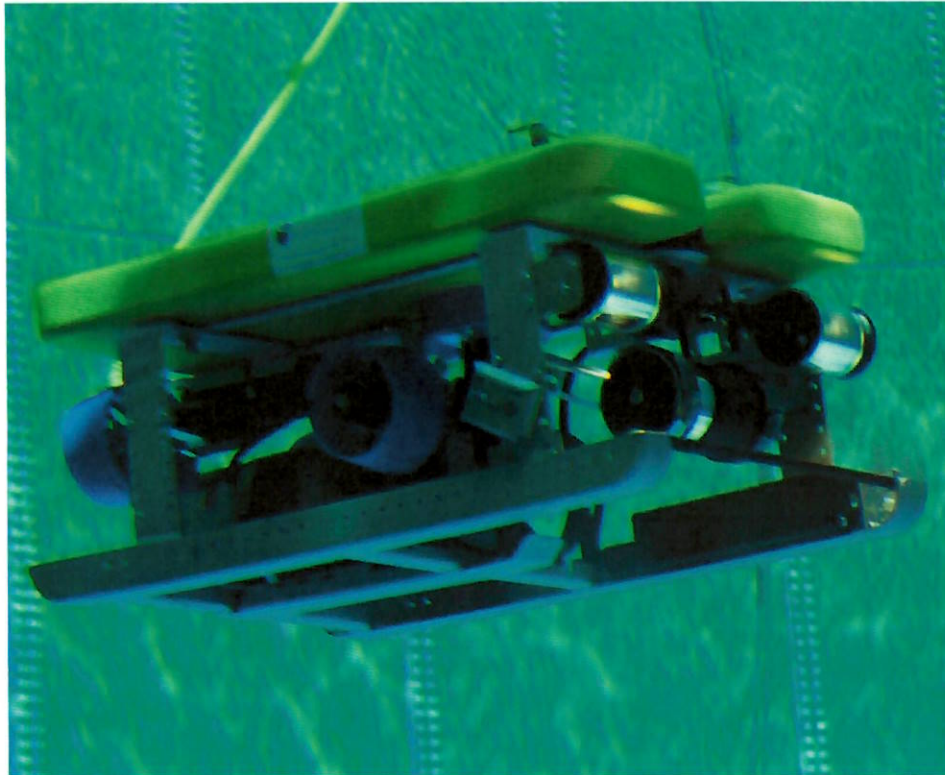
Changes in Population and Water Use Projections by 2040



The BWS Water System is Large and Complex



We conducted a comprehensive condition assessment of our water infrastructure

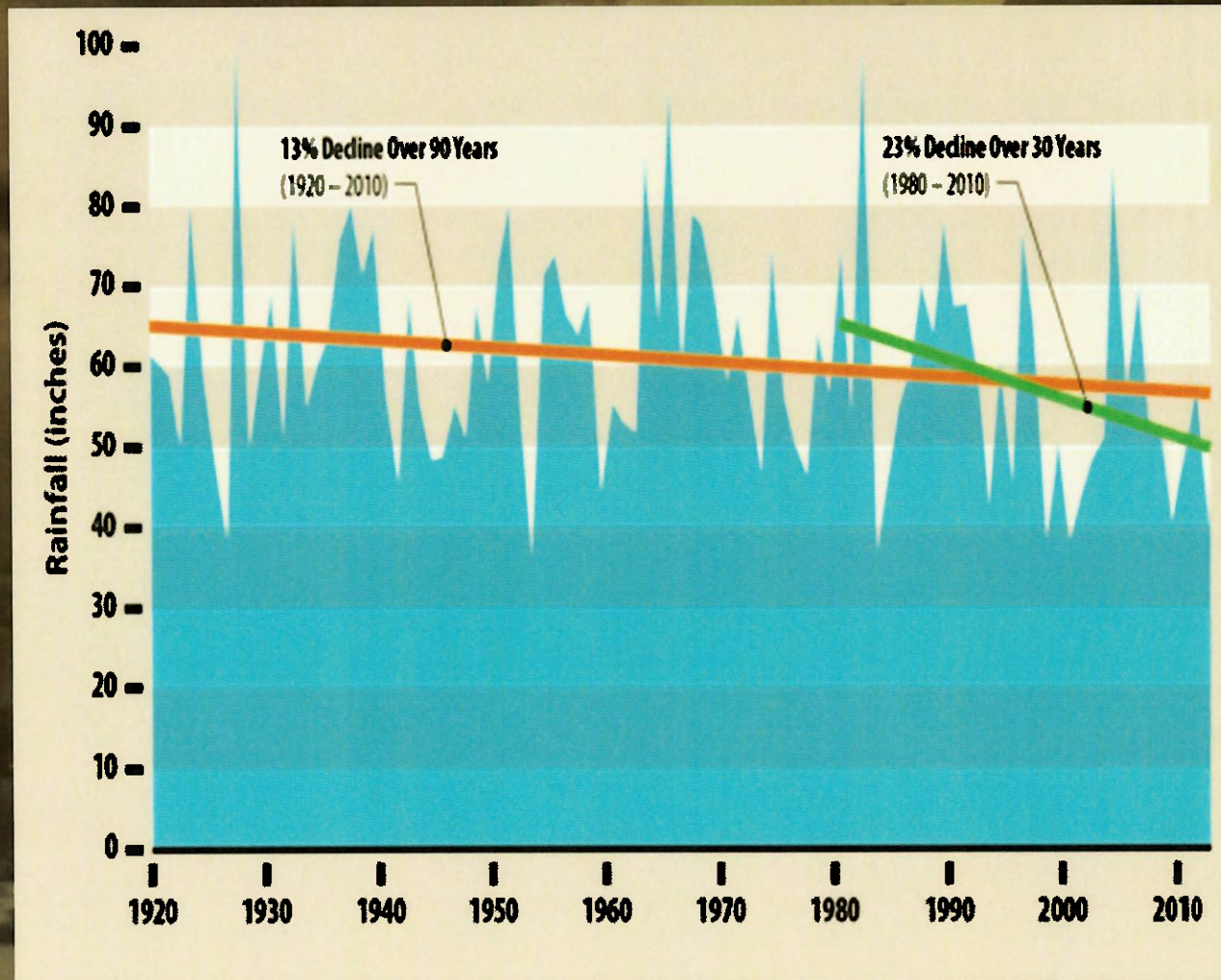




We analyzed the entire system **for its capacity** to handle the water needed for the **2040 population**

Climate change and other trends

were factored into the plan's recommendations





Major **recommendations** of
the **Water Master Plan**

Develop **new drinking water supplies** for 'Ewa-Waipahu and Honolulu

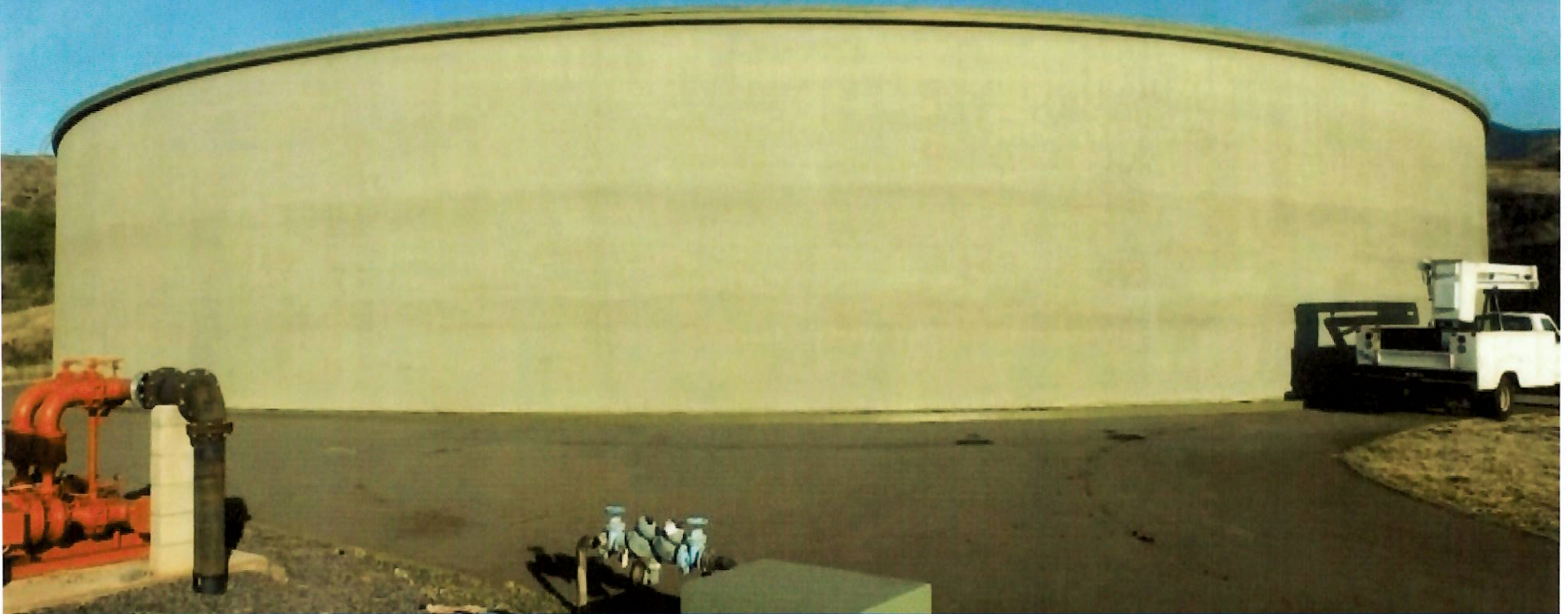


Most of our pumps are in
good condition



Rehabilitate some and **build new ones**
where needed

About 90 percent of our **172 reservoirs** are in good condition



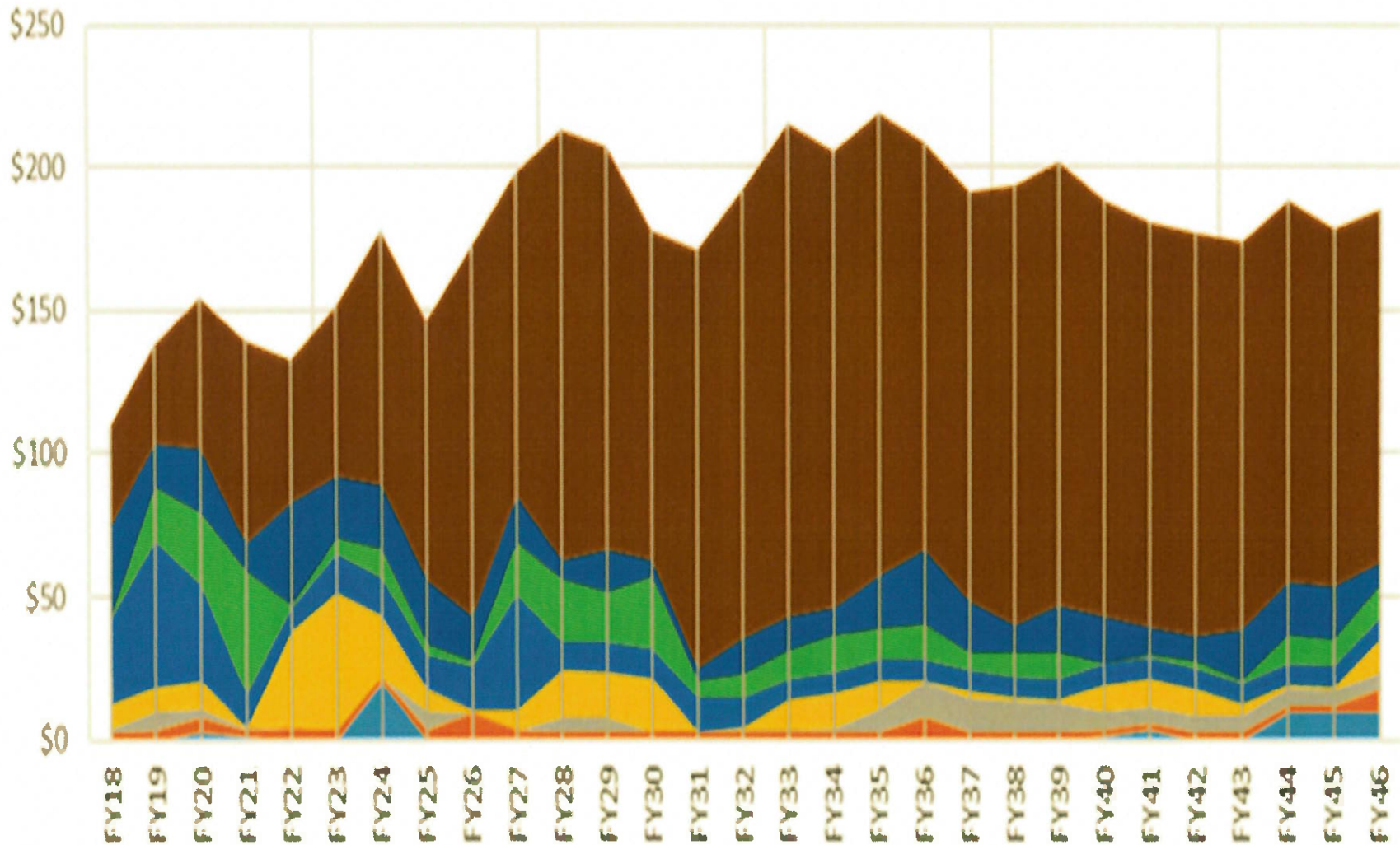
Build additional storage in **‘Ewa-Waipahu, Honolulu, and Wai‘anae** areas

Replace two reservoirs



Renew/replace **high priority pipelines** and install **new pipelines** to add capacity in areas of greatest growth

Funding Level by Asset Category



■ Nonpotable
 ■ Tools & Resources
 ■ Treatment
 ■ Sources
 ■ Facilities
 ■ Storage
 ■ Pumps
 ■ Pipelines

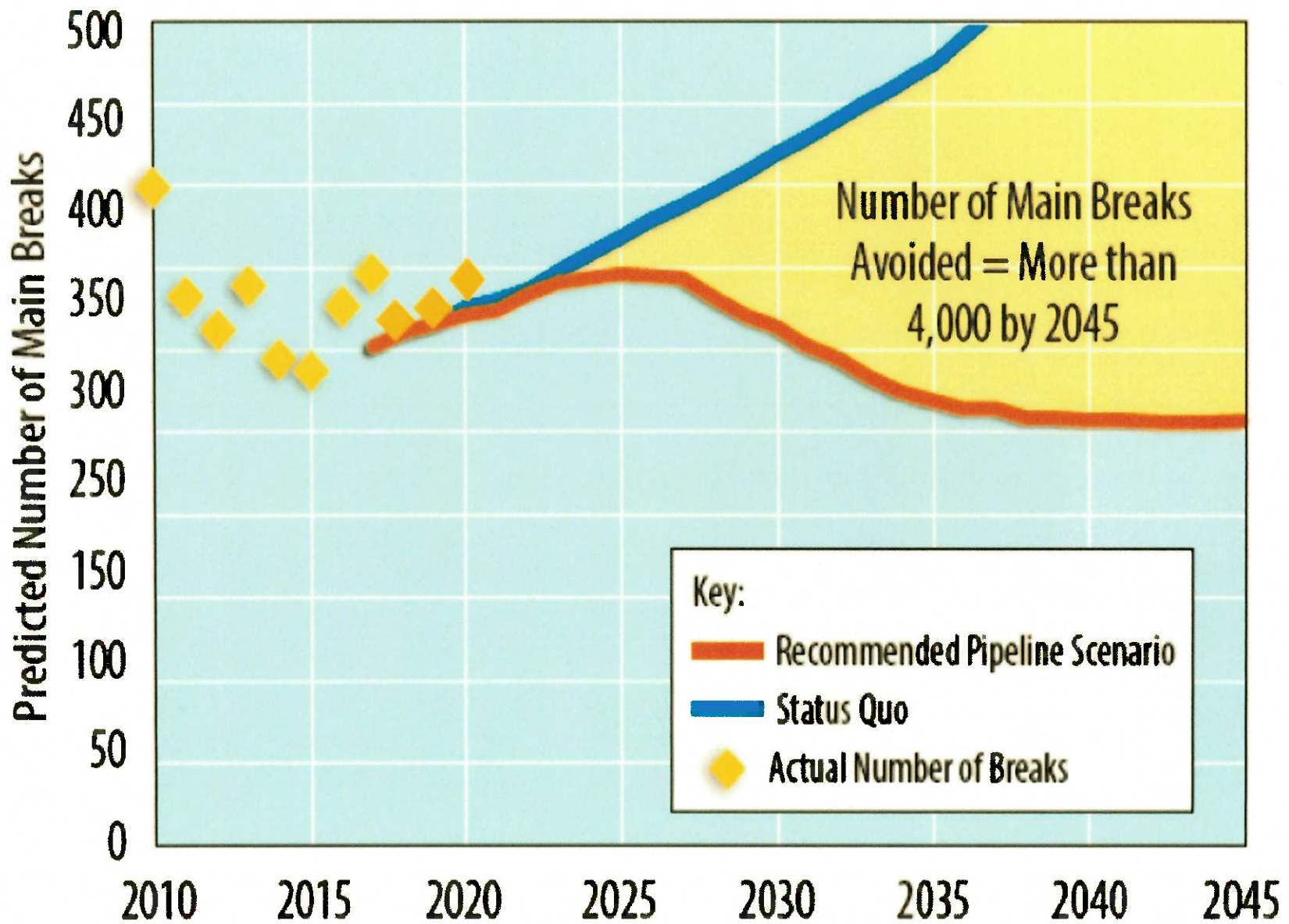


WMP Performance Metrics



- BWS Strategic Plan identified 6 primary steps to provide water from source to tap
- BWS Water Master Plan determined performance metrics in each of these steps to monitor and maintain the health of the water system infrastructure
- The performance metrics are used to target opportunities for improvement





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

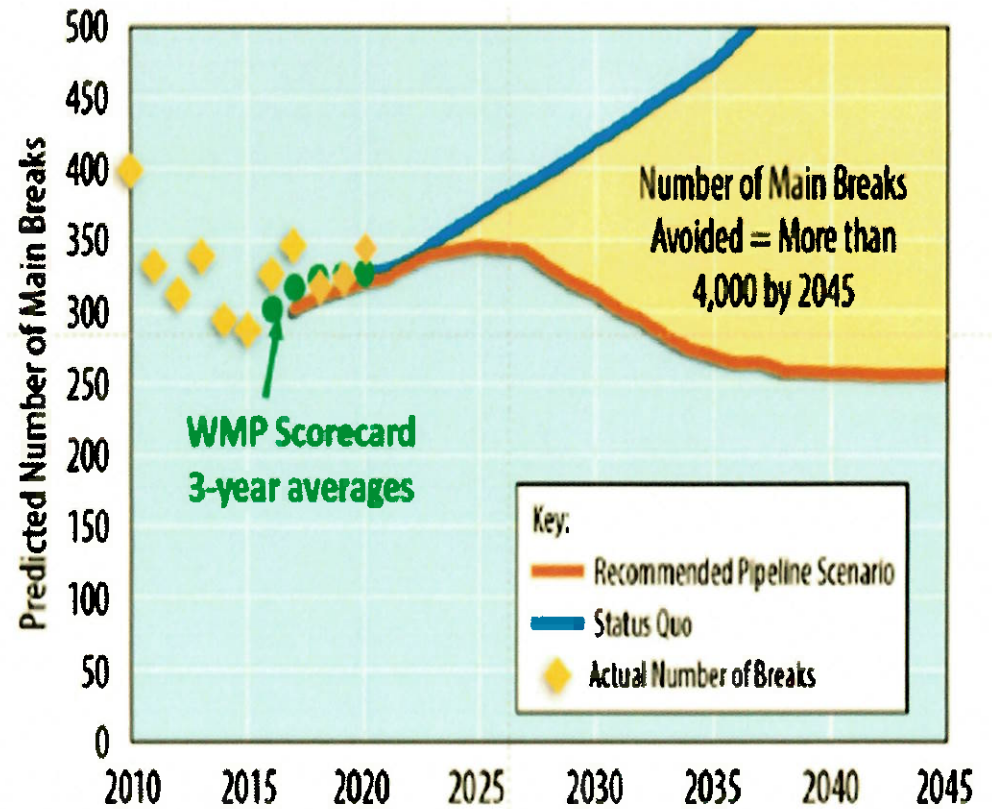
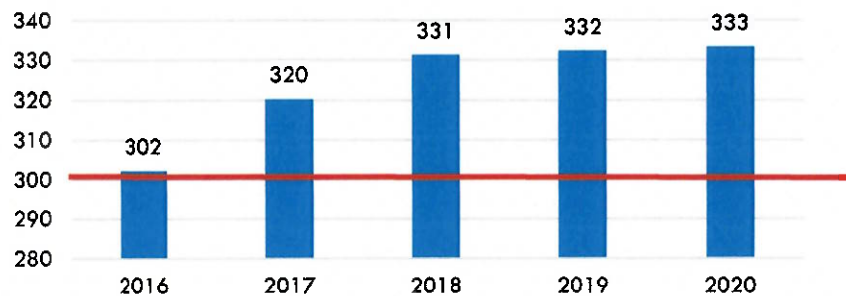
MAIN BREAKS PER 100 MILES OF PIPE

Indicator	Performance Metric (SP)	Goal	FY 20	FY 19	FY 18	Status	Lead
Main Breaks	Main breaks per 100 miles of pipe	< 15 (3-yr avg)	16	16	16	●	FO

3-Yr Main Break Average
100 Miles of Pipe

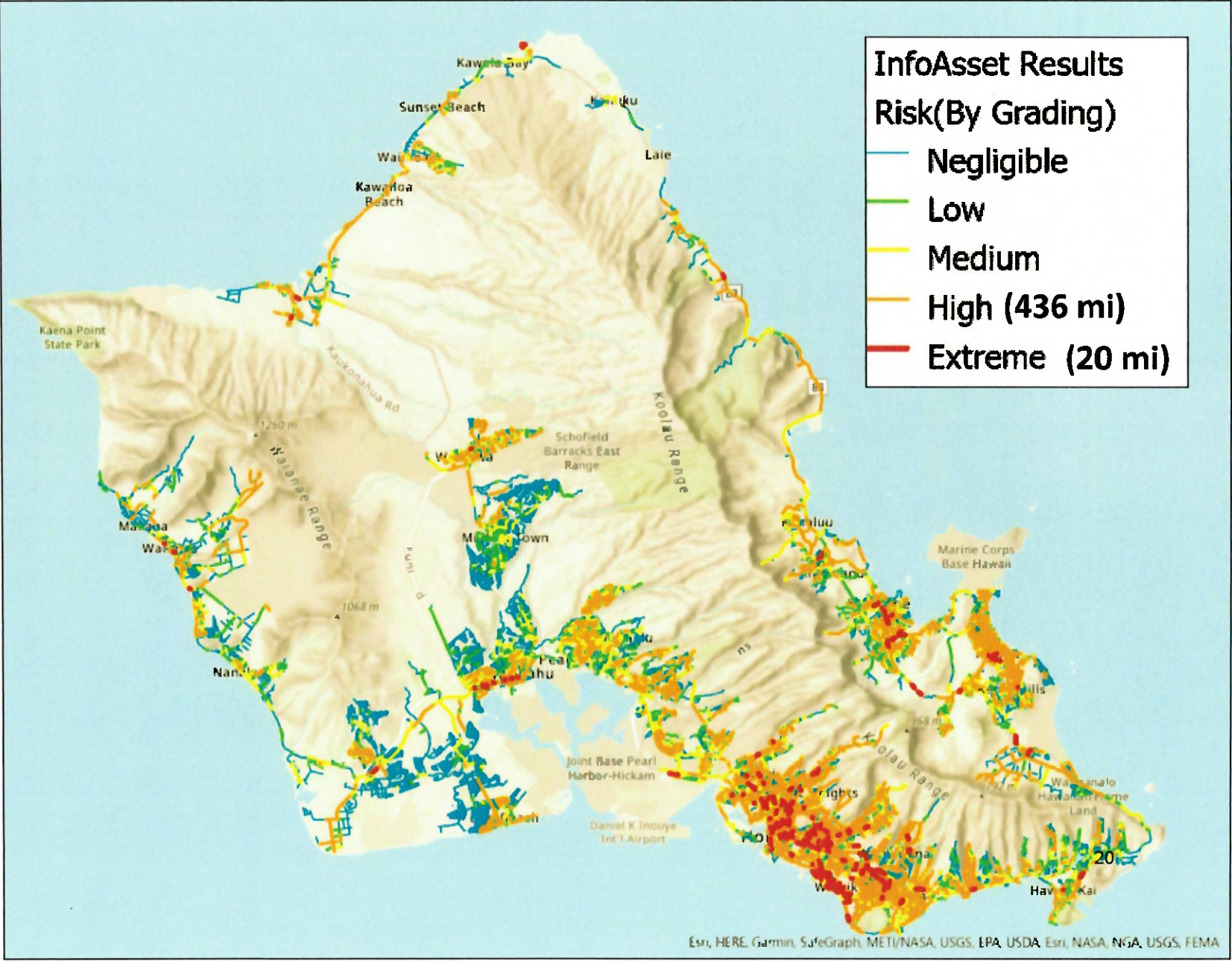


3-Yr Annual Main Breaks
Main Breaks per Year



● Met/on track to meet ● Miss by <10% of goal ● Miss by >10% of goal

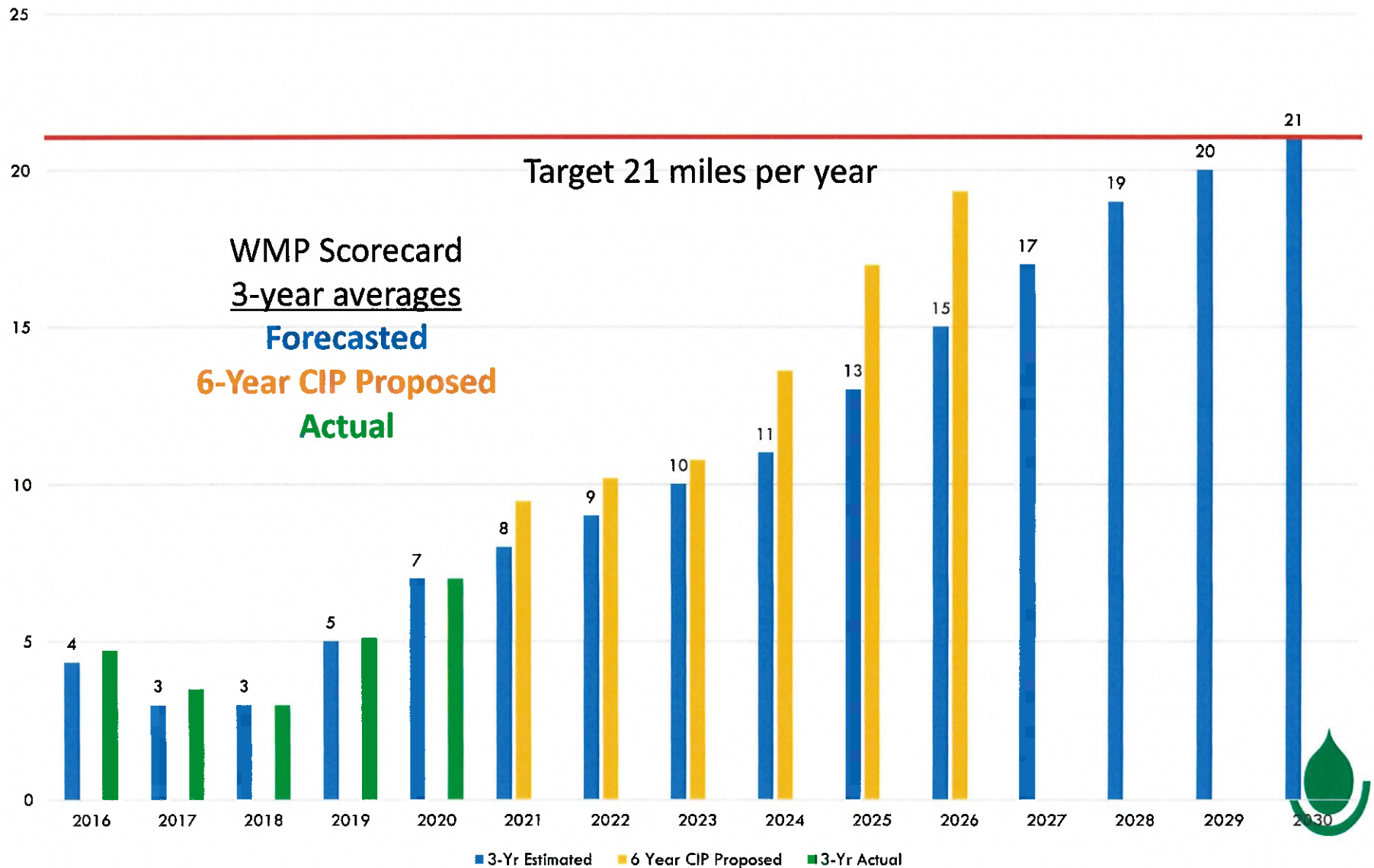
PIPELINE RISK SCORES ISLAND-WIDE



Esri, HERE, Garmin, SafeGraph, METI/NASA, USGS, EPA, USDA, Esri, NASA, NGA, USGS, FEMA



MILES OF PIPELINE REPLACEMENT 3 YR AVG



WATER MASTER PLAN BENEFITS

- Plans future infrastructure needs so water is available when and where its needed
- Provides an understanding of water supplies, demands and the water system
- Maintains high water quality, improves distribution systems and reduces costly emergency repairs
- Formulates and prioritizes system capacity expansion and repairs and replacement projects over 30 years based on benefits and risks
- Improves BWS long range infrastructure decisions with greater accuracy and efficiency
- Evaluates and improves water system standards so that infrastructure lasts longer providing value to rate payers
- Improves BWS ability to control costs and spread investments and rate changes over time



CIP BUDGET SUMMARY

CATEGORY	Fiscal Year (FY) (\$000)						
	TOTAL	2021	2022	2023	2024	2025	2026
RESEARCH AND DEVELOPMENT (R&D)	35,425	2,660	6,900	5,100	4,100	5,850	10,815
RENEWAL AND REPLACEMENT (R&R)	700,535	103,550	121,475	107,505	120,245	132,460	115,300
CAPACITY EXPANSION (CapExp)	247,175	53,150	23,200	40,725	55,490	30,805	43,805
SUBTOTAL:	983,135	159,360	151,575	153,330	179,835	169,115	169,920
Construction Cost Index Adjustment	82,151	14,235	12,801	12,627	14,028	14,048	14,412
Contract Adjustment Account	76,900	17,300	15,600	11,000	11,000	11,000	11,000
SUBTOTAL:	159,051	31,535	28,401	23,627	25,028	25,048	25,412
TOTAL:	1,142,186	190,895	179,976	176,957	204,863	194,163	195,332



CIP PROJECTS OF NOTE

The 6-Year CIP includes a diverse set of projects to fulfill and address operational needs, recommendations and metrics from the Water Master Plan, demands for future growth, goals for increased resiliency and Federal regulatory requirements and prioritized replacement of existing pipelines, reservoirs, pump stations.



CIP PROJECT SUMMARY

\$1,142 million total budget averages \$190 million/year and aligns with the approved 2020 New Base case Encumbered CIP totals

- Source: Meet all system demand conditions
 - Funding \$43.5 million for 2 new wells at existing facilities
- Pumps: Keep 90% of pumps in service
 - Funding \$100.5 million for new and replacement pumps (10% of CIP)
- Storage: Meet max day demand and provide emergency storage; decrease storage deficit in Metro 180 System
 - Funding \$79.5 million for 3 new and 2 replacement reservoirs (8% of CIP)
- Treatment: Meet water quality standards
 - Funding \$29.6 million (3% of CIP)
- Pipelines: Replaces approximately 13.2 miles/year working towards 21 miles/year
 - Funding \$534.3 million (57% of CIP) for 83 total miles of pipeline (79 miles replacement, and 4 miles of new capacity expansion)
 - \$425.9 million (43% of CIP) is for pipeline replacement
- Tools and Resources: Provide adequate support and systems for IT, Security, Energy Savings, Meter Reading Technology projects
 - Funding \$115.5 million (12% of CIP)



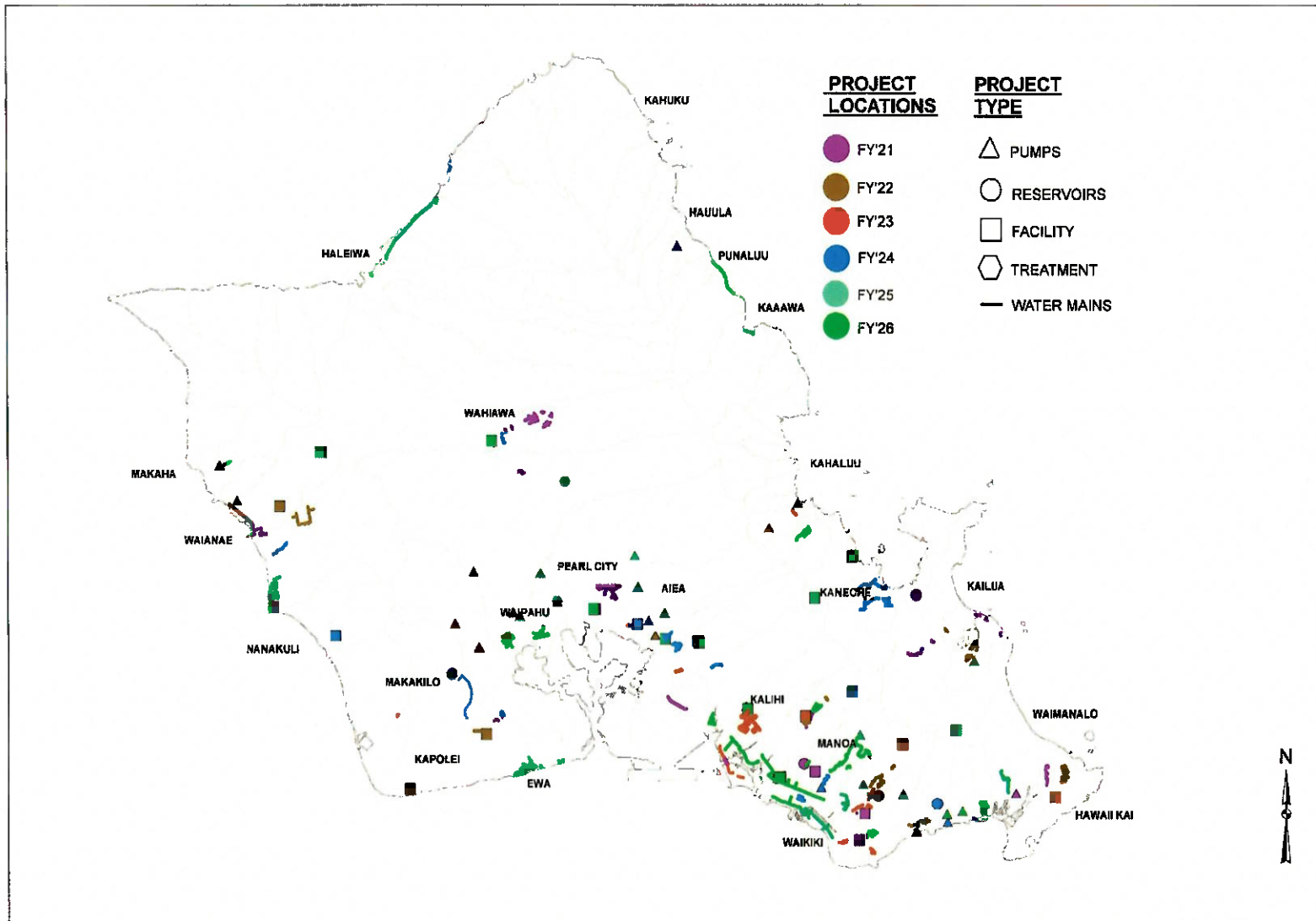
CIP PROJECTS SUMMARY (CONT.)

Projects affecting Tier 1 assets identified in 2018 AWIA Risk and Vulnerability Assessment:

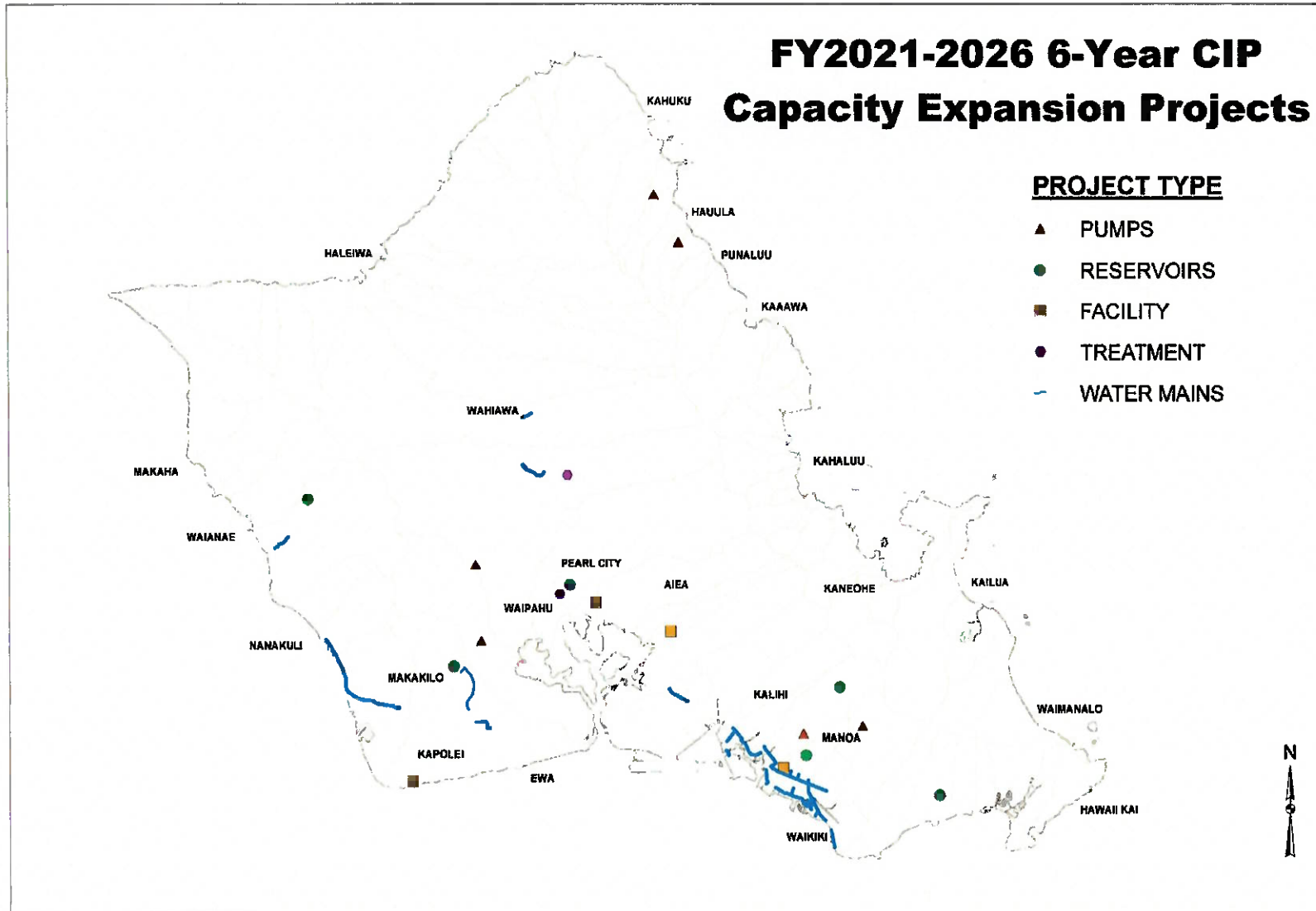
- Honouliuli Wells II MCC Replacement
- Kalihi Shaft MCC Replacement
- Kaonohi Booster No. 1 and Kaonohi Wells Facilities repairs
- Kapaa 272' Reservoir Replacement
- Waihee Tunnel and Inclined Wells Chlorinator
- Wilder Wells Starter Upgrades and Facility Repairs
- Wilhelmina Rise 811' Reservoir Replacement



CIP PROJECT LOCATION MAP

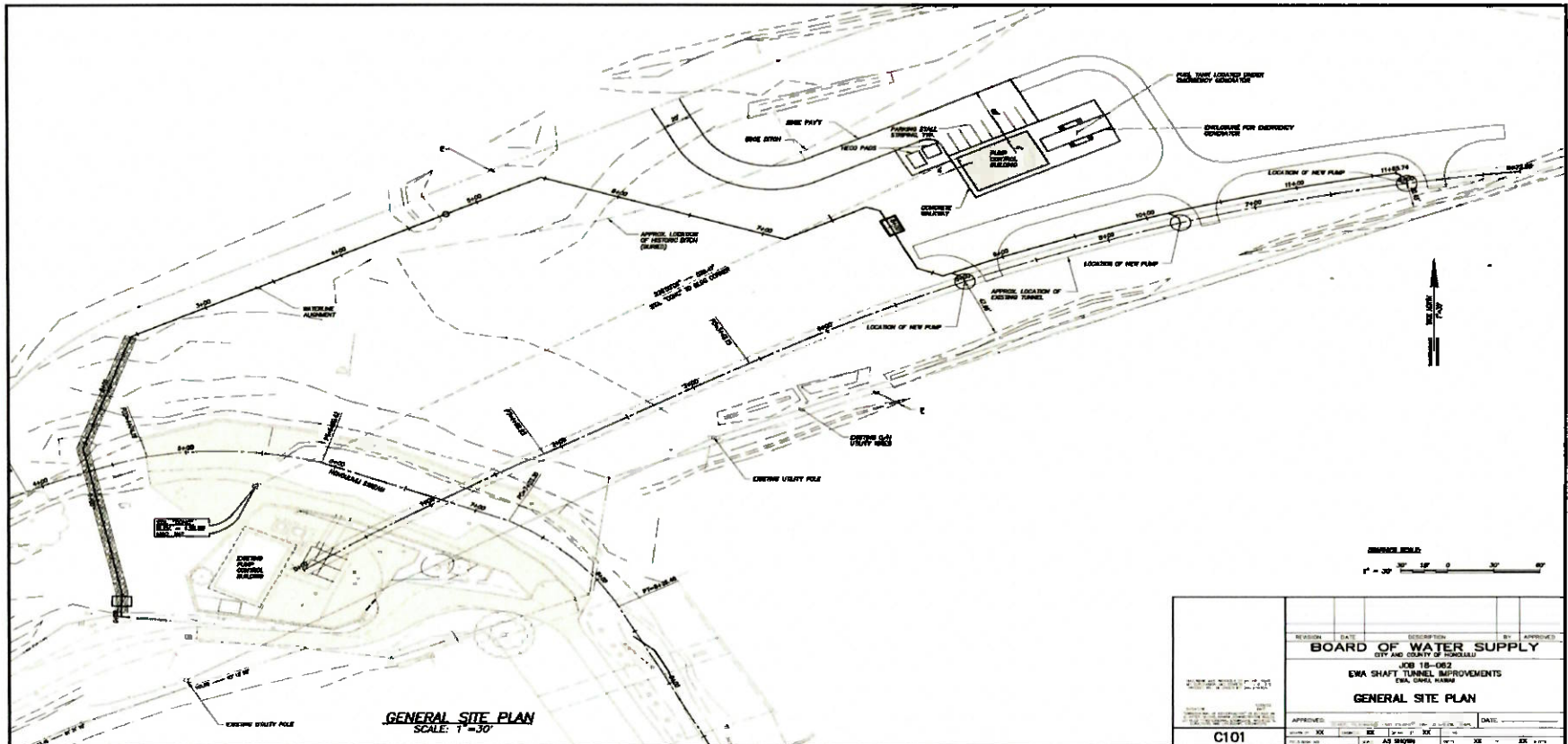


CIP CAPACITY EXPANSION PROJECTS MAP



SOURCE DEVELOPMENT

- **Ewa Shaft Tunnel Improvements** Estimated cost \$40 M
 - 10 MGD avg. production
 - Tunnel bulkheading, pump station relocation and stream-lining to address stream seepage



SOURCE DEVELOPMENT

- **Kunia Wells IV Estimated Cost \$4.5 M**
 - Drill and test 3 exploratory Wells
 - 3 MGD avg. production
 - \$1,000,000.00 appropriated by the Hawaii State Legislature in 2019 to reduce cost of new and larger agricultural meters



SOURCE DEVELOPMENT & DESALINATION

- **Kalaheoa Seawater Desalination Facility** Estimated Cost \$35 M
 - DBOM solicitation (20-year contract)
 - 1.7 MGD capacity facility
 - Accepted for up to 25% grant funding Bureau of Reclamation's WaterSMART Title XVI grant program



RESERVOIRS

- **Kapaa 272' Reservoir Replacement**
 - Significant leaking at existing tank
 - Structural deficiencies noted in Water Master Plan
 - New 1.0MG reservoir, demolish existing 2.0 MG reservoir

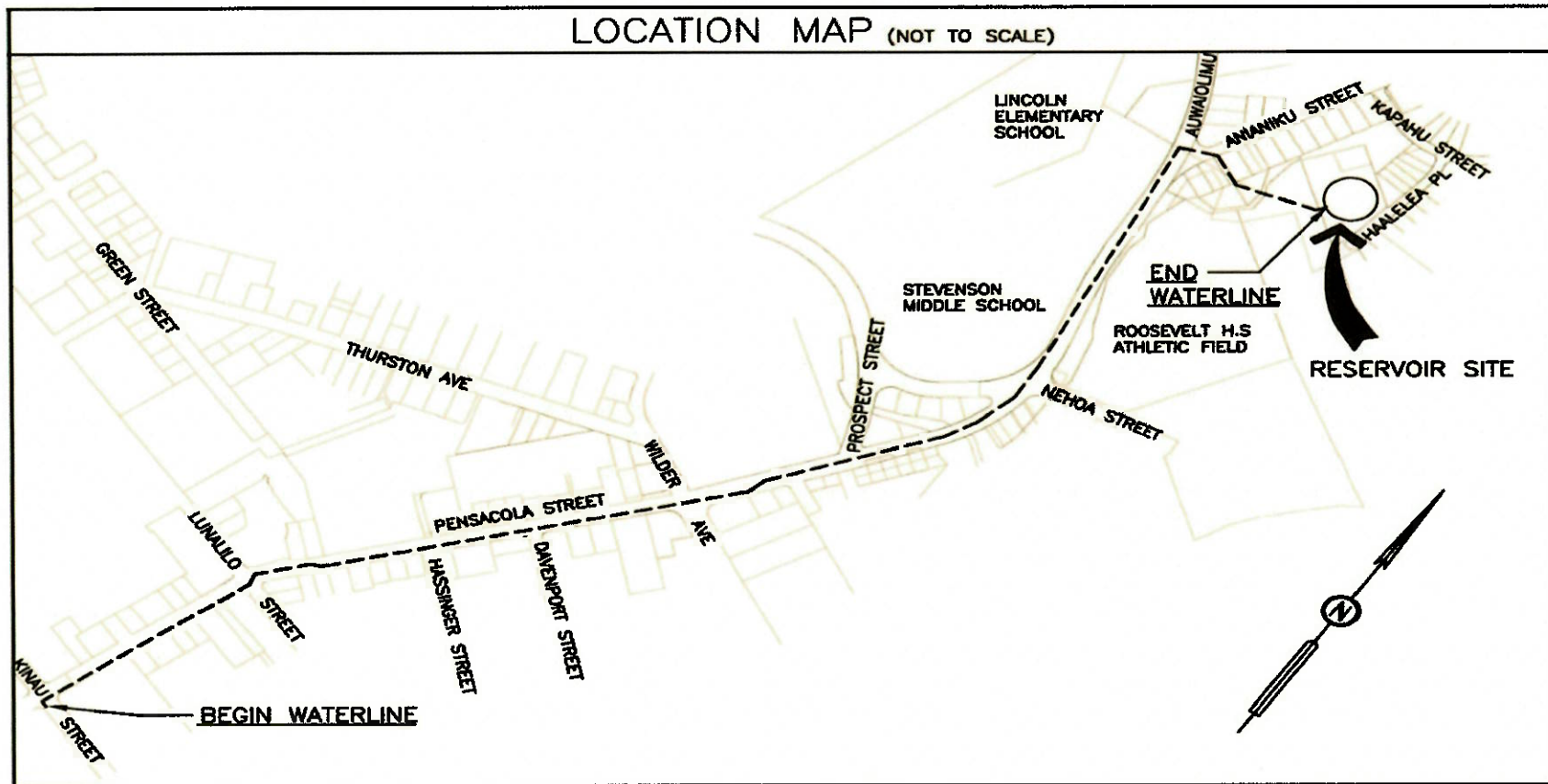
- **Kalawahine 180' 2.0MG Reservoir**
 - Provide 2.0MG of Storage in Metro 180' system which has a storage deficiency
 - Increased reliability and efficiency in system operations

- **Waiawa 228 Reservoirs Environmental Assessment**
 - 8.5MG of total storage (3 Reservoirs 4.0MG, 2.5MG and 2.0MG)
 - Provide much needed storage for the Metro Low Service system



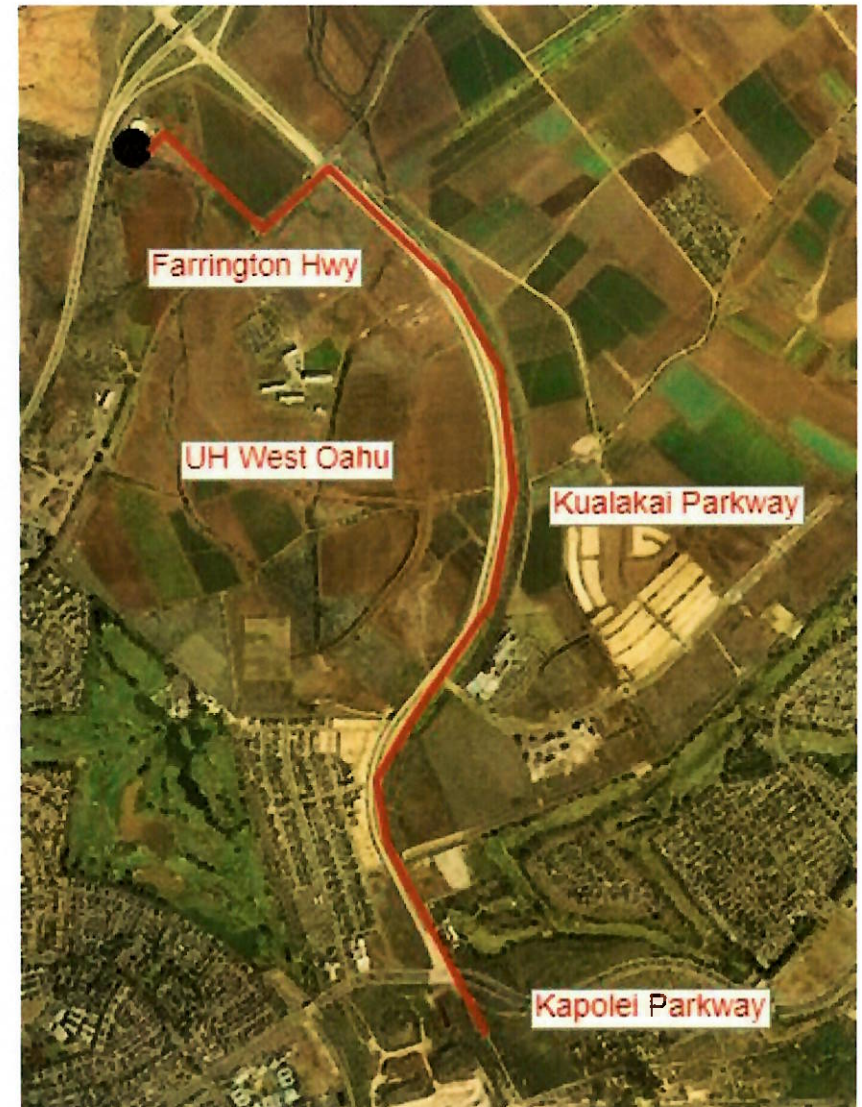
RESERVOIRS

- **Kalawahine 180' 2.0MG Reservoir** Estimated Cost \$36 M
 - Provide 2.0MG of Storage in Metro 180' system which has a storage deficiency



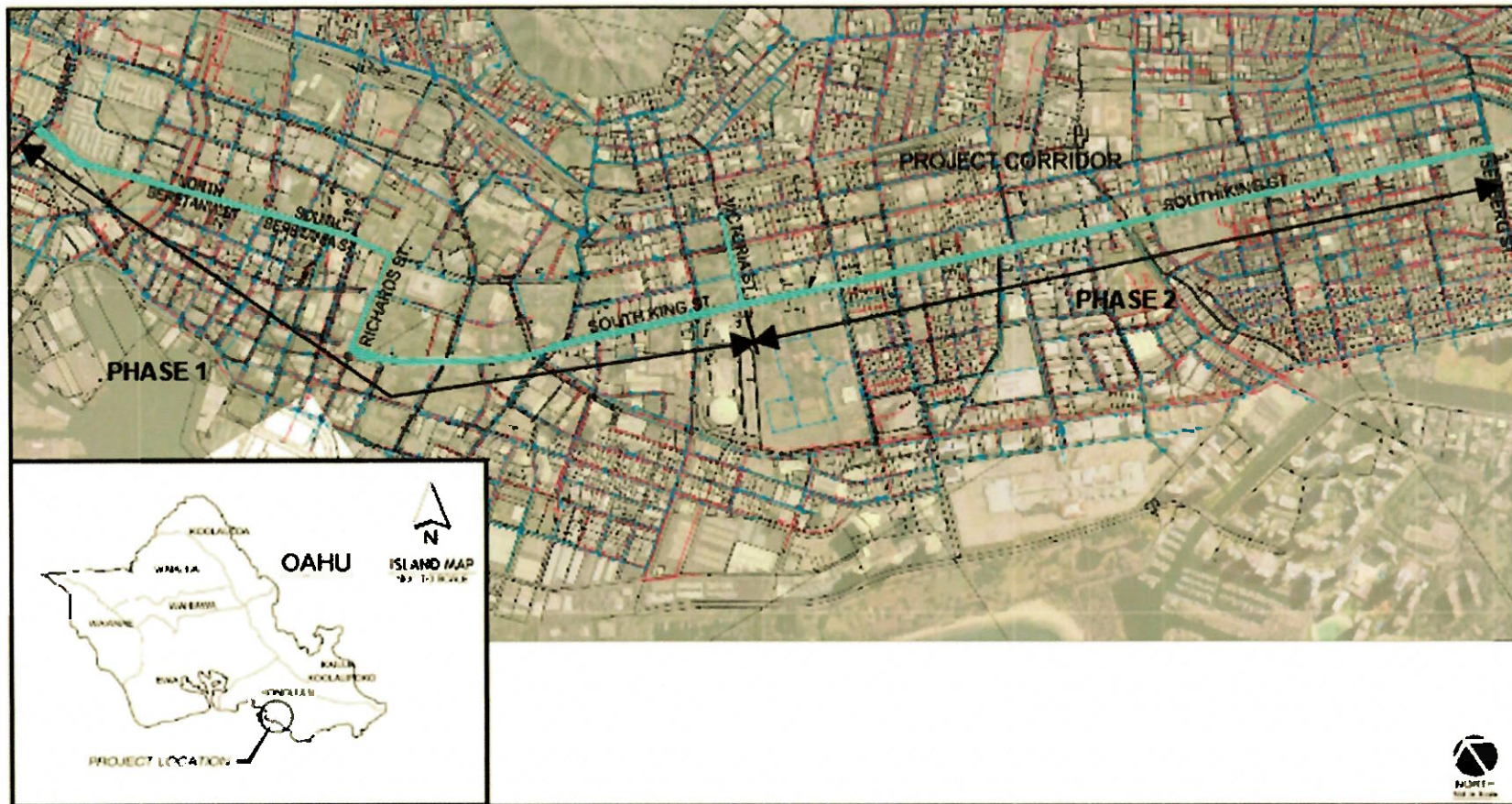
RECYCLED WATER

- **East Kapolei 215' R-1 3.0MG Reservoir** Estimated Cost \$12 M
 - 1st Reservoir for the recycled water system
 - Increase efficiency of the R-1 system by moving from a pump system to a gravity system similar to our potable systems
 - Applying for Clean Water State Revolving Funds loan
- **Kualakai Parkway 16-Inch Recycled Water Main** Estimated Cost \$7.5 M
 - Connect new R-1 reservoir to existing R-1 distribution system
 - Will be combined with R-1 reservoir as single construction project
 - Applying for Clean Water State Revolving Funds loan



TRANSMISSION MAINS

- **Honolulu District 42-Inch Main – Liliha to Moiliili**
 - South trunk transmission main to provide capacity, redundancy and reliability to existing transmission main



TRANSMISSION MAINS

- **Farrington Highway 24-Inch Main rehabilitation**

- Investigating new pipe rehabilitation technologies
- Provide redundant transmission capacity to the West side of the island to mitigate impacts to customers due to main breaks
- Increase transmission capacity as climate change decreases aquifers in Makaha & Waianae



FACILITY IMPROVEMENTS

- **Beretania Data Center Renovation** Estimated Cost \$1.5 M
 - Improve the functionality of the data center's operations
 - Upgrade the power and HVAC systems
- **Beretania Public Service Building 4th Floor Renovation**
 - Convert the old cafeteria space into usable multipurpose rooms and meeting facilities
- **Manana Corporation Yard – Microbiology Lab and Control Center Expansion**
 - Increased capability to better handle the water resource testing needs, to ensure that the municipal drinking water system meets all State and Federal requirements
 - Back-up control center provides redundancy and resilience to ensure the continuity of operations in the event the Beretania Control Center is rendered inoperable
 - Estimated Cost \$3M



CIP BUDGET SUMMARY

CATEGORY	Fiscal Year (FY) (\$000)						
	TOTAL	2021	2022	2023	2024	2025	2026
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TOTAL:	1,142,186	190,895	179,976	176,957	204,863	194,163	195,332





Mahalo!

BOARD OF WATER SUPPLY

6-Year Capital Improvement Program FY21-FY26

Presenters: Barry Usagawa and Dominic Dias

(808) 748-5928

www.boardofwatersupply.com

September 27, 2021

BOARD OF WATER SUPPLY

City and County of Honolulu
Honolulu, Hawaii

SIX-YEAR CAPITAL IMPROVEMENT PROGRAM

For the Fiscal Years
Beginning July 1, 2020 and
Ending June 30, 2026

Submitted by: **ERNEST Y. W. LAU, P.E.**
Manager and Chief Engineer

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FOREWORD

The Six-Year Capital Improvement Program for fiscal years 2021 - 2026, contained herein, represents the projected funding requirements for research and development, renewal and replacement and capacity expansion to adequately meet system needs and the estimated water demand during the program period. Water demand estimates were derived from demographic and community planning data furnished by the Department of Planning and Permitting, City and County of Honolulu.

The level and rate of program execution in subsequent years will depend largely upon the financial capacity of the Board of Water Supply and the extent additional financing is available from various contributory sources.

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CHAIR AND MEMBERS
BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

In compliance with Section 7-105 (d) of the Revised Charter of the City and County of Honolulu, the following is the Six-Year Capital Improvement Program for the period July 1, 2020 - June 30, 2026.

Submitted by:

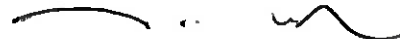


ERNEST Y. W. LAU, P.E.
Manager and Chief Engineer

9/29/2021

Date

Approved:



BRYAN P. ANDAYA
Chair

SEP 28 2021

Date

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BOARD OF WATER SUPPLY

City and County of Honolulu

BOARD MEMBERS

BRYAN P. ANDAYA, Chair

KAPUA'ALA SPROAT, Vice Chair

RAY C. SOON

MAX J. SWORD

NA'ALEHU ANTHONY

ROGER BABCOCK, Jr, Ex-Officio

JADE T. BUTAY, Ex-Officio

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BOARD OF WATER SUPPLY SIX-YEAR CAPITAL IMPROVEMENT PROGRAM

FISCAL YEARS 2021 TO 2026

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<u>COVER PAGE</u>	COVER					
<u>FOREWORD</u>	FOREWORD					
<u>SIGNATURES</u>	SIGNATURE					
<u>BOARD MEMBERS</u>	BOARD					
<u>TABLE OF CONTENTS (TOC)</u>	TOC 1 - TOC 14					
<u>SUMMARY OF COST ESTIMATES</u>	1					
<u>I. RESEARCH AND DEVELOPMENT (R&D)</u>	3					
1. CONSTRUCTION MANAGEMENT FOR VARIOUS BWS CONSTRUCTION PROJECTS	5	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
2. KUNIA WELLS IV EXPLORATORY WELLS	5	25	9	18	39	CENTRAL OAHU
3. PIPELINE CONDITION ASSESSMENT	5	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
4. MANOA WELL II EXPLORATORY WELL	6	7	5	11	23	PUC
5. WAIKELE GULCH EXPLORATORY WELL ENVIRONMENTAL ASSESSMENT	6	22	9	18	39	CENTRAL OAHU
6. NEWTOWN RIDGE AND ROYAL SUMMIT RELIABILITY IMPROVEMENTS	7	20	8	16	33	PUC
7. PROJECT MANAGEMENT FOR VARIOUS BWS PROJECTS	8	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
8. WAIALAE NUI WELL TEST	8	3	4	9	18	PUC
9. BERETANIA COMPLEX REDEVELOPMENT	8	13	6	13	26	PUC
10. EXPLORATORY WELL PROGRAM	9	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
11. WATER MASTER PLAN UPDATE - 2026	9	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
 FY 2021-2026 RESEARCH AND DEVELOPMENT (R&D) TOTAL	 9					

BOARD OF WATER SUPPLY SIX-YEAR CAPITAL IMPROVEMENT PROGRAM

FISCAL YEARS 2021 TO 2026

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<u>II. RENEWAL AND REPLACEMENT (R&R)</u>	11					
A. PUMPS - R&R						
1. MARINERS RIDGE BOOSTER NO. 2 RENOVATION	13	1	4	9	17	EAST HONOLULU
2. KUNIA WELLS III RENOVATION	13	22	9	18	39	CENTRAL OAHU
3. WILDER WELLS STARTER UPGRADES AND FACILITY REPAIRS	14	7	5	11	23	PUC
4. KALIHI SHAFT MCC REPLACEMENT	14	16	6	14	28	PUC
5. PUMP RENEWAL AND REPLACEMENT	14	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
6. MAKAHA SHAFT TUNNEL REHABILITATION	14	24	1	21	44	WAIANAE
7. WAIPIO HEIGHTS WELLS AND WELLS I	15	22	8	17	35	CENTRAL OAHU
8. KAAMILO BOOSTER AND KAAMILO WELLS RENOVATION	15	20	6	16	33	PUC
9. WAIALAE IKI BOOSTER NO. 1 RELOCATION	15	2	4	9	19	EAST HONOLULU
10. KAMAILE WELLS RENOVATION, DRAINAGE IMPROVEMENTS AND CONTROL BUILDING REPAIRS, AND KAMAILE PLANTATION WELLS SEALING	16	24	1	21	44	WAIANAE
11. WAIHEE LINE BOOSTER: REPLACE PUMPING UNITS	16	29	2	23	48	KOOLAUPOKO
12. WAIU BOOSTER NO. 2 ELECTRICAL UPGRADES	16	21	8	16	34	PUC
13. WAIPIO HEIGHTS WELLS II PUMP REPLACEMENT AND ELECTRICAL UPGRADES	17	22	8	18	37	CENTRAL OAHU
14. PEARL CITY BOOSTER NO. 3 MCC REPLACEMENT	17	21	8	17	34	PUC
15. HAWAII LOA BOOSTER NO. 2 PUMP AND MCC REPLACEMENT	17	2	4	9	18	EAST HONOLULU
16. TEMPORARY PUMPING CONNECTIONS	18	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
17. HONOULIULI WELLS II MCC REPLACEMENT	18	34	9	20	39	EWA
18. WAIHEE TUNNEL AND INCLINED WELLS CHLORINATOR	18	29	2	23	48	KOOLAUPOKO
19. KAONOHI BOOSTER NO. 1 AND KAONOHI WELLS FACILITIES REPAIRS	18	20	8	16	33	PUC

BOARD OF WATER SUPPLY SIX-YEAR CAPITAL IMPROVEMENT PROGRAM

FISCAL YEARS 2021 TO 2026

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20. HAWAII LOA BOOSTER NO. 1 PUMP AND MCC REPLACEMENT	19	2	4	9	18	EAST HONOLULU
21. ST LOUIS HEIGHTS BOOSTER NO. 3 FACILITY REPAIRS	19	5	5	10	20	PUC
22. KAILUA HEIGHTS BOOSTER ELECTRICAL UPGRADES AND FACILITY REPAIRS	19	31	3	25	51	KOOLAUPOKO
23. AINA KOA BOOSTER NO. 5 FACILITIES REPAIR	19	3	4	9	18	EAST HONOLULU
24. NIU VALLEY BOOSTER NO. 1 MCC REPLACEMENT AND FACILITY REPAIRS	19	2	4	9	18	EAST HONOLULU
25. NUUANU BOOSTER NO. 2 RELOCATION	20	12	6	13	27	PUC
26. KAONOHI BOOSTER NO. 2 MCC REPLACEMENT AND FACILITY	20	20	8	16	33	PUC
27. KALIHI HI-SERVICE BOOSTER ELECTRICAL UPGRADES	20	16	6	14	28	PUC
28. HALAWA BOOSTER NO. 1 PUMP AND MCC REPLACEMENT	20	20	6	14	33	PUC
29. ALEWA HEIGHTS BOOSTER NO. 3 MCC REPLACEMENT AND FACILITIES REPAIRS	21	14	6	14	27	PUC
30. MAKAKILO BOOSTER NO. 1 ELECTRICAL UPGRADES AND FACILITY REPAIRS	21	34	1	20	42	EWA
31. ALEWA HEIGHTS BOOSTER NO. 1 MCC REPLACEMENT	21	14	6	13	27	PUC
32. HAWAII LOA BOOSTER NO. 3 MCC REPLACEMENT	21	2	4	9	18	EAST HONOLULU
33. WAIALAE IKI BOOSTER NO. 3 MCC REPLACEMENT	21	2	4	9	18	EAST HONOLULU
34. MAKAHA BOOSTER NO. 2 MCC REPLACEMENT	22	24	1	21	44	WAIANAE
35. MAKAKILO WELL MCC REPLACEMENT	22	34	1	20	42	EWA
R&R PUMPS SUBTOTAL	22					

BOARD OF WATER SUPPLY SIX-YEAR CAPITAL IMPROVEMENT PROGRAM

FISCAL YEARS 2021 TO 2026

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B. RESERVOIRS - R&R						
1. KAPAA 272 RESERVOIR REPLACEMENT	23	VARIOUS	3	24	50	KOOLAUPOKO
2. WAHIAWA 1361 NO. 1 AND NO. 2 RESERVOIR REPLACEMENT	23	26	2	22	46	CENTRAL OAHU
3. WILHELMINA RISE 811 RESERVOIR REPLACEMENT	24	4	4	10	20	PUC
4. NUUANU 822 0.2 MG RESERVOIR REPLACEMENT	24	12	6	13	25	PUC
5. WAIALAE 180 3.0 MG RESERVOIR REPLACEMENT	25	2	4	9	18	EAST HONOLULU
R&R RESERVOIRS SUBTOTAL	25					
C. PIPELINES - R&R						
1. WAHIAWA WATER SYSTEM IMPROVEMENTS, PART IV	26	26	2	22	46	CENTRAL OAHU
2. PEARL CITY WATER SYSTEM IMPROVEMENTS, PART IV	27	21	8	16, 17	34, 35	PUC
3. WIKAO STREET 12-INCH WATER MAIN	28	35	2	22	46	CENTRAL OAHU
4. MCARTHUR STREET 8-INCH WATER MAIN	28	24	1	21	44	WAIANAE
5. KAPOLEI PARKWAY 12-INCH WATER MAIN	28	23	1, 9	19	41	EWA
6. BERETANIA STREET INACTIVE 12-INCH BLOW-OFF MAIN	29	10	5	12	24	PUC
7. AULOA ROAD AND ULUKAHIKI STREET 16-INCH WATER MAIN	29	31	3	24, 25	49	KOOLAUPOKO
8. LANIKAI WATER SYSTEM IMPROVEMENTS, PART II	29	31	3	25	50, 51	KOOLAUPOKO
9. WATER SAMPLING STATIONS AT VARIOUS LOCATIONS	30	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
10. WATER MAIN INSTALLATION AND REPLACEMENT	30	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
11. SERVICE LATERAL REPLACEMENT AT VARIOUS LOCATIONS	30	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
12. KAIMUKI AVENUE AREA WATER SYSTEM IMPROVEMENTS	30	4	4	9	19	PUC
13. MONTEREY DRIVE AND SIERRA DRIVE 8-INCH MAINS	31	4	4	10	20	PUC
14. FORT WEAVER ROAD AND HAPALUA STREET WATER SYSTEM IMPROVEMENTS	31	23	9	19	40	EWA

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15. KAPAHULU AVENUE AND LEAHI AVENUE WATER SYSTEM IMPROVEMENTS	31	5	4	10	19	PUC
16. AIEALANI PLACE AND WELELAU PLACE 8-INCH MAIN	32	20	6	14	33	PUC
17. PRINCE EDWARD STREET AND KOA AVENUE 8-INCH MAINS	32	9	4	12	22	PUC
18. LOWER MARINERS RIDGE WATER SYSTEM IMPROVEMENTS	33	1	4	9	17	EAST HONOLULU
19. KAUNAOA STREET AREA WATER SYSTEM IMPROVEMENTS	34	5	4	9, 10	19	PUC
20. NEW SERVICE LATERAL INSTALLATIONS AT VARIOUS LOCATIONS	34	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
21. WATER SYSTEM IMPROVEMENTS AT VARIOUS LOCATIONS	34	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
22. NORTH SCHOOL STREET WATER SYSTEM IMPROVEMENTS	35	14, 15, 16	7	14	28, 29, 30	PUC
23. KALAMA VALLEY WATER SYSTEM IMPROVEMENTS, PART II	36	1	4	9	17	EAST HONOLULU
24. PALOLO WATER SYSTEM IMPROVEMENTS, PART III	37	6	5	10	20	PUC
25. PUIWA ROAD 12-INCH AND DOWSETT AVENUE 8-INCH MAINS	37	12	6	13	25	PUC
26. WAIOMAO HOMESTEAD ROAD 8-INCH MAIN	38	6	5	10	20	PUC
27. KAILUA ROAD 8-INCH MAIN	38	31	3	24	51	KOOLAUPOKO
28. KEOLU HILLS WATER SYSTEM IMPROVEMENTS, PART II	38	31	3	25	51	KOOLAUPOKO
29. GALVANIZED PIPELINE REPLACEMENT	39	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
30. NUJUANU PALI DRIVE AND OLD PALI ROAD AREA WATER SYSTEM IMPROVEMENTS	39	12	6	13	25	PUC
31. THOMAS SQUARE 20-INCH MAIN RELOCATION	40	13	6	13	26	PUC
32. SAND ISLAND WATER SYSTEM IMPROVEMENTS	40	15	7	15	30	PUC
33. HALUPA STREET 12-INCH MAIN	41	18	7	15	31	PUC
34. DIAMOND HEAD WATER SYSTEM IMPROVEMENTS PART III	41	3, 4	4	9	19	PUC
35. AHILAMA ROAD 8-INCH MAIN	41	29	2	23	48	KOOLAUPOKO
36. KALIHI WATER SYSTEM IMPROVEMENTS, PART VI	42	15, 16	7	14, 15	30	PUC

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37. PALOLO WATER SYSTEM IMPROVEMENTS, PART IV	43	4, 6	4, 5	10	20	PUC
38. WAIANAE WATER SYSTEM IMPROVEMENTS, PART III	43	24	1	21	44	WAIANAE
39. MONSARRAT AVENUE WATER SYSTEM IMPROVEMENTS	44	5	4	9, 10	19	PUC
40. MOANALUA ROAD 8-INCH MAIN, WAIMALU NEIGHBORHOOD PARK VICINITY	44	20	8	16	34	PUC
41. BARBERS POINT 215 WATER SYSTEM IMPROVEMENTS	44	34	1	20	42	EWA
42. KAMEHAMEHA HIGHWAY AT KAHANA BAY BEACH 30-INCH MAIN	45	28	2	23	47	KOOLAULOA
43. KILI DRIVE 16-INCH MAIN, PART II	45	24	1	21	44	WAIANAE
44. LUALUALEI HOMESTEAD ROAD 8-INCH MAIN	45	24	1	21	44	WAIANAE
45. KAIKA STREET AT HALEIWA ROAD 8-INCH MAIN	45	27	2	23	47	NORTH SHORE
46. FARRINGTON HIGHWAY 24-INCH MAIN REHABILITATION	46	34, 36	1	20, 21	42, 43	EWA / WAIANAE
47. HAO STREET AND LAWELAWA STREET WATER SYSTEM IMPROVEMENTS	46	2	4	9	18	EAST HONOLULU
48. KEOLU DRIVE 12-INCH MAIN	47	31	3	24, 25	50, 51	KOOLAUPOKO
49. HAKIMO ROAD AT FARRINGTON HIGHWAY WATER SYSTEM IMPROVEMENTS	47	36	1	21	43	WAIANAE
50. MCCULLY STREET AT DATE STREET 16-INCH MAIN	47	8	5	12	21, 26	PUC
51. AIEA HEIGHTS DRIVE 8-INCH MAIN, KAUPILI PLACE VICINITY	48	20	6	16	33	PUC
52. HUI KELU STREET WATER SYSTEM IMPROVEMENTS	48	29	3	24	48	KOOLAUPOKO
53. SEASIDE AND KAIULANI AVENUE 12-INCH MAINS	48	9	4	12	22	PUC
54. ALA NAPUNANI AT ALA ILIMA 16-INCH MAIN	49	18	7	15	32	PUC
55. ALA MAHAMOE STREET AREA WATER SYSTEM IMPROVEMENTS	49	17	6	14	31, 32	PUC
56. WAIPAHU 36-INCH MAIN RELOCATION	50	22	8	17	38	CENTRAL OAHU
57. HUI ULILI STREET AND HUI LO STREET	50	29	3	24	48	KOOLAUPOKO

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58. KAMEHAMEHA HIGHWAY AT AIEA KAI PLACE WATER SYSTEM IMPROVEMENTS	50	20	8	16	31	PUC
59. HALA DRIVE 20-INCH MAIN	51	14	6	13, 14	27	PUC
60. KALANIANAOLE HIGHWAY 12-INCH MAIN	51	2	4	9	18	EAST HONOLULU
61. KAHILINAI PLACE AND AIEA HEIGHTS DRIVE WATER SYSTEM IMPROVEMENTS	52	20	6	16	33	PUC
62. WAIKALUA ROAD WATER SYSTEM IMPROVEMENTS	52	30	3	24	48	KOOLAUPOKO
63. WAHIAWA WATER SYSTEM IMPROVEMENTS, PART IB	52	26	2	22	46	CENTRAL OAHU
64. PAIKO DRIVE 8-INCH MAIN	53	2	4	9	18	EAST HONOLULU
65. KANEOHE BAY DRIVE AND KAMEHAMEHA HIGHWAY WATER SYSTEM IMPROVEMENTS	53	30	3	24	48, 49	KOOLAUPOKO
66. MAILILI ROAD 20-INCH MAIN, PAAKEA ROAD TO LUALUALEI HOMESTEAD ROAD	53	36	1	21	44	WAIANAE
67. PALEKA ROAD AND WAIKALUA ROAD AREA WATER SYSTEM IMPROVEMENTS	54	30	3	24	48, 49	KOOLAUPOKO
68. KAMEHAMEHA HIGHWAY WATER SYSTEM IMPROVEMENTS, PUPUKEA ROAD VICINITY	54	27	2	23	47	NORTH SHORE
69. ALIPOE DRIVE AND PAIHI STREET AREA WATER SYSTEM IMPROVEMENTS	54	20	6	14	33	PUC
70. KEANA ROAD AREA WATER SYSTEM IMPROVEMENTS	55	30	3	24	49	KOOLAUPOKO
71. IHILOA LOOP AND EHUPUA PLACE AREA WATER SYSTEM IMPROVEMENTS	55	2	4	9	18	EAST HONOLULU
72. ALA HOKU PLACE 16-INCH MAIN	55	17	6	14	32	PUC
73. WAIAPO PLACE, WAIHUA PLACE AND WAIMOMONA PLACE WATER SYSTEM IMPROVEMENTS	56	23	9	19	41	EWA
74. KAKELA DRIVE AND MOHALA WAY WATER SYSTEM IMPROVEMENTS	56	7	5	11	23	PUC
75. KANUNU STREET AND MAKALOA STREET 8-INCH MAIN	56	11	5	12	26	PUC
76. PIPELINE REPAIR AND REPLACEMENT - 2028 AND BEYOND	57	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS

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77. FARRINGTON HIGHWAY 24-INCH	57	34	1	21	43	EWA
78. KAUMAKANI STREET AREA WATER SYSTEM IMPROVEMENTS	58	1	4	25	17	EAST HONOLULU
79. KAMEHAMEHA HIGHWAY AT TUTU STREET 16-INCH	58	27	2	23	47	NORTH SHORE
80. AALA STREET AND NORTH VINEYARD BOULEVARD WATER SYSTEM IMPROVEMENTS	59	15	7	13	27, 29	PUC
81. KUULEI ROAD 24-INCH	59	31	3	25	50	KOOLAUPOKO
82. WAIALUA BEACH DRIVE AND GOODALE AVENUE 16-INCH AND 8-INCH	59	27	2	23	45	NORTH SHORE
83. KAMEHAMEHA HIGHWAY AT LIPOA PLACE AREA WATER SYSTEM IMPROVEMENTS	60	20	8	16	31, 34	PUC
84. NAMAHANA STREET AND KEONIANA STREET WATER SYSTEM IMPROVEMENTS	60	9	4	12	22	PUC
85. PIIKOI STREET AND WAIMANU STREET WATER SYSTEM IMPROVEMENTS	60	11	5	12	22, 26	PUC
86. KAILUA ROAD 12-INCH MAIN	61	31	3	24, 25	50, 51	KOOLAUPOKO
87. KEALAHOU STREET WATER SYSTEM IMPROVEMENTS	61	1	4	9, 25	17	EAST HONOLULU
88. ALA WAI BOULEVARD 16-INCH MAIN, KALAKAUA AVENUE TO KEONIANA STREET	61	9	4	12	22	PUC
89. UNIVERSITY AVENUE WATER SYSTEM IMPROVEMENTS	62	8	5	10	21	PUC
90. ANALII STREET WATER SYSTEM IMPROVEMENTS	62	2	4	9	18	EAST HONOLULU
91. KOKEA STREET AND AULD LANE WATER SYSTEM IMPROVEMENTS	62	15	7	13	29	PUC
92. ROYAL HAWAIIAN AVENUE WATER SYSTEM IMPROVEMENTS	63	9	4	12	22	PUC
93. PUUOHALAI PLACE 8-INCH	63	30	3	24	50	KOOLAUPOKO
94. MARINERS RIDGE WATER SYTEM IMPROVEMENTS	64	1	4	9	17	EAST HONOLULU
95. MOANALUA GOLF COURSE 16-INCH MAIN	64	17	6	14	31, 32	PUC
96. LUALUALEI HOMESTEAD ROAD 16-INCH	65	24	1	21	44	WAIANAЕ
97. KAMEHAMEHA HIGHWAY - HALEIWA WATER SYSTEM IMPROVEMENTS, PART I & II	65	27	2	23	47	NORTH SHORE

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98. KAMEHAMEHA IV ROAD WATER SYSTEM IMPROVEMENTS	66	16	6, 7	14	28	PUC
99. KUHIO AVENUE AND KAIULANI AVENUE WATER SYSTEM IMPROVEMENTS	66	9	4	12	22	PUC
100. DOLE STREET AND KANEWAI STREET AREA WATER SYSTEM IMPROVEMENTS	67	5, 7	5	10, 11	21, 23	PUC
101. POHAKUPUNA ROAD AND PUPU STREET AREA WATER SYSTEM IMPROVEMENTS	68	23	1	19	41	EWA
102. FARRINGTON HIGHWAY WATER SYSTEM IMPROVEMENTS, HOOKEE STREET VICINITY	69	36	1	21	43	WAIANAE
103. HAHAIONE STREET, HOKULANI STREET KAHENA STREET AREA WATER SYSTEM IMPROVEMENTS	70	1	4	9	17, 18	EAST HONOLULU
104. KAHUAILANI STREET WATER SYSTEM IMPROVEMENTS	70	22	8	17	38	CENTRAL OAHU
105. MAPELE PLACE PIPING MODIFICATION	70	29	2	23	48	KOOLAUPOKO
106. DILLINGHAM BOULEVARD AT KOHOU STREET WATER SYSTEM IMPROVEMENTS	71	15	7	13, 15	29	PUC
107. KAMEHAMEHA HIGHWAY WATER SYSTEM IMPROVEMENTS - PUHULI STREET VICINITY	71	28	2	23	47	KOOLAULOA
108. WATER SYSTEM IMPROVEMENTS AT VARIOUS LOCATIONS IN MANOA	72	7	5	11	23	PUC
109. ELELUPE ROAD AND KULIOUOU ROAD WATER SYSTEM IMPROVEMENTS	73	2	4	9	18	EAST HONOLULU
110. LEOLUA STREET AND KIPOU STREET AREA WATER SYSTEM IMPROVEMENTS	74	22	9	17, 20	38, 39	CENTRAL OAHU
111. KILIHAIU STREET, AHUA STREET AND KAKOI STREET 12-INCH AND 8-INCH MAINS	74	19	7	15	31	PUC
112. FARRINGTON HIGHWAY WATER SYSTEM IMPROVEMENTS, WAIPAHU DEPOT ROAD VICINITY	75	22	8	17, 20	35, 38	CENTRAL OAHU
113. AHUIMANU ROAD AREA AND WAIHEE PLACE WATER SYSTEM IMPROVEMENTS	75	29	3	24	48	KOOLAUPOKO
R&R PIPELINES SUBTOTAL	75					

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D. TREATMENT - R&R						
1. GAC INTERIOR CORROSION CONTROL AT VARIOUS LOCATIONS	76	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
2. TREATMENT REPAIR AND REHABILITATION - 2028	76	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
3. TREATMENT REPAIR AND REHABILITATION - 2029	76	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
R&R TREATMENT SUBTOTAL	76					
E. FACILITIES - R&R						
1. MAKIKI 180 RESERVOIR REPLACE ALTITUDE VALVE ASSEMBLY	77	10	6	11	24	PUC
2. HALAWA XERISCAPE GARDEN IMPROVEMENTS	77	20	6	14	33	PUC
3. REHABILITATION OF PIPELINE TUNNELS: KEANU AND FORT RUGER TUNNELS	77	VARIOUS	4	VARIOUS	VARIOUS	PUC
4. BERETANIA PUBLIC SERVICE BUILDING EXTERIOR IMPROVEMENTS	77	VARIOUS	6	VARIOUS	26	PUC
5. PUMP STATION INSTRUMENTATION & CONTROLS AND SCADA UPGRADE	78	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
6. FACILITY REPAIR AND RENOVATION	78	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
7. SECURITY IMPROVEMENTS AT VARIOUS LOCATIONS	78	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
8. MONITORING WELL ASSESSMENT AND REPAIR	78	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
9. PROFESSIONAL SERVICES FOR BWS PROJECTS	79	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
10. WAIMALU WELLS I SLOPE STABILIZATION	79	20	8	16	33	PUC
11. NANAKULI 242 ALTITUDE VALVE	79	36	1	21	43	WAIANAE
12. HALAWA XERISCAPE GARDEN MULTIPURPOSE BUILDING	79	20	6	14	33	PUC
13. SLOPE STABILIZATION INVESTIGATION AT VARIOUS FACILITIES	80	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
14. BERETANIA IT DATA CENTER RENOVATION	80	13	6	13	26	PUC

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15. STORM WATER MANAGEMENT PLAN IMPROVEMENTS AT BERETANIA COMPLEX AND HEEIA CORPORATION YARD	80	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
16. BERETANIA PUBLIC SERVICE BUILDING 4TH FLOOR RENOVATION	80	13	6	13	26	PUC
17. PILIUKA PRV REPLACEMENT	81	24	1	21	44	WAIANAE
18. HONOULIULI WATER RECYCLING FACILITY REROOFING	81	23	1	19	41	EWA
19. WAIMANALO TUNNEL I AND II AND WAIANAE PLANTATION TUNNEL III RENOVATION	81	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
20. PIPELINE TUNNEL INSPECTION	82	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
21. SEISMIC UPGRADE OF VARIOUS RESERVOIRS	82	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
22. HAIKU CHLORINATOR AND HAIKU WELL FENCING, DRAINAGE AND PAVEMENT IMPROVEMENTS	82	30	3	24	48	KOOLAUPOKO
23. PUMP STATION ASSESSMENT AND OPERATIONS/REPAIRS	82	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
24. NUUANU RESERVOIR NO. 1 DAM IMPROVEMENTS	83	12	6	13	27	PUC
25. PALOLO TUNNEL PORTAL AND ACCESS PATH IMPROVEMENTS	83	6	5	10	20	PUC
26. KALAMA VALLEY PRESSURE REDUCING VALVES	84	1	4	VARIOUS	17	EAST HONOLULU
27. OFFICE AND BASE YARD MASTER PLAN	84	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
28. NUUANU RESERVOIR NO. 2 AND 3 - ASSESSMENT OF DAMS' SAFETY	84	12	6	13	VARIOUS	PUC
29. NUUANU RESERVOIR NO. 4 DAM IMPROVEMENTS PHASE II	84	12	6	13	VARIOUS	PUC
30. RESERVOIR CONDITION ASSESSMENT UPDATE - 2024	85	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
31. OFFICE AND BASE YARD REHABILITATION	85	VARIOUS	VARIOUS	VARIOUS	VARIOUS	VARIOUS
32. BERETANIA MODERNIZATION - INTERIOR RENOVATION OF ENGINEERING BUILDING	85	13	6	13	26	PUC
 R&R FACILITIES SUBTOTAL	 85					
 FY 2021-2026 RENEWAL AND REPLACEMENT (R&R) TOTAL	 85					

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<u>III. CAPACITY EXPANSION (CapExp)</u>	87					
A. PUMPS - CapExp						
1. PACIFIC HEIGHTS BOOSTER NO. 1	89	12	6	13	25	PUC
2. EWA SHAFT TUNNEL IMPROVEMENTS	89	34	9	20	39	EWA
3. KUNIA WELLS IV	90	25	9	18	39	CENTRAL OAHU
4. WAILELE WELL	90	28	2	23	47	KOOLAULOA
5. MAAKUA WELL UNIT NO. 2	91	28	2	23	47	KOOLAULOA
6. MANOA WELL II UNIT NO. 2	91	7	5	11	23	PUC
 CapExp PUMPS SUBTOTAL	 91					
B. RESERVOIRS - CapExp						
1. KALAWAHINE 180 2.0 MG RESERVOIR	92	10	6	11	24	PUC
2. EAST KAPOLEI 215 R-1 3.0 MG RESERVOIR	92	34	1	20	42	EWA
3. AINA HAINA 170 0.5 MG RESERVOIR NO. 2	93	2	4	9	18	EAST HONOLULU
4. WAIAWA 228 RESERVOIR ENVIRONMENTAL ASSESSMENT	93	21	8	18	35	CENTRAL OAHU
5. KUWALE 242 RESERVOIR	94	24	1	21	44	WAIANAE
6. NUUANU 950' 0.06 MG RESERVOIR, NUUANU BOOSTER NO. 4 AND NEW REDUCED 822 SYTEM 12-INCH EFFLUENT MAIN	95	12	6	13	25	PUC
 CapExp RESERVOIRS SUBTOTAL	 95					

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C. PIPELINES - CapExp						
1. SALT LAKE BOULEVARD 36-INCH MAIN - FOSTER VILLAGE TO ALIAMANU	96	18	7	15	32	PUC
2. SAND ISLAND ACCESS ROAD 20-INCH MAINS ALONG BASCULE BRIDGE	96	15	7	15	30	PUC
3. KALAKAUA AVENUE 16-INCH - BERETANIA STREET TO ALA WAI CANAL	97	5, 9, 10, 11	4, 5	9, 12	19, 22, 24, 26	PUC
4. NIMITZ HIGHWAY 16-INCH MAIN, WAIKAMILO ROAD TO SUMNER STREET	98	15	7	13, 15	29	PUC
5. HONOULIULI WWTP EXPANSION 16-INCH MAIN	98	23	1	19	41	EWA
6. HONOLULU DISTRICT 42-INCH MAINS - LILIHA TO MOILIILI	99	8, 10, 11, 13, 15	5, 6, 7	11, 12, 13	21, 26, 29	PUC
7. ALA MOANA BOULEVARD: 24-INCH MAIN, WARD AVENUE TO ATKINSON DRIVE	99	10, 11	4, 5, 6	11, 12	22, 24, 26	PUC
8. ALA MOANA BOULEVARD: 24-INCH MAIN, ALA WAI CANAL CROSSING	100	9, 11	4	12	22	PUC
9. KUALAKAI PARKWAY 16-INCH RECYCLED WATER MAIN	100	23, 34	1, 9	20	39, 42	EWA
10. ALA MOANA BOULEVARD: 24-INCH MAIN, RICHARDS STREET TO KEAWE STREET	100	11, 13	6	12, 13	26	PUC
11. ALA MOANA BOULEVARD 24-INCH MAIN, ALA WAI CANAL TO KALAKAUA AVENUE	101	9	4	12	22	PUC
12. MELEMANU 808 TO WAIPIO 808 CONNECTION	101	35	2	22	36, 46	CENTRAL OAHU
13. GLEN AVENUE WATER SYSTEM IMPROVEMENTS	101	26	2	22	46	CENTRAL OAHU
CapExp PIPELINES SUBTOTAL	101					
D. TREATMENT - CapExp						
1. MILILANI WELLS II GAC INSTALLATION	102	35	2	22	36	CENTRAL OAHU
2. GAC TREATMENT FOR WAIPIO HEIGHTS WELLS AND WAIPIO HEIGHTS WELLS I	102	22	8, 9	17, 18	35, 37	CENTRAL OAHU
CapExp TREATMENT SUBTOTAL	102					

BOARD OF WATER SUPPLY SIX-YEAR CAPITAL IMPROVEMENT PROGRAM

FISCAL YEARS 2021 TO 2026

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	<u>Page</u>	<u>Neighborhood Board</u>	<u>Council District</u>	<u>Senate District</u>	<u>Representative District</u>	<u>Development Plan Area</u>
E. FACILITIES - CapExp						
1. MANANA CORPORATION YARD - MICROBIOLOGY LABORATORY AND CONTROL CENTER EXPANSION	103	21	8	17	35	PUC
2. KALAELOA SEA WATER DESALINATION FACILITY	103	34	1	21	43	EWA
3. AIEA 497 REZONE	104	20	6	16	33	PUC
4. BERETANIA OFFICE BUILDING AND PARKING STRUCTURE	104	13	6	13	26	PUC
 CapExp FACILITIES SUBTOTAL	 104					
 FY 2021-2026 CAPACITY EXPANSION (CapExp) TOTAL	 104					
 FY 2021-2026 SUBTOTAL (by Expend Type)	 105					

BOARD OF WATER SUPPLY SIX-YEAR CAPITAL IMPROVEMENT PROGRAM

FISCAL YEARS 2021 TO 2026

SUMMARY OF COST ESTIMATES

CATEGORY	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	FISCAL YEARS (FY) TOTALS (\$ 000)					
			2021	2022	2023	2024	2025	2026
I. RESEARCH AND DEVELOPMENT	35,425	14,675	2,660	6,900	5,100	4,100	5,850	10,815
II. RENEWAL AND REPLACEMENT	700,535	133,786	103,550	121,475	107,505	120,245	132,460	115,300
III. CAPACITY EXPANSION	247,175	14,228	53,150	23,200	40,725	55,490	30,805	43,805
SUB-TOTAL CATEGORIES I - III	983,135	162,689	159,360	151,575	153,330	179,835	169,115	169,920
Construction Cost Index Adjustment			14,235	12,801	12,627	14,028	14,048	14,412
Contract Adjustment Account			17,300	15,600	11,000	11,000	11,000	11,000
TOTAL CAPITAL IMPROVEMENT PROGRAM BUDGET	1,142,186		190,895	179,976	176,957	204,863	194,163	195,332

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CATEGORY I

RESEARCH AND DEVELOPMENT

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BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
<u>I. RESEARCH AND DEVELOPMENT (R&D)</u>									
1. CONSTRUCTION MANAGEMENT FOR VARIOUS BWS CONSTRUCTION PROJECTS									
Provide construction management and training services for selected BWS construction projects	P&E	12,000	10,400	2,000	2,000	2,000	2,000	2,000	2,000
2. KUNIA WELLS IV EXPLORATORY WELLS									
Prepare environmental assessment for four (4) exploratory wells for Kunia Wells IV at two alternative sites (TMK 9-2-001:014 and TMK 9-4-003:010)	P&E	0	300	--	--	--	--	--	--
Prepare plans and specifications	P&E	200	0	200	--	--	--	--	--
Drill, case, install, test pump and sample three (3) exploratory wells (TMK 9-2-001:014 or TMK 9-4-003:010)	Const	4,500	0	--	4,500	--	--	--	--
3. PIPELINE CONDITION ASSESSMENT									
Condition assessment of transmission pipelines as identified by the InfoMaster decision frame work	P&E	500	200	100	--	100	100	100	100
Install pipe taps if/as needed for testing	Const	2,600	0	--	--	650	650	650	650

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
4. MANOA WELL II EXPLORATORY WELL									
Prepare environmental assessment for a second exploratory/production well at existing Manoa Well II Station (TMK: 2-9-054:033)	P&E	0	125	--	--	--	--	--	--
Prepare plans and specifications	P&E	200	0	200	--	--	--	--	--
Drill and case replacement exploratory well at existing Manoa Wells II Station (TMK: 2-9-054:033)	Const	700	0	--	--	700	--	--	--
5. WAIKELE GULCH EXPLORATORY WELL ENVIRONMENTAL ASSESSMENT									
Survey, videolog, clean and clear, test pump and sample well	P&E	0	250	--	--	--	--	--	--
Prepare environmental assessment for three (3) exploratory wells at Waikele Gulch	P&E	160	0	160	--	--	--	--	--
Prepare plans, specifications and engineering report	P&E	200	0	--	--	200	--	--	--
Drill, install, test pump and sample up to three exploratory wells. Prepare construction bid documents and obtain necessary permits	Const	2,100	0	--	--	--	--	2,100	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
6. NEWTOWN RIDGE AND ROYAL SUMMIT RELIABILITY IMPROVEMENTS									
Prepare feasibility study to evaluate the abandonment of cross-country portions of Waiiau 850 pipeline supplying Newtown 850 and Royal Summit 850	P&E	0	100	--	--	--	--	--	--
Prepare Environmental Assessment (EA) and obtain Conservation District Use Permit (CDUP) and Public Infrastructure Map (PIM) Amendment	P&E	400	0	--	400	--	--	--	--
Phase I - Install 0.3-MG Royal Summit 850' reservoir, approximately 2,200 lf of transmission main, approximately 2,130 lf of paved access road, Booster Pump Station at existing Newtown 550' reservoir location, emergency transmission line to the 550'/850' water systems, and all additional appurtenances	P&E	800	0	--	--	--	800	--	--
	Const	0	0	--	--	--	--	--	--
Phase II - Install 0.2-MG Newtown 850' reservoir, approximately 2,040 lf of transmission main, approximately 1,925 lf of paved access road, Booster Pump Station at Kaahele Park, abandon 16-inch and 12-inch cross country mains, and all additional appurtenances	P&E	950	0	--	--	--	--	--	950
	Const	0	0	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
7. PROJECT MANAGEMENT FOR VARIOUS BWS PROJECTS									
Provide project management, engineering and training services for selected BWS projects	P&E	3,250	1,100	--	--	1,000	250	1,000	1,000
8. WAIALAE NUI WELL TEST									
Survey, videolog, clean and clear, test pump and sample well. Provide technical report of findings and recommendations regarding feasibility of bringing well into service	P&E	0	700	--	--	--	--	--	--
Prepare Environmental Assessment for a production well at the existing Waialae Nui Well site (Well 3-1747-003)	P&E	150	0	--	--	150	--	--	--
9. BERETANIA COMPLEX REDEVELOPMENT									
Prepare a master plan for the future redevelopment of the BWS Beretania property	P&E	0	500	--	--	--	--	--	--
Prepare an Environmental Impact Statement for redevelopment options; help analyze development proposals and provide technical assistance with implementation of selected redevelopment option	P&E	0	1,000	--	--	--	--	--	--
Design RFP development	P&E	300	0	--	--	300	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
10. EXPLORATORY WELL PROGRAM									
Prepare an Environmental Assessment for an exploratory well	P&E	600	0	--	--	--	300	--	300
Prepare plans, specifications and engineering report	P&E	0	0	--	--	--	--	--	--
Drill and case exploratory well	Const	0	0	--	--	--	--	--	--
11. WATER MASTER PLAN UPDATE - 2026									
Update 2016 Water Master Plan	P&E	5,815	0	--	--	--	--	--	5,815
R&D P&E TOTAL	P&E	25,525	14,675	2,660	2,400	3,750	3,450	3,100	10,165
R&D Land TOTAL	Land	0	0	0	0	0	0	0	0
R&D Const TOTAL	Const	9,900	0	0	4,500	1,350	650	2,750	650
FY 2021-2026 RESEARCH AND DEVELOPMENT (R&D) TOTAL		35,425	14,675	2,660	6,900	5,100	4,100	5,850	10,815

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CATEGORY II

RENEWAL AND REPLACEMENT

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BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
II. RENEWAL AND REPLACEMENT (R&R)										
A. PUMPS - R&R										
1. MARINERS RIDGE BOOSTER NO. 2 RENOVATION										
Prepare plans and specifications	P&E	0	200	--	--	--	--	--	--	--
Remove and replace the two (2) existing booster pumps including piping, valves, flow tube, instrumentation, and appurtenant work. Install two new station isolation valves. Replace MCC including all of the motor starters. Replace transformer. Remove existing concrete block openings and louver windows and replace with hurricane proof windows and insect screens	Const	2,500	0	2,500	--	--	--	--	--	--
2. KUNIA WELLS III RENOVATION										
Prepare plans and specifications	P&E	0	175	--	--	--	--	--	--	--
Replace MCC, replace Pump No. 1 and associated above ground piping and valves. Replace above ground piping and valves for Pumps Nos. 2 and 3. Replace flow tube and associated above ground piping, repair and repaint holding tank, and replace compressor and associated tank. Install concrete walkway, repaint building, provide new gutters and downspouts, replace window screens, and other miscellaneous building and site work.	Const	3,200	0	3,200	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
3. WILDER WELLS STARTER UPGRADES AND FACILITY REPAIRS									
Prepare plans and specifications	P&E	500	0	500	--	--	--	--	--
Install starter upgrades and well station repairs	Const	4,500	0	--	--	--	4,500	--	--
4. KALIHI SHAFT MCC REPLACEMENT									
Prepare plans and specifications	P&E	700	0	700	--	--	--	--	--
Remove and replace MCC, two pump units including piping, valves, instrumentation and appurtenances within the shaft facility	Const	5,480	0	--	--	5,480	--	--	--
5. PUMP RENEWAL AND REPLACEMENT									
Renewal and replacement of various BWS pumps and plant facilities	P&E	1,800	4,388	500	100	300	300	300	300
	Const	23,000	21,878	5,500	3,500	3,500	3,500	3,500	3,500
6. MAKAHA SHAFT TUNNEL REHABILITATION									
Prepare plans and specifications	P&E	0	700	--	--	--	--	--	--
Replacement of all MCC, SCADA system, and all electrical components and appurtenances; replacement of pump units and associated piping, valves and appurtenances; replacement of ventilation system, plumbing system, and inclined elevator; replacement of 8-inch waterline and appurtenances; rehabilitation and expansion of the portal building; and replacement of the perimeter fencing	Const	7,500	0	--	7,500	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
7. WAIPIO HEIGHTS WELLS AND WELLS I										
Prepare plans and specifications	P&E	0	150	--	--	--	--	--	--	--
Replace two well pumps at each of two well sites; replace MCC, SCADA system, and all electrical components and appurtenances at each facility; and limited control building upgrades	Const	6,000	0	--	6,000	--	--	--	--	--
8. KAAMILO BOOSTER AND KAAMILO WELLS RENOVATION										
Prepare plans and specifications	P&E	0	200	--	--	--	--	--	--	--
Replace Well Pump No. 1 MCC and motor starter, and relocate MCC inside the existing building. Replace telecommunication/ instrumentation box and install disconnect switch at the well pump. Replace isolation valve at reservoir. Cap well No. 2. Eliminate drop ceiling in building and relocate lighting to concrete ceiling	Const	4,000	0	--	4,000	--	--	--	--	--
9. WAIALAE IKI BOOSTER NO. 1 RELOCATION										
Prepare plans and specifications	P&E	0	650	--	--	--	--	--	--	--
Relocate booster station to the Waialae Iki 180 Reservoir site. Install 12-inch mains and appurtenances along the Waialae Iki 180 Reservoir access road; and along Laukahi Street, from the Waialae Iki 180 Reservoir access road to Kamole Street - approx. 2,000 lin. ft.	Const	9,500	0	--	9,500	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026
10. KAMAILE WELLS RENOVATION, DRAINAGE IMPROVEMENTS AND CONTROL BUILDING REPAIRS, AND KAMAILE PLANTATION WELLS SEALING									
Prepare plans and specifications	P&E	0	150	--	--	--	--	--	--
Replace the existing two (2) pumps, MCC, electrical wiring, chlorination system, and related work. Install drainage improvements, renovate pump building and install security fencing. Seal up to thirteen (13) unused plantation wells around Kamaile Wells Station	Const	3,400	0	--	3,400	--	--	--	--
11. WAIHEE LINE BOOSTER: REPLACE PUMPING UNITS									
Remove all eight (8) booster pumps including pumps, motors, piping, valves, concrete supports, gauges, and all electrical components. Install two (2) new booster pumps and new free flow lines including piping, control valves, flow tubes, elevated steel platform, MCC, and appurtenant electrical equipment. Install new backfeed line connecting Waihee and Punaluu systems	Const	5,100	0	--	5,100	--	--	--	--
12. WAI'IAU BOOSTER NO. 2 ELECTRICAL UPGRADES									
Prepare plans and specifications	P&E	555	0	--	555	--	--	--	--
Replace MCC, SCADA system, and all electrical components and appurtenances, and limited control building upgrades	Const	2,750	0	--	--	--	--	2,750	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
13. WAIPIO HEIGHTS WELLS II PUMP REPLACEMENT AND ELECTRICAL UPGRADES									
Prepare plans and specifications	P&E	510	0	--	510	--	--	--	--
Replace Pump Unit no. 1, replace MCC including all motor starters, repair pavement, address well seal issue at pump sole plate and concrete base for pump unit no. 2, address well insufficient height clearance issue for pump units no. 1 & 2. Investigate motor phase current imbalance for pump unit no. 2, replace corroded strut supports for pump unit no. 1 disconnect switch, replace sequence timers with PLCs, clean up wiring in wall mounted junction boxes	Const	1,135	0	--	--	--	--	1,135	--
14. PEARL CITY BOOSTER NO. 3 MCC REPLACEMENT									
Prepare plans and specifications	P&E	320	0	--	320	--	--	--	--
Renewal and replacement of various BWS pumps and plant facilities	Const	710	0	--	--	--	--	710	--
15. HAWAII LOA BOOSTER NO. 2 PUMP AND MCC REPLACEMENT									
Prepare plans and specifications	P&E	580	0	--	580	--	--	--	--
Replace booster pump; replace MCC, SCADA system, and all electrical components and appurtenances; and limited control building upgrades	Const	2,000	0	--	--	--	--	--	2,000

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	(\$ 000)					
				2021	2022	2023	2024	2025	2026
16. TEMPORARY PUMPING CONNECTIONS									
Prepare plans and specifications	P&E	0	370	--	--	--	--	--	--
Install connections for temporary pumps at critical pump stations to improve reliability	Const	5,000	0	--	--	1,250	3,750	--	--
17. HONOULIULI WELLS II MCC REPLACEMENT									
Prepare plans and specifications	P&E	0	300	--	--	--	--	--	--
Install motor control center replacement	Const	5,900	0	--	--	5,900	--	--	--
18. WAIHEE TUNNEL AND INCLINED WELLS CHLORINATOR									
Renovate the existing motor control building for the inactive Waihee Wells I converting it to a chlorinator and telecommunications building	P&E	0	370	--	--	--	--	--	--
Construct Waihee Chlorinator Electrical Upgrades and Facility Repairs	Const	5,500	0	--	--	5,500	--	--	--
19. KAONOHI BOOSTER NO. 1 AND KAONOHI WELLS FACILITIES REPAIRS									
Prepare plans and specifications	P&E	400	0	--	--	400	--	--	--
Install facility repairs	Const	2,000	0	--	--	--	2,000	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY)					
				2021	2022	(\$ 000)		2025	2026
20. HAWAII LOA BOOSTER NO. 1 PUMP AND MCC REPLACEMENT									
Prepare plans and specifications	P&E	580	0	--	--	580	--	--	--
Install Pump and MCC Replacement	Const	2,500	0	--	--	--	--	2,500	--
21. ST LOUIS HEIGHTS BOOSTER NO. 3 FACILITY REPAIRS									
Prepare plans and specifications	P&E	400	0	--	--	400	--	--	--
Install facility repairs	Const	1,500	0	--	--	--	--	1,500	--
22. KAILUA HEIGHTS BOOSTER ELECTRICAL UPGRADES AND FACILITY REPAIRS									
Prepare plans and specifications	P&E	450	0	--	--	450	--	--	--
Install electrical upgrades and facility repairs	Const	1,000	0	--	--	--	--	1,000	--
23. AINA KOA BOOSTER NO. 5 FACILITIES REPAIR									
Prepare plans and specifications	P&E	400	0	--	--	400	--	--	--
Install facility repairs	Const	1,500	0	--	--	--	--	1,500	--
24. NIU VALLEY BOOSTER NO. 1 MCC REPLACEMENT AND FACILITY REPAIRS									
Prepare plans and specifications	P&E	380	0	--	--	380	--	--	--
Install MCC replacement and facility repairs	Const	845	0	--	--	--	--	--	845

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
25. NUUANU BOOSTER NO. 2 RELOCATION										
Prepare plans and specifications	P&E	950	0	--	--	--	950	--	--	
Construct relocated Booster Station No. 2 (TMK 1-9-001:001) to replace the existing Nuuanu Booster Station No. 2. Install three (3) 425 GPM pumps, appurtenances, new 12 inch suction piping from existing BP No. 2 along access road route to relocated BP No. 2, new 12-inch discharge main to (box) on Ewa side of Pali Hwy. Transfer connection for existing BP piping to new BP piping, retaining wall, drainage and emergency generator connection/switch	Const	0	0	--	--	--	--	--	--	
26. KAONOHI BOOSTER NO. 2 MCC REPLACEMENT AND FACILITY REPAIRS										
Prepare plans and specifications	P&E	525	0	--	--	--	525	--	--	
Install MCC replacement and facility repairs	Const	1,165	0	--	--	--	--	--	1,165	
27. KALIHI HI-SERVICE BOOSTER ELECTRICAL UPGRADES										
Prepare plans and specifications	P&E	500	0	--	--	--	500	--	--	
Install electrical upgrades	Const	0	0	--	--	--	--	--	--	
28. HALAWA BOOSTER NO. 1 PUMP AND MCC REPLACEMENT										
Prepare plans and specifications	P&E	355	0	--	--	--	--	355	--	
Install Pump and MCC Replacement	Const	0	0	--	--	--	--	--	--	

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026
29. ALEWA HEIGHTS BOOSTER NO. 3 MCC REPLACEMENT AND FACILITIES REPAIRS									
Prepare plans and specifications	P&E	330	0	--	--	--	--	330	--
Install MCC replacement and facility repairs	Const	0	0	--	--	--	--	--	--
30. MAKAKILO BOOSTER NO. 1 ELECTRICAL UPGRADES AND FACILITY REPAIRS									
Prepare plans and specifications	P&E	400	0	--	--	--	--	400	--
Install electrical upgrades and facility repairs	Const	0	0	--	--	--	--	--	--
31. ALEWA HEIGHTS BOOSTER NO. 1 MCC REPLACEMENT									
Prepare plans and specifications	P&E	300	0	--	--	--	--	300	--
Install motor control center replacement.	Const	0	0	--	--	--	--	--	--
32. HAWAII LOA BOOSTER NO. 3 MCC REPLACEMENT									
Prepare plans and specifications	P&E	300	0	--	--	--	--	300	--
Install motor control center replacement	Const	0	0	--	--	--	--	--	--
33. WAIALAE IKI BOOSTER NO. 3 MCC REPLACEMENT									
Prepare plans and specifications	P&E	300	0	--	--	--	--	300	--
Install motor control center replacement	Const	0	0	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026
34. MAKAHA BOOSTER NO. 2 MCC REPLACEMENT									
Prepare plans and specifications	P&E	300	0	--	--	--	--	--	300
Install motor control center replacement	Const	0	0	--	--	--	--	--	--
35. MAKAKILO WELL MCC REPLACEMENT									
Prepare plans and specifications	P&E	250	0	--	--	--	--	--	250
Install motor control center replacement	Const	0	0	--	--	--	--	--	--
R&R PUMPS P&E SUBTOTAL	P&E	12,085	7,653	1,700	2,065	2,910	2,275	2,285	850
R&R PUMPS Land SUBTOTAL	Land	0	0	0	0	0	0	0	0
R&R PUMPS Const SUBTOTAL	Const	107,685	21,878	11,200	39,000	21,630	13,750	14,595	7,510
R&R PUMPS SUBTOTAL		119,770	29,531	12,900	41,065	24,540	16,025	16,880	8,360
PUMPS SUBTOTAL (DBL CHK)		119,770	29,531	12,900	41,065	24,540	16,025	16,880	8,360

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
B. RESERVOIRS - R&R									
1. KAPAA 272 RESERVOIR REPLACEMENT									
Prepare plans and specifications	P&E	0	500	--	--	--	--	--	--
Install 1.0 MG reservoir and appurtenances, and demolish existing 2.0 MG reservoir	Const	3,500	0	3,500	--	--	--	--	--
2. WAHIAWA 1361 NO. 1 AND NO. 2 RESERVOIR REPLACEMENT									
Demolish existing concrete reservoir and appurtenances.	P&E	100	0	--	100	--	--	--	--
Prepare a feasibility study and environmental assessment	P&E	400	0	--	--	--	400	--	--
Prepare plans and specifications	P&E	0	0	--	--	--	--	--	--
Replace Wahiawa 1361' No. 1 and No. 2 Reservoir with single 0.5 MG 1361' reservoir	Const	0	0	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
3. WILHELMINA RISE 811 RESERVOIR REPLACEMENT										
Prepare plans and specifications	P&E	0	500	--	--	--	--	--	--	--
Replace the existing 0.43 MG reservoir and appurtenances	Const	4,400	0	--	--	4,400	--	--	--	--
4. NUUANU 822 0.2 MG RESERVOIR REPLACEMENT										
Prepare plans and specifications	P&E	550	0	--	--	--	550	--	--	--
Install a replacement 822' 0.2 MG reservoir, appurtenances and connecting pipelines within the same TMK as the existing Nuuanu 822' Reservoir (TMK 1-9-007:002) to temporarily allow reservoirs to run in series and continue to utilize hydro-pneumatic system. Connect to existing 15-inch influent main and existing 12-inch effluent main. Allow for future potential influent connection from the Nuuanu Lower Aerator, future effluent transfer to a new 12-inch main to a reduced 822 service area and a stub-out for a new Booster Station No. 4 to a new 950' system to all future removal of hydro-pneumatic system	Const	0	0	--	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
5. WAIALAE 180 3.0 MG RESERVOIR REPLACEMENT									
Prepare environmental assessment and Public Infrastructure Map (PIM) Amendment	P&E	225	0	--	--	--	225	--	--
Prepare plans and specifications	P&E	0	0	--	--	--	--	--	--
Demolish existing 1.0 MG reservoir and construct 3.0 MG reservoir, influent-effluent main, retaining wall, rock slide barricade, access road improvements, landscaping, irrigation system and appurtenances at existing Waialae 180 Reservoir site (TMK: 3-5-020:011)	Const	0	0	--	--	--	--	--	--
R&R RESERVOIRS P&E SUBTOTAL	P&E	1,275	1,000	0	100	0	1,175	0	0
R&R RESERVOIRS Land SUBTOTAL	Land	0	0	0	0	0	0	0	0
R&R RESERVOIRS Const SUBTOTAL	Const	7,900	0	3,500	0	4,400	0	0	0
R&R RESERVOIRS SUBTOTAL		9,175	1,000	3,500	100	4,400	1,175	0	0
STORAGE SUBTOTAL (DBL CHK)		9,175	1,000	3,500	100	4,400	1,175	0	0

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	(\$ 000)					
				2021	2022	2023	2024	2025	2026
C. PIPELINES - R&R									
1. WAHIAWA WATER SYSTEM IMPROVEMENTS, PART IV									
Prepare plans and specifications	P&E	0	1,000	--	--	--	--	--	--
Install 16-inch mains and appurtenances along Nichols Street from Glen Avenue to Eames Street; and along Eames Street from Uuku Street to Nichols Street - approx. 1,620 lin. ft. Install 8-inch mains and appurtenances along Lehua Street from Kilani Avenue to end; along Koa Street from Kilani Avenue to Auwai Drive; along Eames Street from Nichols Street to 1735 Eames Street; along Eames Street from Glen Avenue to 1746 Eames Street; along Glen Avenue from Eames Street to Glenview Place; along Royal Palm Drive from Nichols Street to Glen Avenue; along Turner Street from Royal Palm Drive to Eames Street; along Glenview Place from Glen Avenue to end; along Wonderview Place from Glenview Place to end; along Kanoelehua Place from Glen Avenue to end; along Hakuone Street from Hakuone Place to end; along Hakuone Place from Hakuone Street to end; along Hill Drive from California Avenue to Puu Place; along Puu Place from Nakeke Place to end; along Leilehua Road from 90 feet south of FH C00722 to end; along Leimomi Place from Leilehua Road to 37A Leilehua Road; along Alai Place from Leilehua Road to end; along Laniloa Place from Leilehua Road to end; along Lena Place from Laniloa Place to end; along Mie Place from Laniloa Place to end; along the side road north of FH C00216 from Glen Avenue to end; along the side road south of FH C00380 from Glen Avenue to end; along side road north of FH C00217 from Glen Avenue to end; and along the side road north of FH C00329 from Lakeview Circle to end - approx. 14,570 lin. ft.	Const	18,500	0	18,500	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
2. PEARL CITY WATER SYSTEM IMPROVEMENTS, PART IV									
Prepare plans and specifications	P&E	0	1,250	--	--	--	--	--	--
Install 12-inch mains and appurtenances along Huikahi Street, from Hoolehua Street to Hoolaulea Street - approx. 940 lin. ft. Install 8-inch mains and appurtenances along Palamoi Street, from Kuahaka Street to end of 8-inch main near FH L02004; along Panee Street, from Palamoi Street to Kaweloka Street; along Kaweloka Street, from Panee Street to Palamoi Street; along Kalauipo Street, from Kaweloka Street to Palamoi Street; along Kalauipo Place, from Kalauipo Street to end; along Kalai Place, from Kalauipo Street to end; along Maiha Circle, from Waimano Home Road to end; along Maiha Place, from Maiha Circle to end; along Hoochoihoi Street, from Hoomoana Street to end; along Hoochoihoi Place, from Hoochoihoi Street to end; along Hoowae Street, from Hoochoihoi Street to Hoolele Street; along Hoomalolo Street, from Hoomoana Street to Hoolaulea Street; along Hoolele Street, from Hoolaulea Street to Hoomalolo Street; along Hoomoana Street, from Komo Mai Drive to Hookeikei Street; along Komo Mai Drive, from Hoolehua Street to Hoolaulea Street; and along Hoolehua Street, from Komo Mai Drive to end of cast iron pipe - approx. 16,420 lin. ft. Install 4-inch mains and appurtenance along Maiki Place from Maiha Circle to end - approx. 125 lin. ft.	Const	13,500	0	13,500	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
3. WIKAO STREET 12-INCH WATER MAIN									
Prepare plans and specifications	P&E	0	226	--	--	--	--	--	--
Install 12-inch main and appurtenances along Wikao Street from Melemanu 808 Reservoir to Waikalani Drive - approx. 1,200 lin. ft. Restore connection of the Melemanu 808 Reservoir to the Mililani-Wahiawa 808 water system	Const	2,500	0	2,500	--	--	--	--	--
4. MCARTHUR STREET 8-INCH WATER MAIN									
Prepare plans and specifications	P&E	0	160	--	--	--	--	--	--
Install 8-inch mains and appurtenances along McArthur Street, from Mill Street to Waianae Valley Road - approx. 1,500 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Kawili Street, from Ihuku Street to end; and along Alamihi Street, from Kawili Street to end - approx. 1,900 lin. ft.	Const	3,000	0	3,000	--	--	--	--	--
5. KAPOLEI PARKWAY 12-INCH WATER MAIN									
Prepare plans and specifications	P&E	0	130	--	--	--	--	--	--
Install 12-inch mains and appurtenances along Kapolei Parkway, from Park Row to Kolowaka Drive - approx. 1,100 lin. ft.	Const	1,100	0	1,100	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
6. BERETANIA STREET INACTIVE 12-INCH BLOW-OFF MAIN										
Prepare plans and specifications	P&E	0	80	--	--	--	--	--	--	--
Inactivate the existing 12-inch blow-off main and appurtenances at the intersection of Beretania Street and Kalakaua Avenue	Const	250	0	250	--	--	--	--	--	--
7. AULOA ROAD AND ULUKAHIKI STREET 16-INCH WATER MAIN										
Prepare plans and specifications	P&E	0	690	--	--	--	--	--	--	--
Install 16-inch mains and appurtenances along Auloa Road, from FH W03044 to Kalaniana'ole Highway; and along Ulukahiki Street, from Kalaniana'ole Highway to Kailua Road - approx. 7,635 lin. ft. Install 8-inch main along Ulukahiki Street, from near Manu Aloha Street to Kailua Road - approx. 250 lin. ft.	Const	10,000	0	10,000	--	--	--	--	--	--
8. LANIKAI WATER SYSTEM IMPROVEMENTS, PART II										
Prepare plans and specifications	P&E	0	250	--	--	--	--	--	--	--
Install 16-inch mains and appurtenances along Kalaheo Avenue from Kailua Road to Lihikai Road; along Lihikai Road from Kalaheo Avenue to Kawailoa Road; and along Kawailoa Road from Lihikai Road to Popoia Road - approximately 1,450 lin. ft. Install 8-inch mains and appurtenances along Kawailoa Road from Alala Road to end; along Alala Road from Kawailoa Road to FH W02578; and along Mokolea Drive from Aalapapa Drive to TMK 4-3-004:018 - approximately 1,850 lin. ft. Install 4-inch mains and appurtenances along Koohoo Place from TMK 4-3-005:040 to end - approximately 100 lin. ft.	Const	4,200	0	4,200	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
9. WATER SAMPLING STATIONS AT VARIOUS LOCATIONS									
Prepare plans and specifications	P&E	500	0	500	--	--	--	--	--
Install water sampling stations at various locations	Const	1,500	0	--	500	500	500	--	--
10. WATER MAIN INSTALLATION AND REPLACEMENT									
Prepare plans and specifications	P&E	600	1,500	100	100	100	100	100	100
Install and replace water mains at various locations	Const	600	3,825	100	100	100	100	100	100
11. SERVICE LATERAL REPLACEMENT AT VARIOUS LOCATIONS									
Prepare plans and specifications	P&E	900	400	150	150	150	150	150	150
Install and replace service laterals at various locations	Const	4,500	2,000	500	--	1,000	1,000	1,000	1,000
12. KAIMUKI AVENUE AREA WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	1,100	0	1,100	--	--	--	--	--
Install 8-inch mains and appurtenances along Maunaloa Avenue, from 16th Avenue to 20th Avenue; along Kaimuki Avenue, from 16th Avenue to 21st Avenue; along Pahoa Avenue, from 18th Avenue to 150 feet beyond FH M03591; along 17th Avenue, from Kilauea Avenue to Kaimuki Avenue; along 18th Avenue, from Kaimuki Avenue to Pahoa Avenue; along 19th Avenue, from Maunaloa Avenue to Pahoa Avenue; and 20th Avenue, from Maunaloa Avenue to Pahoa Avenue - approx. 9,850 lin. ft.	Const	5,000	0	--	--	--	5,000	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)						
				2021	2022	2023	2024	2025	2026	
13. MONTEREY DRIVE AND SIERRA DRIVE 8-INCH MAINS										
Prepare plans and specifications	P&E	550	0	550	--	--	--	--	--	--
Install 8-inch mains and appurtenances along Monterey Drive, from Lurline Drive to Mariposa Drive; and along Sierra Drive, from Wilhelmina Rise to Wilhelmina Rise near Manini Way - approx. 3,360 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Monterey Place, from Monterey Drive to end; and along Lanipili Place, from Monterey Drive to end - approx. 1,180 lin. ft.	Const	1,450	0	--	--	--	1,450	--	--	--
14. FORT WEAVER ROAD AND HAPALUA STREET WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	1,000	0	1,000	--	--	--	--	--	--
Install 16-inch mains and appurtenances along Fort Weaver, from Papipi Road to Pohakupuna Road - approx. 2,600 lin. ft. Install 8-inch mains and appurtenances along Hapalua Street, from Fort Weaver Road to Ewa Beach Road; along Nalomeli Place, from Fort Weaver Road to end; and along Popoi Place, from Fort Weaver Road to end - approx. 5,740 lin. ft.	Const	6,055	0	--	--	--	--	6,055	--	--
15. KAPAHULU AVENUE AND LEAHI AVENUE WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	700	0	700	--	--	--	--	--	--
Install 24-inch mains and appurtenances along Kapahulu Avenue, from Kuhio Avenue to Ala Wai Boulevard - approx. 1,350 lin. ft. Install 16-inch mains and appurtenances along Kapahulu Avenue, from Kalakaua Avenue to Kuhio Avenue - approx. 880 lin. ft. Install 8-inch mains and appurtenances along Leahi Avenue, from Kapahulu Avenue to Pualei Circle - approx. 2,680 lin. ft.	Const	4,200	0	--	--	--	--	4,200	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
16. AIEALANI PLACE AND WELELAU PLACE 8-INCH MAIN									
Prepare plans and specifications	P&E	250	70	250	--	--	--	--	--
Install 8-inch mains and appurtenances along Aiealani Place, from Halawa Heights Road to end and along Welelau Place, from Hoapono Place to end - approx. 1,000 lin. ft. Install 8-inch PRV and appurtenances along Halawa Heights Road, between Aiealani Place and Fernridge Place	Const	1,000	0	--	--	--	--	--	1,000
17. PRINCE EDWARD STREET AND KOA AVENUE 8-INCH MAINS									
Prepare plans and specifications	P&E	400	0	400	--	--	--	--	--
Install 8-inch mains and appurtenances along Prince Edward Street, from Kaiulani Avenue to Liliuokalani Avenue; and along Koa Street, from Kaiulani Avenue to Liliuokalani Avenue - approx. 2,060 lin. ft.	Const	1,500	0	--	--	--	--	--	1,500

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY)					
				2021	2022	2023	2024	2025	2026
18. LOWER MARINERS RIDGE WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	1,000	0	1,000	--	--	--	--	--
Install 12-inch mains and appurtenances along Kaluanui Road, from Kaloaloo Street to Kaluanui Place - approx. 1,460 lin. ft. Install 8-inch mains and appurtenances along Kaloaloo Street, from Kaahue Street to Kaluanui Road; along Kaahue Street, from Kaloaloo Street to Kaluanui Road; and along Kaluanui Place from Kaluanui Road to Kaluanui Way - approx. 2,885 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Kawaiki Place, from Kaahue Street to end; along Kauku Place, from Kaahue Street to end; along Kapoho Place, from Kaahue Street to end; along Kapapala Place, from Kaahue Street to end; along Kaohe Place, from Kaahue Street to End; along Kamoi Place, from Kaahue Street to End; along Kakiwa Place, from Kaluanui Road to end; along Kakapa Place, from Kaluanui Road to end; along Kaipuhaa Place, from Kaluanui Road to end; along Kahuwai Place, from Kaluanui Road to end; along Kahauloo Place, from Kaluanui Road to end; along Kaluanui Way, from end to end - approx.	Const	5,580	0	--	--	--	--	--	5,580

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
19. KAUNAOA STREET AREA WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	550	0	550	--	--	--	--	--	--
Install 30-inch mains and appurtenances along Kanaina Avenue, from Makini Street to Kaunaoa Street; and along Kaunaoa Street, from Kanaina Avenue to Campbell Avenue - approx. 915 lin. ft. Install 12-inch mains and appurtenances along Campbell Avenue, from Makini Street to Kaunaoa Street - approx. 250 lin. ft. Install 8-inch mains and appurtenances along Kaunaoa Street, from Campbell Avenue to Trousseau Street; along Makini Street, from Campbell Avenue to Trousseau Street; and along Campbell Avenue, from Monsarrat Avenue to Collins Street - 2,690 lin. ft.	Const	8,020	0	--	--	--	--	--	--	8,020
20. NEW SERVICE LATERAL INSTALLATIONS AT VARIOUS LOCATIONS										
Provide construction management services	P&E	250	0	--	250	--	--	--	--	--
Install new service laterals at various locations	Const	1,750	0	--	1,750	--	--	--	--	--
21. WATER SYSTEM IMPROVEMENTS AT VARIOUS LOCATIONS										
Prepare plans and specifications	P&E	12,000	0	--	12,000	--	--	--	--	--
Install mains and appurtenance to replace high risk water mains at various locations throughout the island	Const	0	0	--	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
22. NORTH SCHOOL STREET WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	0	840	--	--	--	--	--	--	--
Install 16-inch mains and appurtenances along North School Street, from Kamehameha IV Road to Houghtailing Street - approx. 4,510 lin. ft. Install 8-inch mains and appurtenances along Ahonui Street, from North School Street to Linapuni Street; along Hulali Place, from Ahonui Street to end; along North School Street, from Amelia Street to Leilani Street; along North School Street, from Likelike Highway to Houghtailing Street; along Amelia Street, from North School Street to Waikoa Road; along Waikoa Road, from Amelia Street to Martin Street; along Martin Street, from North School Street to Waikoa Road; along Kapalama Avenue, from North School Street to Peter Buck Street; and along Brigham Street, from Kapalama Avenue to Kapalama Avenue - approx. 8,330 lin. ft. Install 4-inch mains and appurtenances along Palapala Place, from Kapalama Avenue to end - approx. 205 lin. ft.	Const	11,500	0	--	11,500	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026
23. KALAMA VALLEY WATER SYSTEM IMPROVEMENTS, PART II									
Prepare plans and specifications	P&E	0	630	--	--	--	--	--	--
Install 12-inch mains and appurtenances along Kealahou Street, from 661 Kealahou Street to Papalalo Place - approx. 2,305 lin. ft. Install 8-inch mains and appurtenances along Wawau Street, from Honokahua Street to Kaeleku Street; along Honokahua Street, from Kaeleku Street to end; along Kealahou Street, from Papalalo Place to end; along Nakalele Street, from Kealahou Street to Pihana Street; along Pihana Street, from 45 feet north of FH M06514 to end; and along Ipuai Street, from Kealahou Street to Honokahua Street - approx. 4,135 lin. ft. Install 8- and 4-inch mains and appurtenances along Kalina Place, from Kealahou Street to end; along Maloo Place, from Honokahua Street to end; along Ohina Place, from Honokahua Street to end; along Honokahua Place, from Honokahua Street to end; along Kiaala Place, from Kealahou Street to end; and along Papalalo Place, from Kealahou Street to end - approx. 2,040 lin. ft. Install service laterals and appurtenances along Kaeleku Street, from Honokahua Street to end; along Honokahua Street, from Kahului Street to Kepaniwai Street; along Napoko Place, from Kealahou Street to end; along Kamaomao Place, from Kealahou Street to end; along Puumahoe Place, from Kealahou Street to end; along Muolea Place, from Kealahou Street to end; along Olowalu Place, from Kealahou Street to end; along Olowalu Way, from Olowalu Place to end; along Huialoha Street, from Kealahou Street to Kahului Street; along Kealahou Street, from Huialoha Street to FH no. M06314; along Inuwai Place, from Kealahou Street to end; along Kahului Street, from Kaeleku Street to FH no. M06477; along Pihana Street, from Kahului Street to FH no. M06514; along Inuwai Way, from Inuwai Place to end; and along Eaea Place, from Kealahou Street to end - approx. 199 service laterals	Const	11,200	0	--	11,200	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	(\$ 000)					
				2021	2022	2023	2024	2025	2026
24. PALOLO WATER SYSTEM IMPROVEMENTS, PART III									
Prepare plans and specifications	P&E	0	1,040	--	--	--	--	--	--
Install 16-inch mains and appurtenances along Palolo Avenue, from Carlos Long Street to Palolo Place; and along 10th Avenue, from Palolo Place to Makanui Place - approx. 1,410 lin. ft. Install 12-inch mains and appurtenances along Palolo Avenue, from Kiwila Street to Palolo Place; and along 10th Avenue, from Palolo Place to Waiomao Road - approx. 7,000 lin. ft. Install 8-inch mains and appurtenances along Palolo Avenue, from Kauhana Street to Carlos Long Street; along Kaalani Place, from 10th Avenue to end; along Kaululoa Place, from Palolo Avenue to end; along Makanui Place, from 10th Avenue to end; along Holomua Place, from Makanui Place to end; and along 10th Avenue Place from 10th Avenue to end – approx. 3,470 lin. ft. Install 4-inch mains and appurtenances along Palolo Place, from FH M00899 to end – approx. 30 lin. ft.	Const	10,500	0	--	10,500	--	--	--	--
25. PUIWA ROAD 12-INCH AND DOWSETT AVENUE 8-INCH MAINS									
Prepare plans and specifications	P&E	0	210	--	--	--	--	--	--
Install 12-inch mains and appurtenances along Puiwa Road, from 24 Puiwa Road to Puiwa Lane - approx. 500 lin. ft. Install 8-Inch mains and appurtenances along Dowsett Avenue, from fire hydrant M03678 to Alika Avenue - approx. 1,000 lin. ft. Install 8-inch main and fire hydrant along the lane near 3964 Old Pali Road, from Old Pali Road to end - approx. 510 lin. ft.	Const	2,000	0	--	2,000	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
26. WAIOMAO HOMESTEAD ROAD 8-INCH MAIN										
Prepare plans and specifications	P&E	0	110	--	--	--	--	--	--	--
Install 8-inch mains and appurtenances along Waiomao Homestead Road, from Waiomao Road to Palolo Chlorinator - approx. 700 lin. ft.	Const	1,300	0	--	1,300	--	--	--	--	--
27. KAILUA ROAD 8-INCH MAIN										
Prepare plans and specifications	P&E	0	90	--	--	--	--	--	--	--
Install 8-inch and 2-inch mains and appurtenances along 1005 Kailua Road from Kailua Road to end - approx. 685 lin. ft.	Const	600	0	--	600	--	--	--	--	--
28. KEOLU HILLS WATER SYSTEM IMPROVEMENTS, PART II										
Prepare plans and specifications	P&E	0	620	--	--	--	--	--	--	--
Install 12-inch mains and appurtenances along Keolu Drive, from Akumu Street to Naniialii Street; along Akumu Street, from Keolu Drive to Alahaki Street; along Iana Street, from Keolu Drive to FH W00766; and along Keolu Drive, from Kanapuu Drive to Akalani Loop - approx. 3,580 lin. ft. Install 8-inch mains and appurtenances along Akumu Street, from Alahaki Street to Holoholo Street; along Keolu Drive, from Akalani Loop to Akahai Street; along Akahai Street, from Keolu Drive to Akamai Street; along Akaiki Street, from Akahai Street to Akamai Street; and along Halula Place, from Akumu Street to end - approx. 4,270 lin. ft. Install 4-inch mains and appurtenances along Akumu Place, from Akumu Street to end; along Akiu Place, from Akumu Street to end; and along Akalei Place from Akumu Street to end - approx. 540 lin. ft.	Const	8,500	0	--	8,500	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000) 2023 2024		2025	2026
29. GALVANIZED PIPELINE REPLACEMENT									
Prepare plans and specifications	P&E	300	630	--	100	100	100	--	--
Replace galvanized pipeline mains at various locations	Const	600	0	--	--	--	200	200	200
30. NUUANU PALI DRIVE AND OLD PALI ROAD AREA WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	750	0	--	750	--	--	--	--
Install 12-inch mains and appurtenances along Nuuanu Pali Drive, from Pali Highway to Old Pali Road; along Old Pali Road, from Nuuanu Pali Drive to Paris Place; along Waokanaka Street, from Pali Highway (near Nuuanu Booster No. 2) to FH M07711; and along Waokanaka Street, from 3666 Waokanaka Street to Waokanaka Place - approx. 3,175 lin. ft. Install 8-inch mains and appurtenances along 3742 Old Pali Road, from Old Pali Road to end; along Palimalu Drive, from Old Pali Road to end; along Nakele Street, from Nuuanu Pali Drive to end; and along Hakumele Place, from Nuuanu Pali Drive to end - approx. 1,895 lin. ft.	Const	4,000	0	--	--	--	--	--	4,000

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
31. THOMAS SQUARE 20-INCH MAIN RELOCATION										
Prepare plans and specifications	P&E	600	0	--	600	--	--	--	--	--
Install 20-inch mains and appurtenances along S. Hotel Street, from Kealamakai Street to Ward Avenue; along Ward Avenue, from S. Hotel Street to S. Beretania Street; along S. Beretania Street, from Ward Avenue to Victoria Street; and along Victoria Street from S. Beretania Street to Young Street - approx. 1,950 lin. ft. Install 12-inch main and appurtenances along Victoria Street from S. Beretania Street to Young Street - approx. 370 lin. ft.	Const	3,250	0	--	--	--	--	--	--	--
32. SAND ISLAND WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	0	930	--	--	--	--	--	--	--
Install 16-inch mains and appurtenances along Sand Island Access Road, from Auiki Street to North side of Bascule Bridge; and along Sand Island Parkway, from South side of Bascule Bridge to fire hydrant M07897 - approx. 5,600 lin. ft. Install 12-inch, 8-inch and 4-inch mains and appurtenances along Hookela Place, from Makepono Street to end - approx. 1,200 lin. ft. Install 8-inch mains and appurtenances along Pahounui Drive, from Mohonua Place to Sand Island Access Road - approx. 1,300 lin. ft. Install 8-inch and 4-inch mains along Mohonua Place, from Pahounui Drive to end - approx. 200 lin. ft	Const	13,000	0	--	--	13,000	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000) 2023 2024		2025	2026
33. HALUPA STREET 12-INCH MAIN									
Prepare plans and specifications	P&E	0	140	--	--	--	--	--	--
Install 12-inch mains and appurtenances along Halupa Street, from Molehu Drive to Punihi Street - approx. 1,200 lin. ft.	Const	1,655	0	--	--	1,655	--	--	--
34. DIAMOND HEAD WATER SYSTEM IMPROVEMENTS PART III									
Prepare plans and specifications	P&E	0	130	--	--	--	--	--	--
Install 12-inch mains and appurtenances along Puu Panini Avenue from 22nd Avenue to Palekaua Street, along Palekaua Street from Puu Panini Avenue to Hakaka Street - approx. 1,100 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Palekaua Place from Palekaua Street to end - approx. 220 lin. ft.	Const	1,500	0	--	--	1,500	--	--	--
35. AHILAMA ROAD 8-INCH MAIN									
Prepare plans and specifications	P&E	0	190	--	--	--	--	--	--
Install 8-inch mains and appurtenances along Ahilama Road, from Mapele Road to 47-550 Ahilama Road - approx. 5,175 lin. ft.	Const	5,000	0	--	--	5,000	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	(\$ 000)					
				2021	2022	2023	2024	2025	2026
36. KALIHI WATER SYSTEM IMPROVEMENTS, PART VI									
Prepare plans and specifications	P&E	0	940	--	--	--	--	--	--
Install 12-inch mains and appurtenances along Gulick Avenue from King Street to School Street - approx. 2,940 lin. ft. Install 8-inch mains and appurtenances along Gulick Avenue from North School Street to 66 feet southwest of Puaala Lane, along Ulana Street from Owawa Street to 78 feet southeast of FH M07178, along Uhu Street from Gulick Avenue to end, along Kealoha Street from Gulick Avenue to Nakuina Street, along Pahukui Street from Gulick Avenue to Nakuina Street, along Nakuina Street from Kealoha Street to Beckley Street, along Beckley Street from Gulick Avenue to Kalihi Street, along Kalihi Street from King Street to end of 6-inch near FH M02379, along Kaili Street from King Street to Beckley Street, along Kopke Street from King Street to Pacheco Street and along Pacheco Street from Kopke Street to Gulick Avenue - approx. 7,480 lin. ft. Install 4-inch mains and appurtenances along Beckley Place from Beckley Street to end, along Day Place from Kalihi Street to end and along Ulana Place from Ulana Street to end - approx. 570 lin. ft. Install 2-inch mains and appurtenances along Gertz Lane from Gulick Avenue to end, along Harvey Lane from King Street to end, along Hanu Lane from Kopke Street to end and along Lukela Lane from Kopke Street to end - approx. 1,050 lin. ft.	Const	6,280	0	--	--	6,280	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
37. PALOLO WATER SYSTEM IMPROVEMENTS, PART IV									
Prepare plans and specifications	P&E	0	970	--	--	--	--	--	--
Install 16-inch mains and appurtenances along Pakui Street from 10th Avenue to Wilhelmina Rise 405 Reservoir, along 10th Avenue from Maluhia Avenue to Pakui Street, along Pukele Avenue from 7th Avenue to Maluhia Avenue, along 7th Avenue from Kaau Street to Pukele Avenue, along Kaau Street from Palolo Avenue to 7th Avenue and along Paloio Avenue from Kaau Street to Waialae Avenue - approx. 4,150 lin. ft. Install 12-inch mains and appurtenances along Kalua Road from Mahana Street to 10th Avenue - approx. 985 lin. ft. Install 8-inch mains and appurtenances along 9th Avenue from Paalea Street to Kiwili Street - approx. 2,410 lin. ft.	Const	5,470	0	--	--	5,470	--	--	--
38. WAIANAE WATER SYSTEM IMPROVEMENTS, PART III									
Prepare plans and specifications	P&E	0	690	--	--	--	--	--	--
Install 16-inch mains and appurtenances along Farrington Highway from Kaulawaha Road to Lualualei Homestead Road - approx. 6,450 lin. ft. Install 8-inch mains and appurtenances along Old Government Road from Farrington Highway to Plantation Road - approx. 1,200 lin. ft.	Const	5,350	0	--	--	5,350	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
39. MONSARRAT AVENUE WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	0	300	--	--	--	--	--	--	--
Install 16-inch mains and appurtenances along Monsarrat Avenue from 225 feet west of Paki Avenue to Campbell Avenue, along Campbell Avenue from Monsarrat Avenue to Kaunaoa Street - approx. 2,030 lin. ft. Install 12-inch mains and appurtenances along Campbell Avenue from Monsarrat Avenue to Kaunaoa Street - approx. 310 lin. ft. Install 8-inch mains and appurtenances along Monsarrat Avenue from Paki Avenue to Campbell Avenue, and along Kanaina Avenue from Monsarrat Avenue to Kaunaoa Street - approx. 1,740 lin. ft.	Const	3,685	0	--	--	3,685	--	--	--	--
40. MOANALUA ROAD 8-INCH MAIN, WAIMALU NEIGHBORHOOD PARK VICINITY										
Prepare plans and specifications	P&E	0	100	--	--	--	--	--	--	--
Install 8-inch mains and appurtenances along Moanalua Road, from fire hydrant L00646 to Kaahele Road - approx. 50 lin. ft.	Const	1,000	0	--	--	1,000	--	--	--	--
41. BARBERS POINT 215 WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	0	150	--	--	--	--	--	--	--
Install 30-inch main and appurtenances along the Barbers Point 215 facility access road from Old Farrington Highway to Reservoir No. 1 - approx. 300 lin. ft. Install new drainline along the flowage easement to facilitate the draining of the reservoirs	Const	850	0	--	--	850	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY)					
				2021	2022	(\$ 000)		2025	2026
						2023	2024		
42. KAMEHAMEHA HIGHWAY AT KAHANA BAY BEACH 30-INCH MAIN									
Prepare plans and specifications	P&E	650	0	--	--	650	--	--	--
Install 30-inch mains and appurtenances along Kamehameha Highway from Kahana Stream to Trout Farm Road - approx. 1,585 lin. ft.	Const	0	0	--	--	--	--	--	--
43. KILI DRIVE 16-INCH MAIN, PART II									
Prepare plans and specifications	P&E	250	0	--	--	250	--	--	--
Install 16-inch main and appurtenances along Kili Drive from Huipu Drive to Makaha 242 Access Road - approx. 2,850 lin. ft.	Const	1,570	0	--	--	--	--	--	1,570
44. LUALUALEI HOMESTEAD ROAD 8-INCH MAIN									
Prepare plans and specifications	P&E	200	0	--	--	200	--	--	--
Install 8-inch mains and appurtenances along Lualualei Homestead Road, from Pokai Bay Street to Farrington Highway - approx. 790 lin. ft.	Const	750	0	--	--	--	--	--	750
45. KAIKA STREET AT HALEIWA ROAD 8-INCH MAIN									
Prepare plans and specifications	P&E	100	0	--	--	100	--	--	--
Install 8-inch main and appurtenances along Kaiaka Street from Haleiwa Road to Alapii Street - approx. 500 lin. ft.	Const	450	0	--	--	--	--	--	450

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
46. FARRINGTON HIGHWAY 24-INCH MAIN REHABILITATION										
Prepare feasibility study to evaluate pipe rehabilitation technologies for the inactive 24-inch main along Farrington Highway, to provide Waianae with a redundant transmission main for water service reliability	P&E	0	750	--	--	--	--	--	--	--
Prepare plans and specifications	P&E	1,500	0	--	--	1,500	--	--	--	--
Rehabilitate 24-inch main along Farrington Highway from Barber's Point Line Booster to Nanakuli Avenue - approx. 25,000 lin. ft.	Const	0	0	--	--	--	--	--	--	--
47. HAO STREET AND LAWELAWE STREET WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	800	0	--	--	800	--	--	--	--
Install 12-inch mains and appurtenances along Hind luka Drive, from Kimokeo Street to Lawelawe Street - approx. 1,420 lin. ft. Install 8-inch mains and appurtenances along Kimokeo Street, from Lawelawe Street to Hind luka Drive - approx. 470 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Hao Street, from Ani Street to near Liwai Street; along Hao Place, from Hao Street to Lawelawe Street; along Lawelawe Street, from Lawelawe Place to Hind luka Drive; along Lawelawe Place, from Lawelawe Street to end; along Halapepe Street, from Lawelawe Street to end; along Ailuna Street, from Hind luka Drive to Alamuku Street; and along Paniolo Place, from Ailuna Street to end; - approx. 8,680 lin. ft. Install 4-inch mains and appurtenances along Hind luka Drive, from Halapepe Street to Kimokeo Street - approx. 255 lin. ft.	Const	0	0	--	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
48. KEOLU DRIVE 12-INCH MAIN										
Prepare plans and specifications	P&E	600	0	--	--	600	--	--	--	--
Install 12-inch mains and appurtenances along Keolu Drive, from Alihi Place to Pahumele Place - approx. 2,530 lin. ft. Install 8-inch mains and appurtenances along Alihi Place, from Keolu Drive to end; and along Hamakua Drive, from Keolu Drive to Ohiki Place - approx. 450 lin. ft. Install 8-inch and 4-inch mains and appurtenances along the private lane, from Keolu Drive to end; and along Ohiki Place, from Hamakua Drive to end - approx. 825 lin. ft.	Const	0	0	--	--	--	--	--	--	--
49. HAKIMO ROAD AT FARRINGTON HIGHWAY WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	500	0	--	--	500	--	--	--	--
Install 20-inch mains and appurtenances along Hakimo Road, from Waiolu Street to Kaukai Road - approx. 1,740 lin. ft.	Const	0	0	--	--	--	--	--	--	--
50. MCCULLY STREET AT DATE STREET 16-INCH MAIN										
Prepare plans and specifications	P&E	400	0	--	--	400	--	--	--	--
Install 16-inch mains and appurtenances along McCully Street from S. King Street to Date Street - approx. 1,160 lin. ft.	Const	0	0	--	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
51. AIEA HEIGHTS DRIVE 8-INCH MAIN, KAUPILI PLACE VICINITY									
Prepare plans and specifications	P&E	400	0	--	--	400	--	--	--
Install 8-inch mains and appurtenances along Aiea Heights Drive, from Aiea 782 Reservoir to the private lane (TMK 9-9-018:023) and along the private lane, from Aiea Heights Drive to Akaaka Street – approx. 1,650 lin. ft. Install 4-inch mains and appurtenances along Aiea Heights Drive, from Lohea Place to Hokio Place – approx. 250 lin. ft.	Const	0	0	--	--	--	--	--	--
52. HUI KELU STREET WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	350	0	--	--	350	--	--	--
Install 8-inch and 4-inch mains and appurtenances along Hui Kelu Street from Heno Place to end - approx. 2,060 lin. ft. Install 4-inch mains and appurtenances along Kopili Place, from Hui Kelu Street to end; along Aka Place, from Hui Kelu Street to end; and along Haele Place, from Hui Kelu Street to end - approx. 370 lin. ft.	Const	0	0	--	--	--	--	--	--
53. SEASIDE AND KAIULANI AVENUE 12-INCH MAINS									
Prepare plans and specifications	P&E	300	0	--	--	300	--	--	--
Install 12-inch mains and appurtenances along Kaiulani Avenue from Kuhio Avenue to Ala Wai Boulevard and along Seaside Avenue from Kalakaua Avenue to Kuhio Avenue - approx. 1,585 lin. ft.	Const	0	0	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
54. ALA NAPUNANI AT ALA ILIMA 16-INCH MAIN									
Prepare plans and specifications	P&E	150	0	--	--	150	--	--	--
Install 16-inch main along Ala Napunani Street from Likini Street to Ala Ilima Street - approx. 315 lin. ft.	Const	0	0	--	--	--	--	--	--
55. ALA MAHAMOE STREET AREA WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	1,500	0	--	--	1,500	--	--	--
Install 16-inch mains and appurtenances along Ala Mahamoe Street, from Moanalua 405 Reservoir No. 1 Access Road to Apona Street - approx. 860 lin. ft. Install 12-inch mains and appurtenances along Ala Mahamoe Street, from Apona Street to Maha Place; along Ala Mahamoe Street, from Lalamilo Street to Moanalua 405 Reservoir No. 1 Access Road; and along Apona Street, from Ala Mahamoe Street to Ainapua Street - approx. 2,715 lin. ft. Install 8-inch mains and appurtenances along Lalamilo Street, from Ala Mahamoe Street to FH no. M05314; along Kolopua Street, from Ala Mahamoe Street to Ainapua Street; and along Maha Place, from Ala Mahamoe Street to end - approx. 2,965 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Ala Mahamoe Street, from Maha Place to end; along Moelola Place, from Lalamilo Street to end; along Haku Street, from Ainapua Street to end; along Haku Place, from Haku Street to end; along Hakuaina Place, from Haku Street to end; along Ainapua Street, from Apona Street to end; and along Ala Mahamoe Place, from Ala Mahamoe Street to end - approx. 9,560 lin. ft. Install 4-inch mains and appurtenances along Lalamilo Place, from Lalamilo Street to end - approx. 150 lin. ft.	Const	0	0	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
56. WAIPAHU 36-INCH MAIN RELOCATION										
Prepare plans and specifications	P&E	1,000	0	--	--	1,000	--	--	--	--
Install 36-inch main and appurtenances along Waipahu Street from 280 feet northwest of Awamoi Street to Paiwa Street and along Paiwa Street from Waipahu Street to FH L02966, north of Koaki Street - approx. 5,170 lin. ft.	Const	0	0	--	--	--	--	--	--	--
57. HUI ULILI STREET AND HUI LO STREET										
Prepare plans and specifications	P&E	900	0	--	--	900	--	--	--	--
Install 24-inch mains and appurtenances along Hui Oi Street, from Hui Alala Street to Kahekili Highway - approx. 1,790 lin. ft. Install 16-inch mains and appurtenances along Hui Oi Street, from Hui Alala Street to Kahekili Highway - approx. 1,710 lin. ft. Install 8-inch mains and appurtenances along Hui Oi Street, from Hui Io Place to FH No. W01548 - approx. 1,145 lin. ft.	Const	0	0	--	--	--	--	--	--	--
58. KAMEHAMEHA HIGHWAY AT AIEA KAI PLACE WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	800	0	--	--	800	--	--	--	--
Install 12-inch mains and appurtenances along Kamehameha Highway, from Aiea Kai Place to Honomanu Street; and along Honomanu Street, from Kamehameha Highway to Moanalua Road - approx. 1,605 lin. ft. Install 8-inch mains and appurtenances along Kamehameha Highway, from Honomanu Street to near Kauhale Street; and along Kihale Street, from Kamehameha Highway to Kihale Place - approx. 1,700 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Kihale Place, from Kihale Street to end; and along Kalike Place, from Kihale Street to end - approx. 920 lin. ft.	Const	0	0	--	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
59. HALA DRIVE 20-INCH MAIN										
Prepare plans and specifications	P&E	800	0	--	--	800	--	--	--	--
Install 20-inch mains and appurtenances along Hala Drive, from Houghtailing Street to Kalepa Place - approx. 2,370 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Hala Drive, from Houghtailing Street to Pohaku Street; and along Hala Drive, from Kalepa Place to Keola Street - approx. 1,540 lin. ft.	Const	0	0	--	--	--	--	--	--	--
60. KALANIANAOLE HIGHWAY 12-INCH MAIN										
Prepare plans and specifications	P&E	700	0	--	--	700	--	--	--	--
Install 12-inch mains and appurtenances along Kalanianaole Highway, from Wailupe Place to E Hind Drive; and along E. Hind Drive, from Kalanianaole Highway to Papai Street - approx. 2,185 lin. ft. Install 8-inch mains and appurtenances along along Nenu Street, from Kalanianaole Highway to Nenu Place; along Papai Street, from E Hind Drive to Kirkwood Street; and along Kirkwood Street, from Papai Street to Kalanianaole Highway - approx. 1,365 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Wailupe Place, from Kalanianaole Highway to End; and along Punahele Place, from Kalanianaole Highway to End - approx. 925 lin. ft. Install 2-inch mains and appurtenances along Private Lane, from Kalanianaole Highway to End - approx. 385 lin. ft.	Const	0	0	--	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
61. KAHILINAI PLACE AND AIEA HEIGHTS DRIVE WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	0	390	--	--	--	--	--	--	--
Install 8-inch mains and appurtenances along Kahilina Place, from Aiea Heights Drive to end; along Aiea Heights Drive, from Hoi Street to Aiea 277 Reservoir; along Aheaha Street, from Kanaloa Street to Aiea Heights Drive; and along Hakina Street, from Kanaloa Street to Kaulainahoe Place - approx. 4,070 lin. ft.	Const	3,930	0	--	--	--	3,930	--	--	--
62. WAIKALUA ROAD WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	0	320	--	--	--	--	--	--	--
Install 8-inch mains and appurtenances along Holowai Street, from Waikalua Road to Holowai Place - approx. 170 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Waikalua Road, from Waikalua Place to end; along Holowai Place, from Holowai Street to end; and along Oopuhue Place, from Holowai Place to end - approx. 2,680 lin. ft.	Const	3,845	0	--	--	--	3,845	--	--	--
63. WAHIAWA WATER SYSTEM IMPROVEMENTS, PART IB										
Prepare EA, plans and specifications	P&E	0	0	--	--	--	--	--	--	--
Install 12-inch mains and appurtenances along Kamehameha Highway, from Ohai Street to California Avenue; and along California Avenue, at the Kamehameha Highway intersection - approx. 1,540 lin. ft. Install 8-inch mains and appurtenances along Ohai Street, at the Kamehameha Highway intersection; and along Kilani Avenue, at the Kamehameha Highway intersection - approx. 500 lin. ft.	Const	2,000	0	--	--	--	2,000	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000) 2023 2024		2025	2026	
64. PAIKO DRIVE 8-INCH MAIN										
Prepare plans and specifications	P&E	0	160	--	--	--	--	--	--	--
Install 8-inch mains and appurtenances along Paiko Drive, from Kalaniana'ole Highway to near FH M02768 - approx. 900 lin. ft.	Const	1,420	0	--	--	--	1,420	--	--	--
65. KANEOHE BAY DRIVE AND KAMEHAMEHA HIGHWAY WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	0	740	--	--	--	--	--	--	--
Install 16-inch mains and appurtenances along Kamehameha Highway, from Kolokio Street to Kaneohe Bay Drive - approx. 1,230 lin.ft. Install 12-inch mains and appurtenances along Kaneohe Bay Drive, from Kamehameha Highway to Pu'aae Road; along Kamehameha Highway, from Kaneohe Bay Drive to Luluku Road; and along Luluku Road, from Apapane Street to Kamehameha Highway - approx. 5,580 lin. ft.	Const	8,000	0	--	--	--	8,000	--	--	--
66. MAILILI ROAD 20-INCH MAIN, PAAKEA ROAD TO LUALUALEI HOMESTEAD ROAD										
Prepare plans and specifications	P&E	0	420	--	--	--	--	--	--	--
Install 20-inch main and appurtenances along Mailili Road, from Paa'kea Road to Lu'alu'alei Homestead Road - approx. 3,800 lin. ft.	Const	7,865	0	--	--	--	7,865	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026
67. PALEKA ROAD AND WAIKALUA ROAD AREA WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	0	740	--	--	--	--	--	--
Install 16-inch mains and appurtenances along Paleka Road, from Anoi Road to Kamehameha Highway - approx. 2,150 lin. ft. Install 8-inch mains and appurtenances along Waikalua Road, from Kamehameha Highway to Waikalua Place; along Waikapoki Road, from Waikalua Road to Wailele Road; and along Halemuku Street, from Waikalua Road to Halemuku Place - approx. 5,075 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Halemuku Place, from Halemuku Street to end - approx. 800 lin. ft.	Const	7,000	0	--	--	--	7,000	--	--
68. KAMEHAMEHA HIGHWAY WATER SYSTEM IMPROVEMENTS, PUPUKEA ROAD VICINITY									
Prepare plans and specifications	P&E	0	520	--	--	--	--	--	--
Install 6-inch and 16-inch mains along Kamehameha Highway from Kapuhi Street to Pupukea Road - approx. 2,700 lin. ft.	Const	4,005	0	--	--	--	4,005	--	--
69. ALIIPOE DRIVE AND PAIHI STREET AREA WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	0	560	--	--	--	--	--	--
Install 8-inch mains and appurtenances along Aliipoe Drive, from near FH L00776 to Pohue Street; along Paihi Street, from Aliipoe Drive to Pohue Street; along Hukaa Street, from Paihi Street to Pohue Street; along Iwaiwa Street, from Hukaa Street to Pohue Street; along Pohue Place, from Pohue Street to end; and along Pohuli Street, from Paihi Street to end - approx. 5,700 lin. ft.	Const	3,345	0	--	--	--	3,345	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
70. KEANA ROAD AREA WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	0	490	--	--	--	--	--	--	--
Install 8-inch mains and appurtenances along Keana Road, from Kaneohe Bay Drive to Namoku Street; and along Hikiwale Street, from Keana Road to Hikiwale Place - approx. 2,150 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Nohonani Place, from Kaneohe Bay Drive to end; along Hikiwale Place, from Hikiwale Street to end; along Namoku Street, from Neepapa Place to FH W01130; along Neepu Place, from Namoku Street to end; and along Awele Place, from Namoku Street to end - approx. 3,130 lin. ft.	Const	2,410	0	--	--	--	2,410	--	--	--
71. IHILOA LOOP AND EHUPUA PLACE AREA WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	0	350	--	--	--	--	--	--	--
Install 8-inch mains and appurtenances along Ohialoke Street, from Ihiloa Place to Ehupua Place; and along Ehupua Place, from Ohialoke Street to Poola Street - approx. 2,050 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Ihiloa Place, from near Laukahi Street to Ohialoke Street - approx. 590 lin. ft.	Const	2,320	0	--	--	--	2,320	--	--	--
72. ALA HOKU PLACE 16-INCH MAIN										
Prepare plans and specifications	P&E	0	360	--	--	--	--	--	--	--
Install 16-inch main and appurtenances along Ala Hoku Place, from Ala Aolani Street to end; and along the private road, from Ala Hoku Place to the 16-inch cross-country main - approx. 2,535 lin. ft.	Const	2,300	0	--	--	--	2,300	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
73. WAIAPO PLACE, WAIHUA PLACE AND WAIMOMONA PLACE WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	0	290	--	--	--	--	--	--
Install 8-inch mains and appurtenances along Kolowaka Drive, from Waiapo Place to Waimomona Place - approx. 610 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Waiapo Place, from Kolowaka Drive to end; along Waihua Place, from Kolowaka Drive to end; along Waimamona Place, from Kolowaka Drive to end - approx. 2,190 lin. ft.	Const	2,015	0	--	--	--	2,015	--	--
74. KAKELA DRIVE AND MOHALA WAY WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	0	300	--	--	--	--	--	--
Install 8-inch mains and appurtenances along Kakela Drive, from McKinley Street to McKinley Street; and along Mohala Way, from East Manoa Road to Beckwith Street - approx. 1,865 lin. ft. Install 8-inch and 4-inch mains along Kakela Place, from Kakela Drive to end; and along Kakela Iki Place, from Kakela Drive to end - approx. 300 lin. ft.	Const	1,200	0	--	--	--	1,200	--	--
75. KANUNU STREET AND MAKALOA STREET 8-INCH MAIN									
Prepare plans and specifications	P&E	0	330	--	--	--	--	--	--
Install 8-Inch mains and appurtenances along Kanunu Street, from Keeaumoku Street to Kaheka Street; and along Makaloa Street, from Keeaumoku Street to Poni Street - approx. 2,430 lin. ft.	Const	1,075	0	--	--	--	1,075	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
76. PIPELINE REPAIR AND REPLACEMENT - 2028 AND BEYOND									
Prepare plans and specifications	P&E	24,000	0	--	--	--	8,000	8,000	8,000
Repair and replacement of various BWS pipelines	Const	0	0	--	--	--	--	--	--
77. FARRINGTON HIGHWAY 24-INCH									
Prepare plans and specifications	P&E	700	0	--	--	--	700	--	--
Install 24-inch mains and appurtenances along Old Farrington Highway, from Barbers Point 215 Non-potable Reservoir Access Road to Farrington Highway; and along Farrington Highway, from Old Farrington Highway to Laaloa Street - approx. 1,740 lin. ft.	Const	0	0	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
78. KAUMAKANI STREET AREA WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	1,100	0	--	--	--	1,100	--	--	
Install 12-inch mains and appurtenances along Pakala Street, from Kekupua Street to End; along Kekupua Street, from Pakala Street to Kaumakani Street; along Kaumakani Street, from Kekupua Street to Honono Street; and along TMK 3-9-042:120, from Kaumakani Street to Kalaniana'ole Highway - approx. 5,920 lin. ft. Install 8-inch mains and appurtenances along Kekupua Street, from Kaumakani Street to Pakala Street; along Lanipua'o Street, from Kekupua Street to Kaumakani Street; along Kaumakani Street, from Kekupua Street to Kekupua Street; along Kalaniana'ole Highway, from Nawiliwili Street to TMK 3-9-012:002 - approx. 3,285 lin. ft. Install 4-inch mains and appurtenances along Kekupua Street, from Kaumakani Street to TMK 3-9-046-081; and along Kaumakani Street, from Kekupua Street to TMK 3-9-045-037 - approx. 645 lin. ft. Install 2-inch mains and appurtenances along the two Kekupua Street cul-de-sacs - approx. 190 lin. ft.	Const	0	0	--	--	--	--	--	--	
79. KAMEHAMEHA HIGHWAY AT TUTU STREET 16-INCH										
Prepare plans and specifications	P&E	1,100	0	--	--	--	1,100	--	--	
Install 16-inch mains and appurtenances along Kamehameha Highway, from Ikuwai Place to Waimea Valley Road - approx. 6,140 lin. ft. Install 8-inch and 4-inch mains and appurtenances along along Iliohu Place, from Kamehameha Highway to end; and along Iliohu Way, from Iliohu Place to end - approx. 560 lin. ft.	Const	0	0	--	--	--	--	--	--	

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	(\$ 000)					
				2021	2022	2023	2024	2025	2026
80. AALA STREET AND NORTH VINEYARD BOULEVARD WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	800	0	--			800	--	--
Install 12-inch mains and appurtenances along N. Vineyard Boulevard, from Aala Place to College Walk; and along Aala Street, from N. Vineyard Boulevard to Aala Place - approx. 1,955 lin. ft. Install 8-inch mains and appurtenances along Aala Place, from Aala Street to N. Vineyard Boulevard; along N Kukui Street, from Aala Street to College Walk; and along College Walk, from N. Vineyard Boulevard to N. Beretania Street - approx. 3,375 lin. ft.	Const	0	0	--	--	--	--	--	--
81. KUULEI ROAD 24-INCH									
Prepare plans and specifications	P&E	800	0	--	--	--	800	--	--
Install 24-inch mains and appurtenances along Kuulei Road, from Kailua Road to S. Kainalu Drive - approx. 1,900 lin. ft. Install 8-inch mains and appurtenances along Kuulei Road, from Maluniu Avenue to S. Kainalu Drive; and along Maluniu Avenue, from Kuulei Road to FH no. W00211 - approx. 1000 lin. ft.	Const	0	0	--	--	--	--	--	--
82. WAIALUA BEACH DRIVE AND GOODALE AVENUE 16-INCH AND 8-INCH									
Prepare plans and specifications	P&E	700	0	--	--	--	700	--	--
Install 16-inch mains and appurtenances along Waialua Beach Road, from Goodale Avenue to Kiikii Stream - approx. 1,230 lin. ft. Install 8-inch mains and appurtenances along Goodale Avenue, from Nauahi Street to Waialua Beach Road - 2,025 lin. ft.	Const	0	0	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
83. KAMEHAMEHA HIGHWAY AT LIPOA PLACE AREA WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	600	0	--	--	--	600	--	--	
Install 12-inch mains and appurtenances along Kamehameha Highway, from Kaonohi Street to Pali Momi Street; along Lipoa Place, from Kamehameha Highway to Lipoa Place; and along Kaonohi Street, from Moanalua Loop to Kamehameha Highway - approx. 2,165 lin. ft. Install 8-inch mains and appurtenances along Kamehameha Highway, from TMK 9-8-009:014 to Kaonohi Street; along Moanalua Loop, from FH no. L01815 to Kaonohi Street; and along Lipoa Place from end to end - approx. 1,900 lin. ft.	Const	0	0	--	--	--	--	--	--	
84. NAMAHANA STREET AND KEONIANA STREET WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	600	0	--	--	--	600	--	--	
Install 12-inch mains and appurtenances along Ala Wai Boulevard, from Namahana Street to Olohana Street - approx. 230 lin. ft. Install 8-inch mains and appurtenances along Namahana Street, from Kuhio Avenue to Ala Wai Boulevard; and along Keoniana Street, from Kalakaua Avenue to Kalakaua Ave - approx. 1,305 lin. ft.	Const	0	0	--	--	--	--	--	--	
85. PIIKOI STREET AND WAIMANU STREET WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	600	0	--	--	--	600	--	--	
Install 12-inch mains and appurtenances along Piikoi Street, from Ala Moana Boulevard to Kapiolani Boulevard - approx. 1,500 lin. ft. Install 8-inch mains and appurtenances along Waimanu Street, from Queen Street to Piikoi Street - approx. 1,010 lin. ft.	Const	0	0	--	--	--	--	--	--	

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026	
						2023	2024			
86. KAILUA ROAD 12-INCH MAIN										
Prepare plans and specifications	P&E	500	0	--	--	--	500	--	--	
Install 12-inch mains and appurtenances along Kailua Road from Oneawa Street to 1005 Kailua Road - approx. 2,955 lin. ft.	Const	0	0	--	--	--	--	--	--	
87. KEALAHOU STREET WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	500	0	--	--	--	500	--	--	
Install 16-inch mains and appurtenances along Kealahou Street, from Kokonani Street to Mokuhanu Street - approx. 1,330 lin. ft. Install 12-inch mains and appurtenances along Kealahou Street, from Mokuhanu Street to Mokunoio Place - approx. 420 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Mokunoio Place, from Kealahou Street to end - approx. 535 lin. ft.	Const	0	0	--	--	--	--	--	--	
88. ALA WAI BOULEVARD 16-INCH MAIN, KALAKAUA AVENUE TO KEONIANA STREET										
Prepare plans and specifications	P&E	500	0	--	--	--	500	--	--	
Install 16-inch mains and appurtenances along Ala Wai Boulevard, from Kalakaua Avenue to Keoniana Street - approx. 1,560 lin. ft.	Const	0	0	--	--	--	--	--	--	

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
89. UNIVERSITY AVENUE WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	450	0	--	--	--	450	--	--	
Install 8-inch mains and appurtenances along University Avenue, from South King Street to Date Street - approx. 3,100 lin. ft.	Const	0	0	--	--	--	--	--	--	
90. ANALII STREET WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	450	0	--	--	--	450	--	--	
Install 8-inch mains and appurtenances along Analii Street, from Analii Place to Poola Street - approx. 1,750 lin. ft.	Const	0	0	--	--	--	--	--	--	
91. KOKEA STREET AND AULD LANE WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	400	0	--	--	--	400	--	--	
Install 12-inch mains and appurtenances along Kokea Street, from FH no. M02256 to North King Street; and along North King Street, from Kokea Street to Auld Lane - approx. 1,075 lin. ft. Install 8-inch mains and appurtenances along Auld Lane, from North King Street to Olomea Street; and along Lao lane, from Auld Lane to Olomea Street - approx. 960 lin. ft. Install 4-inch mains and appurtenances along the private lane, from Auld Lane to end - approx. 200 lin. ft.	Const	0	0	--	--	--	--	--	--	

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
92. ROYAL HAWAIIAN AVENUE WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	400	0	--	--	--	400	--	--
Install 12-inch mains and appurtenances along Seaside Avenue, from Aloha Drive to Manukai Street; and along Royal Hawaiian Avenue, from Kuhio Avenue to Waikolu Way - approx. 450 lin. ft. Install 8-inch mains and appurtenances along Aloha Drive, from Lewers Street to Seaside Avenue; and along Royal Hawaiian Avenue, from Aloha Drive to Kuhio Avenue - approx. 1,050 lin. ft.	Const	0	0	--	--	--	--	--	--
93. PUUOHALAI PLACE 8-INCH									
Prepare plans and specifications	P&E	400	0	--	--	--	400	--	--
Install 8-inch and 4-inch mains and appurtenances along Malukai Place, from Kaneohe Bay Drive to end; along Puuohalai Place, from Kaneohe Bay Drive to end; along Nohokai Place, from Kaneohe Bay Drive to end; along Hulakai Place, from Kaneohe Bay Drive to end; and the along private road, from Kaneohe Bay Drive to end; - approx. 2,900 lin. ft.	Const	0	0	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
94. MARINERS RIDGE WATER SYTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	1,000	0	--	--	--	--	1,000	--	--
Install 12-inch mains and appurtenances along Kaluanui Road, from Kaloaloe Street to Kaluanui Place - approx. 1,460 lin. ft. Install 8-inch mains and appurtenances along Kaloaloe Street, from Kaahue Street to Kaluanui Road; along Kaahue Street, from Kaloaloe Street to Kaluanui Road; and along Kaluanui Place from Kaluanui Road to Kaluanui Way - approx. 2,885 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Kawaiki Place, from Kaahue Street to end; along Kauku Place, from Kaahue Street to end; along Kapoho Place, from Kaahue Street to end; along Kapapala Place, from Kaahue Street to end; along Kaohe Place, from Kaahue Street to End; along Kamoi Place, from Kaahue Street to End; along Kakiwa Place, from Kaluanui Road to end; along Kakapa Place, from Kaluanui Road to end; along Kaipuhaa Place, from Kaluanui Road to end; along Kahuwai Place, from Kaluanui Road to end; along Kahauloe Place, from Kaluanui Road to end; along Kaluanui Way, from end to end - approx. 4,785 lin. ft.	Const	0	0	--	--	--	--	--	--	--
95. MOANALUA GOLF COURSE 16-INCH MAIN										
Prepare plans and specifications	P&E	450	0	--	--	--	450	--	--	--
Relocate 16-inch transmission main to Moanalua Rd to Ala Aolani St, and abandon main through golf course. - approx. 1,585 lin. ft.	Const	0	0	--	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
96. LUALUALEI HOMESTEAD ROAD 16-INCH									
Prepare plans and specifications	P&E	400	0	--	--	--	400	--	--
Install 16-inch mains and appurtenances along Lualualei Homestead Road, from Analipo Street to Ihuku Street - approx. 1,080 lin. ft.	Const	0	0	--	--	--	--	--	--
97. KAMEHAMEHA HIGHWAY - HALEIWA WATER SYSTEM IMPROVEMENTS, PART I & II									
Prepare plans and specifications	P&E	0	0	--	--	--	--	--	--
Part I: Install 8-inch mains and appurtenances along Kamehameha Highway from 625 feet northeast of FH C00049 to 10 feet northeast of FH C00041 and along Pohaku Loa Way from Kamehameha Highway to Kamehameha Highway - approx. 6,600 lin. ft. Install 8-inch and 4-inch mains and appurtenances along a private road (TMK: 6-1-012:040) from Kamehameha Highway to end of road across of FH C00501, along Punalau Place from Kamehameha Highway to end, along Ikuwai Place from Kamehameha Highway to end, along Ikuwai Way from Kamehameha Highway to end, and along various side streets - approx. 2,700 lin. ft. Install 2-inch mains along TMK 6-1-011:010, TMK 6-1-011:001, TMK 6-1-011:002, and TMK 6-1-011:015 - approx. 1,140 lin. ft.	Const	7,445	0	--	--	--	--	7,445	--
Part II: Install 12-inch main along Kamehameha Highway from Papailoa Road to approximately 300 feet northwest of Kawailoa Drive - approx. 2,400 lin. ft. Install 8-inch main along Kamehameha Highway from 16-inch main interconnection near FH C00059 to approximately 550 feet northeast of FH C00056 - approx. 4,900 lin. ft.	Const	6,400	0	--	--	--	--	6,400	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
98. KAMEHAMEHA IV ROAD WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	1,000	0	--	--	--	--	1,000	--	
Install 8-inch mains and appurtenances along Kamehameha IV Road, from Kini Place to Likelike Highway; along Kalena Drive, from Kamehameha IV Road to FH No. M03177; and along Aooa Street, from Kamehameha IV Road to Kono Street - approx. 7,430 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Kono Place, from Kono Street to end; along Aooa Place, from Aooa Street to end; along Kono Street, from Kono Place to end; along Kilohi Street, from Kamehameha IV Road to end; along Kilohi Street, from Kini Place to end; along Kini Place, from Kilohi Street to Kalihi Shaft; along Kawohi Place, from Kilohi Street to end; and along Hihio Place, from Kamehameha IV Road to end - approx. 2,920 lin. ft.	Const	0	0	--	--	--	--	--	--	
99. KUHIO AVENUE AND KAIULANI AVENUE WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	0	960	--	--	--	--	--	--	
Install 16-inch mains and appurtenances along Kuhio Avenue, from Kalakaua Avenue to Kapahulu Avenue - approx. 6,180 lin. ft. Install 12-inch mains and appurtenances along Kaiulani Avenue, from Ala Wai Boulevard to Kalakaua Avenue - approx. 1,450 lin. ft. Install 8-inch mains and appurtenances along Kuhio Avenue, from Walina Street to Kaiulani Avenue - approx. 500 lin. ft.	Const	16,000	0	--	--	--	--	16,000	--	

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026
100. DOLE STREET AND KANEWAI STREET AREA WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	0	980	--	--	--	--	--	--
Install 20-inch mains and appurtenances along Dole Street, from FH M02955 to St. Louis Drive; along St. Louis Drive, from Dole Street to Waialae Avenue; along Waialae Avenue, from St. Louis Drive to 1st Avenue; along 1st Avenue, from Waialae Avenue to Harding Avenue; and along Harding Avenue, from 1st Avenue to Kaimuki Pump Station - approx. 4,580 lin. ft. Install 12-inch mains and appurtenances along Kanewai Street, from Dole Street to Kamakini Street - approx. 1,150 lin. ft. Install 8-inch mains and appurtenances along Waialae Avenue, from St. Louis Drive to 1st Avenue; and along 1st Avenue, from Waialae Avenue to Harding Avenue - approx. 775 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Kamakini Street, from FH M06955 to end; and along Kaluawaa Street, from Kamakini Street to end - approx. 1,680 lin. ft.	Const	10,400	0	--	--	--	--	10,400	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026
101. POHAKUPUNA ROAD AND PUPU STREET AREA WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	0	1,710	--	--	--	--	--	--
Install 12-inch mains and appurtenances along Pohakupuna Road, from Papipi Road to Makule Road - approx. 3,600 lin. ft. Install 8-inch mains and appurtenances along Pohakupuna Place, from Pohakupuna Road to Pupu Street; along Huleia Place, from Pupu Street to end; along Amio Street, from Pohakupuna Road to Pupu Street; along Akua Street, from Amio Street to Pupu Street; along Hailipo Street, from Pohakupuna Road to Pupu Street; along Hailipo Street, from Papipi Road to Onelua Street; along Pohakupuna Road, from Makule Road to Fort Weaver Road; along Makule Road, from Pohakupuna Road to Aikanaka Road; along Onelua Street, from Aikanaka Road to Paaloha Street; along Oama Street, from Onelua Street to Aikanaka Road; along Makaonaona Street, from Onelua Street to Aikanaka Road; and along Paaloha Street, from Papipi Road to Aikanaka Road - approx. 8,530 lin. ft. Install 8-inch and 4-inch mains along Pupu Street, from Papipi Road to end; and along Pupu Place, from Pupu Street to end - approx. 2,650 lin. ft	Const	10,000	0	--	--	--	--	10,000	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	(\$ 000)					
				2021	2022	2023	2024	2025	2026
102. FARRINGTON HIGHWAY WATER SYSTEM IMPROVEMENTS, HOOKELE STREET VICINITY									
Prepare plans and specifications	P&E	0	1,410	--	--	--	--	--	--
Install 12-inch mains and appurtenances along Farrington Highway, from Manununu Street to Hookele Street; and along Hookele Street, from Farrington Highway to Waapuhi Street - approx. 3,310 lin. ft. Install 8-inch mains and appurtenances along Kulaaupuni Street, from St. Johns Road to Mamoalii Place; along Manuulaula Street, from Manuaihue Street to Manuu Street; along Manununu Street, from Farrington Highway to Manuu Street; along Hookele Street, from Waapuhi Street to Heleuma Street; and along Laulele Street, from Heleuma Street to Waapuhi Street - approx. 3,890 lin. ft. Install 8-inch and 4-inch mains and appurtenances along St. Johns Road, from Manuaihue Street to end; along Mamoalii, from Kulaaupuni Street to end; along Mamoalii Way, from Mamoalii Place to end; along Manuu Street, from Manuulaula Street to end; along Maipalaoa Road, from Farrington Highway to end; along Meaulu Road, from Maipalaoa Road to end; along Heleuma Street, from Hookele Street to end; and along Hookele Place, from Hookele Street to end - approx. 6,900 lin. ft.	Const	9,050	0	--	--	--	--	9,050	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	(\$ 000)					
				2021	2022	2023	2024	2025	2026
103. HAHAIONE STREET, HOKULANI STREET KAHENA STREET AREA WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	0	900	--	--	--	--	--	--
Install 12-inch mains and appurtenances along Ainapo Street, from Kahena Street to Hahaione Street - approx. 300 lin. ft. Install 8-inch mains and appurtenances along Hahaione Street, from Ainapo Street to Pepeekeo Street; and along Kahena Street, from Ainapo Street to Hahaione Street - approx. 4,770 lin. ft. Install 8-inch and 4-inch mains along Ainapo Street, from Hahaione Street to end; along Hokulani Street, from Ainapo Street to end; and along Kulani Street, from Ainapo Street to end - approx. 2,590 lin. ft.	Const	7,000	0	--	--	--	--	7,000	--
104. KAHUAILANI STREET WATER SYSTEM IMPROVEMENTS									
Install 12-inch mains and appurtenances along Mokuola Street from Waipahu Street to 70 feet beyond Nalii Street - approx. 500 lin. ft. Install 8-inch mains and appurtenances along Kahuailani Street from Hikimoe Street to end, along Puamano Place from Waipahu Street to end, along Kahiki Place from Puamano Place to end and along Hikimoe Street from Waipahu Depot Street to FH L04002 - approx. 4,020 lin. ft. Install 4-inch mains and appurtenances along the side street from Hikimoe Street to end - approx. 115 lin. ft.	Const	2,105	0	--	--	--	--	2,105	--
105. MAPELE PLACE PIPING MODIFICATION									
Prepare plans and specifications	P&E	1,500	0	--	--	--	--	1,500	--
Install 20-in main along Ahilama Rd. Abandon 2,800 ft of cross-country 20-in main	Const	0	0	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	(\$ 000)					
				2021	2022	2023	2024	2025	2026
106. DILLINGHAM BOULEVARD AT KOHOU STREET WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	1,000	0	--	--	--	--	1,000	--
Install 12-inch mains and appurtenances along Kohou Street, from Kaumualii Street to Dillingham Boulevard; along Kokea Street, from Dillingham Boulevard to Kokea Place; along Dillingham Boulevard, from Colburn Street to FH no. 02365; and along Sumner Street, from Dillingham Boulevard to Iwilei Road - approx. 4,760 lin. ft. Install 8-inch mains and appurtenances along Moowaa Street, from Kaumualii Street to Moonui Street; along Kaumualii Street, from Moowaa Street to Kohou Street; along Pine Street, from Sumner Street to Kuwili Street; along Kuwili Street, from Pine Street to Dillingham Boulevard - 2,340 approx. lin. ft.	Const	0	0	--	--	--	--	--	--
107. KAMEHAMEHA HIGHWAY WATER SYSTEM IMPROVEMENTS - PUHULI STREET VICINITY									
Prepare plans and specifications	P&E	0	1,790	--	--	--	--	--	--
Install 30-inch mains and appurtenance along Kamehameha Highway, from Haleaha Road to 1,000 feet East of Green Valley Road - approx. 5,300 lin. ft. Install 12-inch mains and appurtenance along Kamehameha Highway, from Puhuli Street to 1,000 feet East of Green Valley Road - approx. 9,800 lin. ft.	Const	16,000	0	--	--	--	--	--	16,000

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
108. WATER SYSTEM IMPROVEMENTS AT VARIOUS LOCATIONS IN MANOA										
Prepare plans and specifications	P&E	0	1,500	--	--	--	--	--	--	--
Install 12-inch mains and appurtenances along Woodlawn Dr, from Woodlawn Terrace Place to Alani Dr; along Alani Dr, from Woodlawn Dr to E. Manoa Rd; along E. Manoa Rd, from Alani Dr to Pakuna St; along Pakuna St, from E. Manoa Rd to Pawaina St; along Pawaina St, from Pakuna St to Oahu Ave; along Oahu Ave, from Pawaina St to Kumu St; along Kumu St, from Oahu Ave to Kumulani St; along Huelani Dr, from Keahi St to Rainbow Dr; along Rainbow Dr, from Huelani Dr to Oahu Ave; along Oahu Ave, from Rainbow Dr to Manoa Rd; along Manoa Rd, from Oahu Ave to Komaia Dr; along Komaia Dr, from Manoa Rd to Komaia Place; along Komaia Place, from Komaia Dr to Puuhonua St; along Puuhonua St, from Komaia Place to Ferdinand Ave; along Ferdinand Ave, from Puuhonua St to Aleo Place; and along Aleo Place, from Ferdinand Ave to Sonoma St - approx. 15,005 lin. ft. Install 8-inch mains and appurtenances along Kahawai St, from Huapala St to Lowrey Ave; and along Lowrey Ave, from Kahawai St to near Manoa Stream, along Kalawahine Place, from Mott-Smith Dr to end; and along Melemele Place, from Paty Dr to end - approx. 2,320 lin. ft.	Const	12,000	0	--	--	--	--	--	--	12,000

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026
109. ELELUPE ROAD AND KULIOUOU ROAD WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	0	1,050	--	--	--	--	--	--
Install 12-inch mains and appurtenances along Kuliouou Road, from Kalaniana'ole Highway to Kaniela Place - approx. 2,650 lin. ft. Install 8-inch mains and appurtenances along Elelupe Road, from Kuliouou Line Booster Pump Station to Kuliouou Road; and along Dalene Way, from Kuliouou Road to Kawekiu Place - approx. 2,950 lin. ft. Install 8-inch and 4-inch mains along Kaniela Place, from Kuliouou Road to end; along Haleloa Place, from Kuliouou Road to end; along Kawekiu Place, from Kuliouou Road to end; along Naleialoha Place, from Kuliouou Road to end; along unnamed place, from Kuliouou Road to end; and along Elelupe Place, from Elelupe Road to end - 2,585 lin. ft.	Const	8,290	0	--	--	--	--	--	8,290

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
110. LEOLUA STREET AND KIPOU STREET AREA WATER SYSTEM IMPROVEMENTS										
Prepare plans and specifications	P&E	0	1,200	--	--	--	--	--	--	--
Install 12-inch mains and appurtenances along Leolua Street, from Kunia Road on-ramp to Leoku Street and along Leoku Street, from Waipahu Street to Farrington Highway – approx. 2,400 lin. ft. Install 8-inch mains and appurtenances along Hene Street, from Hulahe Street to Honowai Street; along Hoaeae Street, from Honowai Street to Haaa Street; and along Loaa Street, from Hoaeae Street to Haaa Street - approx. 2,040 lin. ft. Install 8-inch and 4-inch mains and appurtenances along Haaa Street, from Hoaeae Street to end; along Hulahe Street, from Hene Street to end; along Kipou Street, from Honowai Street to end; along Kipou Place, from Kipou Street to end; and along Kiokio Place, from Kipou Street to end - approx. 5,840 lin. ft. Install 4-inch mains and appurtenances along Kiwini Place, from Kipou Street to end - approx. 110 lin. ft.	Const	6,370	0	--	--	--	--	--	--	6,370
111. KILIHOU STREET, AHUA STREET AND KAKOI STREET 12-INCH AND 8-INCH MAINS										
Prepare plans and specifications	P&E	0	768	--	--	--	--	--	--	--
Install 12-inch and 8-inch mains and appurtenances along Kilihau Street, from Ahua Street to end; and along Kakoi Street, from Kilihau Street to end - approx. 2,790 lin. ft. Install 8-inch mains and appurtenances along Ahua Street, from Kilihau Street to Mokumoa Street - approx. 2,330 lin. ft.	Const	5,500	2,093	--	--	--	--	--	--	5,500

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026
112. FARRINGTON HIGHWAY WATER SYSTEM IMPROVEMENTS, WAIPAHU DEPOT ROAD VICINITY									
Prepare plans and specifications	P&E	0	790	--	--	--	--	--	--
Install 8-inch mains and appurtenances along Farrington Highway, from Makamaka Place to Awamoku Street; along Waipahu Depot Street, from Farrington Highway to Waipahu Street; along Waipahu Street, from Waipahu Depot Street to FH L00328; and along Mokuola Street, from Farrington Highway to Hikimoe Street - approx. 6,915 lin. ft.	Const	3,515	0	--	--	--	--	--	3,515
113. AHUIMANU ROAD AREA AND WAIHEE PLACE WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	0	820	--	--	--	--	--	--
Install 16-inch mains and appurtenances along Ahuimanu Road, from near Pakai Place to Ahuimanu Place; along Ahuimanu Place, from Ahuimanu Road to Hui Ulili Street; along Hui Ulili Street, from Ahuimanu Place to Alawiki Street; and along Alawiki Street, from Hui Ulili Street to near Maiapilo Way - approx. 6,760 lin. ft.	Const	2,615	0	--	--	--	--	--	2,615
R&R PIPELINES P&E SUBTOTAL	P&E	73,300	35,938	6,300	13,950	12,250	19,800	12,750	8,250
R&R PIPELINES Land SUBTOTAL	Land	0	0	0	0	0	0	0	0
R&R PIPELINES Const SUBTOTAL	Const	366,385	7,918	53,650	47,950	45,390	60,980	79,955	78,460
R&R PIPELINES SUBTOTAL		439,685	43,856	59,950	61,900	57,640	80,780	92,705	86,710

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
<u>D. TREATMENT - R&R</u>									
1. GAC INTERIOR CORROSION CONTROL AT VARIOUS LOCATIONS									
Perform interior corrosion control of selected BWS GAC facilities. CM services funding included for this project	P&E	1,500	0	500	500	500	--	--	--
	Const	11,500	3,000	1,500	3,000	2,000	2,500	2,500	--
2. TREATMENT REPAIR AND REHABILITATION - 2028									
Prepare plans and specifications	P&E	810	0	--	--	--	240	570	--
Repair and replacement of various BWS treatment facilities	Const	0	0	--	--	--	--	--	--
3. TREATMENT REPAIR AND REHABILITATION - 2029									
Prepare plans and specifications	P&E	810	0	--	--	--	--	240	570
Repair and replacement of various BWS treatment facilities	Const	0	0	--	--	--	--	--	--
R&R TREATMENT P&E SUBTOTAL	P&E	3,120	0	500	500	500	240	810	570
R&R TREATMENT Land SUBTOTAL	Land	0	0	0	0	0	0	0	0
R&R TREATMENT Const SUBTOTAL	Const	11,500	3,000	1,500	3,000	2,000	2,500	2,500	0
R&R TREATMENT SUBTOTAL		14,620	3,000	2,000	3,500	2,500	2,740	3,310	570

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
E. FACILITIES - R&R										
1. MAKIKI 180 RESERVOIR REPLACE ALTITUDE VALVE ASSEMBLY										
Prepare plans and specifications	P&E	0	100	--	--	--	--	--	--	--
Replace altitude valve (AV) in AV vault, provide new titled disc check valve and emergency pump connection, install new electrical duct bank from control building to AV vault and various controls for new AV	Const	2,500	0	2,500	--	--	--	--	--	--
2. HALAWA XERISCAPE GARDEN IMPROVEMENTS										
Install landscaping and irrigation, additional ADA parking stalls, modify existing parking and pathways to meet the ADA requirements, install accessible ramp/pathway connection to different garden attractions, additional gravel area for overflow parking, perimeter fence to enclose the entire garden, and renovating the existing office and pavilion building	Const	3,100	0	3,100	--	--	--	--	--	--
3. REHABILITATION OF PIPELINE TUNNELS: KEANU AND FORT RUGER TUNNELS										
Prepare plans and specifications	P&E	0	200	--	--	--	--	--	--	--
Renovate pipeline and tunnel at Keanu and Ruger Tunnels	Const	3,100	0	3,100	--	--	--	--	--	--
4. BERETANIA PUBLIC SERVICE BUILDING EXTERIOR IMPROVEMENTS										
Repave parking lot and courtyard, reconstruction curb and gutter, install curb ramps, repairs to the catwalk and fountain, and repaint the public service building exterior	Const	3,100	0	3,100	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
5. PUMP STATION INSTRUMENTATION & CONTROLS AND SCADA UPGRADE									
Project planning, design, and management services	P&E	2,300	0	--	250	300	450	600	700
Upgrade instrumentation and controls equipment at various pump stations and revamp SCADA system to provide smarter functionality	Const	17,400	0	1,000	1,400	1,500	3,000	4,500	6,000
6. FACILITY REPAIR AND RENOVATION									
Prepare plans and specifications	P&E	8,500	5,600	1,000	1,500	1,500	1,500	1,500	1,500
Repair, renovation, reroofing, fencing and repainting of selected BWS facilities.	Const	31,000	31,500	6,000	5,000	5,000	5,000	5,000	5,000
7. SECURITY IMPROVEMENTS AT VARIOUS LOCATIONS									
Project planning, design and management services	P&E	0	1,400	--	--	--	--	--	--
Security improvements and enhancements includes, but not limited to fencing, doors and windows, vegetation setbacks and access control systems at various BWS locations	Const	12,100	9,068	3,600	1,500	1,000	2,000	2,000	2,000
8. MONITORING WELL ASSESSMENT AND REPAIR									
Provide well condition assessment and associated repair services for monitor wells	P&E	300	360	50	50	50	50	50	50

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
9. PROFESSIONAL SERVICES FOR BWS PROJECTS									
Obtain services of archaeologists, botanists, environmental engineers, water quality labs, planners, government agencies and others	P&E	1,800	4,095	300	300	300	300	300	300
10. WAIMALU WELLS I SLOPE STABILIZATION									
Prepare plans and specifications	P&E	400	100	400	--	--	--	--	--
Install slope stabilization along the downhill slope at Waimalu Wells I	Const	2,500	0	--	--	--	2,500	--	--
11. NANAKULI 242 ALTITUDE VALVE									
Prepare plans and specifications	P&E	150	0	150	--	--	--	--	--
Install altitude valve and appurtenances in the vicinity of the Nanakuli Booster	Const	1,500	0	--	--	--	1,500	--	--
12. HALAWA XERISCAPE GARDEN MULTIPURPOSE BUILDING									
Prepare EA, PIM amendment, and plans and specifications	P&E	500	0	500	--	--	--	--	--
Construct new multipurpose building within the Halawa	Const	2,000	0	--	--	--	--	--	2,000

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
13. SLOPE STABILIZATION INVESTIGATION AT VARIOUS FACILITIES									
Inspect slopes and determine appropriate mitigation at various reservoir facilities	P&E	400	0	400	--	--	--	--	--
Install improvements to stabilize the rock face at various BWS reservoir sites	Const	0	0	--	--	--	--	--	--
14. BERETANIA IT DATA CENTER RENOVATION									
Prepare plans and specifications	P&E	0	250	--	--	--	--	--	--
Renovate and install workstation layout changes to the Data Center to more effectively utilize the floor space following decommissioning and removal of the server racks. Reposition/relocate equipment racks and update power and HVAC systems. Renovate women's restroom and IT breakroom	Const	1,500	150	--	1,500	--	--	--	--
15. STORM WATER MANAGEMENT PLAN IMPROVEMENTS AT BERETANIA COMPLEX AND HEEIA CORPORATION YARD									
Prepare plans and specifications	P&E	0	200	--	--	--	--	--	--
Install improvements to eliminate pollutant runoff from the Beretania Complex and Heeia Corporation Yard	Const	1,000	0	--	1,000	--	--	--	--
16. BERETANIA PUBLIC SERVICE BUILDING 4TH FLOOR RENOVATION									
Prepare plans and specifications	P&E	0	216	--	--	--	--	--	--
Renovate the 4th floor to create multipurpose rooms	Const	1,000	0	--	1,000	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026
17. PILIUKA PRV REPLACEMENT									
Prepare plans and specifications	P&E	0	200	--	--	--	--	--	--
Replace and relocate PRVs, along Waianae Valley Road near FH L06812, to above ground within new building. Restore power, communications and supervisory controls	Const	600	0	--	600	--	--	--	--
18. HONOLIULI WATER RECYCLING FACILITY REROOFING									
Reroofing of the Honouliuli Water Recycling Facility Buildings	Const	260	0	--	260	--	--	--	--
19. WAIMANALO TUNNEL I AND II AND WAIANAE PLANTATION TUNNEL III RENOVATION									
Investigate and assess tunnel conditions and prepare plans and specifications for improvements needed to reactivate tunnels	P&E	0	300	--	--	--	--	--	--
Prepare plans and specifications to install improvements to stabilize entrance to tunnels	P&E	350	0	--	350	--	--	--	--
Construct improvements to stabilize entrance for preparation of the Preliminary Engineering Study (PES) that include, but is not limited to, mobilization, BMP, drainage improvements, tunnel hatch installation, and portal stabilization at Waimanalo Tunnels I & II and Waianae Tunnel III	Const	2,400	0	--	--	--	--	2,400	--
Prepare PES and plans and specifications for Waimanalo Tunnels I & II and Waianae Tunnel III improvements	P&E	0	0	--	--	--	--	--	--
Waimanalo Tunnels I & II: Install required tunnel	Const	0	0	--	--	--	--	--	--
Waianae Tunnel III: Install required tunnel improvements	Const	0	0	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
20. PIPELINE TUNNEL INSPECTION										
Inspect pipeline tunnels to determine if rehabilitation is required	P&E	200	0	--	200	--	--	--	--	
21. SEISMIC UPGRADE OF VARIOUS RESERVOIRS										
Prepare plans and specifications	P&E	1,000	0	--	--	--	--	500	500	
Install improvements at various BWS reservoir sites	Const	0	0	--	--	--	--	--	--	
22. HAIKU CHLORINATOR AND HAIKU WELL FENCING, DRAINAGE AND PAVEMENT IMPROVEMENTS										
Prepare plans and specifications	P&E	1,225	0	--	--	1,225	--	--	--	
Install various improvements at the Haiku Well and Chlorinator	Const	2,715	0	--	--	--	--	2,715	--	
23. PUMP STATION ASSESSMENT AND OPERATIONS/REPAIRS										
Update pump station condition assessments and operations database	P&E	600	0	--	--	300	300	--	--	

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
24. NUUANU RESERVOIR NO. 1 DAM IMPROVEMENTS										
Prepare Preliminary Engineering Study for proposed improvements to Nuuanu Reservoir No. 1 Dam (TMK 1-9-001:001)	P&E	0	500	--	--	--	--	--	--	--
Perform geotechnical exploration and analysis, prepare plans and specifications for proposed improvements to Nuuanu Reservoir No. 1 Dam; and acquire necessary permits	P&E	0	1,000	--	--	--	--	--	--	--
Rehabilitate dam, spillway and outlet works; install remote water level monitoring equipment	Const	3,000	0	--	--	3,000	--	--	--	--
25. PALOLO TUNNEL PORTAL AND ACCESS PATH IMPROVEMENTS										
Prepare plans and specifications	P&E	0	100	--	--	--	--	--	--	--
Install Palolo Tunnel portal improvements, stabilize portal entrance, extend inlet piping 60 feet, install pipe supports and concrete dam, clean lower 6,000 feet of the pipeline to the chlorinator and install temporary booster pump. Repair eroded sections of the access path	Const	2,000	0	--	--	2,000	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026
26. KALAMA VALLEY PRESSURE REDUCING VALVES									
PRV Feasibility and Site Study to reduce high pressures in the Kamehame 500 system in Kamiloiki and Kalama Valleys	P&E	0	150	--	--	--	--	--	--
Prepare plans and specs for pressure-reducing valve assembly and associated water system improvements in Kalama Valley to reduce high water pressures	P&E	0	910	--	--	--	--	--	--
Install two PRVs on the existing 12-inch main along Hawaii Kai Drive, West of Kalama Valley. PRVs installed in an above ground structure along with communications and supervisory controls	Const	1,000	0	--	--	1,000	--	--	--
27. OFFICE AND BASE YARD MASTER PLAN									
Evaluate existing and future needs for offices and base yards. Create a Master Plan for long-term expansion, modification or repair	P&E	1,000	0	--	--	1,000	--	--	--
28. NUUANU RESERVOIR NO. 2 AND 3 - ASSESSMENT OF DAMS' SAFETY									
Prepare a study to evaluate the overall integrity of the dam, and identify any safety improvements needed. The evaluation will include: Performing a Topographic Site Survey; Performing a Hydrologic and Hydraulic Analysis, Performing a Dam Breach Analysis and Prepare an Emergency Action Plan	P&E	250	0	--	--	250	--	--	--
29. NUUANU RESERVOIR NO. 4 DAM IMPROVEMENTS PHASE II									
Improvements based on the geotechnical exploration and slope stability evaluation	Const	2,000	0	--	--	--	2,000	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
30. RESERVOIR CONDITION ASSESSMENT UPDATE - 2024									
Update reservoir condition assessment and database	P&E	925	0	--	--	--	925	--	--
31. OFFICE AND BASE YARD REHABILITATION									
Prepare plans and specifications	P&E	510	0	--	--	--	--	--	510
Complete high priority repairs to offices and base yard facilities	Const	0	0	--	--	--	--	--	--
32. BERETANIA MODERNIZATION - INTERIOR RENOVATION OF ENGINEERING BUILDING									
Prepare plans and specifications for improvements to accommodate additional personnel and upgrade the existing building to meet current building codes	P&E	1,100	0	--	--	--	--	--	1,100
<hr/>									
R&R FACILITIES P&E SUBTOTAL	P&E	21,510	15,681	2,800	2,650	4,925	3,525	2,950	4,660
R&R FACILITIES Land SUBTOTAL	Land	0	0	0	0	0	0	0	0
R&R FACILITIES Const SUBTOTAL	Const	95,775	40,718	22,400	12,260	13,500	16,000	16,615	15,000
<hr/>									
R&R FACILITIES SUBTOTAL		117,285	56,399	25,200	14,910	18,425	19,525	19,565	19,660
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P&E R&R TOTAL	P&E	111,290	60,272	11,300	19,265	20,585	27,015	18,795	14,330
Land R&R TOTAL	Land	0	0	0	0	0	0	0	0
Const R&R TOTAL	Const	589,245	73,514	92,250	102,210	86,920	93,230	113,665	100,970
<hr/>									
FY 2021-2026 RENEWAL AND REPLACEMENT (R&R) TOTAL		700,535	133,786	103,550	121,475	107,505	120,245	132,460	115,300

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CATEGORY III

CAPACITY EXPANSION

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BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
III. CAPACITY EXPANSION (CapExp)									
A. PUMPS - CapExp									
1. PACIFIC HEIGHTS BOOSTER NO. 1									
Services to obtain land acquisition for new Pacific Heights Booster No. 1 to eliminate cross-country water main between Jack Lane and the Pacific Heights 578 Reservoir	Land	600	100	100	100	100	100	100	100
Prepare a Feasibility Study and Environmental Assessment	P&E	0	0	--	--	--	--	--	--
Prepare plans and specifications	P&E	0	0	--	--	--	--	--	--
Install new Pacific Heights Booster No. 1	Const	0	0	--	--	--	--	--	--
2. EWA SHAFT TUNNEL IMPROVEMENTS									
Prepare plans and specifications	P&E	0	3,000	--	--	--	--	--	--
Install bulkhead and grout curtains and relocate pumps along the tunnel	Const	40,000	0	--	--	20,000	20,000	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026	
						2023	2024			
3. KUNIA WELLS IV										
Prepare environmental assessment and Public Infrastructure Map (PIM) Amendment for three (3) production wells and GAC treatment facility for Kunia Wells IV	P&E	300	0	--	--	300	--	--	--	
Land acquisition for new pump facility, GAC treatment facility, and appurtenances	Land	0	0	--	--	--	--	--	--	
Prepare plans and specifications	P&E	0	0	--	--	--	--	--	--	
Install three (3) 1.5 MGD pumps, eight (8) 30,000-lb GAC vessels, control building, pipeline, landscaping, irrigation system, acoustical facilities, electrical equipment, and appurtenances (TMK: 9-2-001:014)	Const	0	0	--	--	--	--	--	--	
4. WAILELE WELL										
Prepare Environmental Assessment for Production Facility	P&E	0	354	--	--	100	--	--	--	
Prepare plans and specifications and engineering report	P&E	0	--	--	--	--	--	--	--	
Land	Land	0	--	--	--	--	--	--	--	
Install one 1.0 mgd pump, control building, piping, access road, landscaping, irrigation system, transmission main, electrical equipment, and appurtenances. (TMK: 5-5-007:001)	Const	0	--	--	--	--	--	--	--	

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY) (\$ 000)					
				2021	2022	2023	2024	2025	2026
5. MAAKUA WELL UNIT NO. 2									
Prepare plans and specifications and engineering report	P&E	0	550	--	--	--	--	--	--
Install new pump no. 2 in existing well including piping, valves, instrumentation, MCC, mute building, and retaining wall.(TMK: 5-4-005:001)	Const	3,500	0	--	--	--	3,500	--	--
6. MANOA WELL II UNIT NO. 2									
Prepare plans and specifications and engineering report	P&E	500	0	--	--	--	500	--	--
Install one (1) 1.0 MGD pump, connections, at existing Manoa Well II Station (TMK: 2-9-054:033)	Const	0	0	--	--	--	--	--	--
CapExp PUMPS P&E SUBTOTAL	P&E	900	3,550	0	0	400	500	0	0
CapExp PUMPS Land SUBTOTAL	Land	600	100	100	100	100	100	100	100
CapExp PUMPS Const SUBTOTAL	Const	43,500	0	0	0	20,000	23,500	0	0
CapExp PUMPS SUBTOTAL		45,000	3,650	100	100	20,500	24,100	100	100

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
<u>B. RESERVOIRS - CapExp</u>									
1. KALAWAHINE 180 2.0 MG RESERVOIR									
Prepare plans and specifications	P&E	0	612	--	--	--	--	--	--
Install 2.0 MG Type prestressed concrete reservoir (Spillway elevation = 180'), deep foundations, retaining walls, reservoir piping and all appurtenances	Const	18,200	0	18,200	--	--	--	--	--
Install 24-inch main, including appurtenances and pipe corrosion protection from Anianiku Street to Kinau Street - approx. 4,913 lin. Ft.	Const	18,200	0	18,200	--	--	--	--	--
2. EAST KAPOLEI 215 R-1 3.0 MG RESERVOIR									
Prepare Conceptual Facilities Site Plan, Environmental Assessment and Public Infrastructure Map (PIM) Amendment	P&E	0	325	--	--	--	--	--	--
Prepare plans and specifications	P&E	800	0	800	--	--	--	--	--
Install 3.0 MG R-1 reservoir, landscaping, irrigation system and appurtenances (TMK: 9-1-018:008). Install 16-inch transmission main from future East Kapolei 215 R-1 reservoir to the end of the access road - approx. 2,300 lin. ft.	Const	12,100	0	--	--	--	12,100	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
3. AINA HAINA 170 0.5 MG RESERVOIR NO. 2									
Prepare Preliminary Engineering Study for second 0.5 MG reservoir, including land requirements at existing Aina Haina 170 reservoir site	P&E	0	100	--	--	--	--	--	--
Prepare Environmental Assessment	P&E	0	150	--	--	--	--	--	--
Prepare plans and specifications	P&E	0	500	--	--	--	--	--	--
Install 0.5 MG reservoir and appurtenances at existing Aina Haina 170 Reservoir site (TMK: 3-6-016:040)	Const	3,300	0	--	--	--	3,300	--	--
4. WAIAWA 228 RESERVOIR ENVIRONMENTAL ASSESSMENT									
Prepare an environmental assessment and PIM for a site with 3 reservoirs (8.5 MG total capacity: 4 MG, 2.5 MG & 2 MG) and approximately 3,700 lf of influent and an effluent main connection to the 180' system	P&E	0	400	--	--	--	--	--	--
Phase I - Install 4.0 MG reservoir and appurtenances, approximately 3,700 lf of influent and effluent main, approximately 3,500 lf of paved access road, and connect to existing 42" transmission line	P&E	3,500	0	--	--	--	3,500	--	--
	Const	0	0	--	--	--	--	--	--
Phase II - Install 2.5 MG and 2.0 MG reservoirs and appurtenances	P&E	830	0	--	--	--	--	--	830
	Const	0	0	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
5. KUWALE 242 RESERVOIR									
Prepare Environmental Impact Statement (EIS) and obtain Conservation District Use Permit (CDUP) and Public Infrastructure Map (PIM) Amendment	P&E	0	325	--	--	--	--	--	--
Prepare plans and specifications & CDUP approval	P&E	3,820	0	--	--	--	--	3,820	--
Install 4.0 MG reservoir and appurtenances at Kuwale Road near Waianae 242' Reservoir. Install 24-inch transmission main along Paheehee Road from Luualualei Homestead Road to Kuwale Road	Const	0	0	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000) 2023 2024		2025	2026
6. NUUANU 950' 0.06 MG RESERVOIR, NUUANU BOOSTER NO. 4 AND NEW REDUCED 822 SYTEM 12-INCH EFFLUENT MAIN									
Prepare Environmental Assesment, CDUP and PIM	P&E	0	350	--	--	--	--	--	--
Prepare plans and specifications	P&E	375	0	--	--	--	--	--	375
Install 950' reservoir, connecting influent/effluent pipelines, landscaping and appurtenances. (TMK 1-9-001:001). Install new Booster Station No. 4: three (3) 425 GPM pumps, control building, piping, landscaping, irrigation system, acoustical facilities, electrical equipment, and appurtenances near the replacement 822' reservoir (TMK: 1-9-001:001). Connect suction to stubout from replacement 822' reservoir. Discharge piping to existing 12-inch main previously serving entire 822' system and new 8-inch influent/effluent piping to approximately 3 new firehydrants along Nuuanu Pali Drive to the new 950' reservoir. Install 12-inch main along Nuuanu Pali Drive from the Nuuanu 950 reservoir to the private Midkiff subdivision road, along Nuuanu Pali Drive from private Midkiff subdivision road to Nuuanu Booster No. 4 and Nuuanu 822 replacement reservoir - approx. 1,500 lin. ft. Close isolation valve VLVISO47561 and install 12-inch interconnection between 12-inch main and 15-inch transmission main	Const	0	0	--	--	--	--	--	--
CapExp RESERVOIRS P&E SUBTOTAL	P&E	9,325	2,762	800	0	0	3,500	3,820	1,205
CapExp RESERVOIRS Land SUBTOTAL	Land	0	0	0	0	0	0	0	0
CapExp RESERVOIRS Const SUBTOTAL	Const	51,800	0	36,400	0	0	15,400	0	0
CapExp RESERVOIRS SUBTOTAL		61,125	2,762	37,200	0	0	18,900	3,820	1,205

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
C. PIPELINES - CapExp										
1. SALT LAKE BOULEVARD 36-INCH MAIN - FOSTER VILLAGE TO ALIAMANU										
Prepare Environmental Assessment and plans and specifications	P&E	0	0	--	--	--	--	--	--	--
Re-design	P&E	0	340	--	--	--	--	--	--	--
Install 36-inch main and appurtenances along Salt Lake Boulevard, from 525 feet south of Maluna Street to Ala Lilikoi Street - approx. 4,275 lin. ft.	Const	6,700	0	6,700	--	--	--	--	--	--
2. SAND ISLAND ACCESS ROAD 20-INCH MAINS ALONG BASCULE BRIDGE										
Install two 20-inch mains and appurtenances along the Sand Island Access Road Bascule bridge - approx. 3,000 lin. ft.	Const	4,000	0	4,000	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026
3. KALAKAUA AVENUE 16-INCH - BERETANIA STREET TO ALA WAI CANAL									
Prepare Environmental Assessment and Feasibility Study to determine the appropriate installation method(s) for the installation of 16-inch mains and appurtenances along Kalakaua Avenue from Beretania Street to Kapiolani Boulevard, from Ala Wai Bridge to Kaiulani Avenue, and from Monsarrat Avenue to Dillingham fountain - approx. 11,960 lin. ft.; and the installation of 12-inch main and appurtenances along Saratoga Road from Kalakaua Avenue to Kalia Road - approx. 1,200 lin. ft.	P&E	0	819	--	--	--	--	--	--
Prepare plans and specifications (Phase III)	P&E	750	0	750	--	--	--	--	--
Prepare plans and specifications (Phase II & IV)	P&E	890	0	--	--	--	890	--	--
Phase III: Install 20-inch main and appurtenances along Ala Wai Boulevard, at the intersection of McCully Street - approx. 215 lin. ft. Install 16-inch main and appurtenances along Kalakaua Avenue, from Beretania Street to Ala Wai Promenade; and along Ala Wai Promenade, from Kalakaua Avenue to McCully Street - approx. 4,800 lin. ft.	Const	0	0	--	--	--	--	--	--
Phase II: Install 12-inch main and appurtenances along Kalakaua Avenue from Monsarrat Avenue to Dillingham fountain - approx. 3,500 lin. ft. Phase IV: Install 16-inch main and appurtenances along Kalakaua Avenue from Ala Wai Bridge to Kaiulani Avenue - approx. 5,260 lin. ft. Install 12-inch main along entire length of Saratoga Road - approx. 1,200 lin. ft.	Const	0	0	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
4. NIMITZ HIGHWAY 16-INCH MAIN, WAIAKAMILO ROAD TO SUMNER STREET										
Prepare plans and specifications	P&E	1,400	0	1,400	--	--	--	--	--	--
Install 16-inch mains appurtenances along Nimitz Highway, from Waiakamilo Road to Sumner Street; and along Waiakamilo Road, from Nimitz Highway to Hart Street - approx. 5,955 lin. ft. Install 12-inch mains appurtenances along Hart Street, from Waiakamilo Road to end; along the Pier 31 access road, from N. Nimitz Highway to end; along the pier access road near FH no. M02371, from N. Nimitz Highway to end, along the pier access road near Alakawa Street, from N. Nimitz Highway to end and along Pier 38 Access Road, from N. Nimitz Highway to end - approx. 2,600 lin. ft.	Const	7,500	0	--	--	--	--	--	--	7,500
5. HONOULIULI WWTP EXPANSION 16-INCH MAIN										
Install 16-inch mains and appurtenances along Roosevelt Avenue from Renton Road to Geiger Road and Kamakana Street - approx. 4,500 lin. ft.	Const	4,300	0	--	4,300	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000) 2023 2024		2025	2026	
6. HONOLULU DISTRICT 42-INCH MAINS - LILIIHA TO MOILILI										
Prepare Route Feasibility Study	P&E	0	0	--	--	--	--	--	--	--
Prepare Environmental Assessment for selected transmission main routes and booster station site	P&E	0	0	--	--	--	--	--	--	--
Prepare Feasibility Study to determine the appropriate installation method(s) for Phase I and Phase II	P&E	0	400	--	--	--	--	--	--	--
Phase I - Install 42-inch main along Beretania Street from Liliha Street to Richard Street, along Richard Street from Beretania Street to King Street, along King Street to Victoria Street, and along Victoria Street to Kinau Street 42-inch main - approx. 11,000 lin. ft.	P&E	2,155	0	--	--	2,155	--	--	--	--
	Const	35,000	0	--	--	--	--	--	--	35,000
Phase II - Install 42-inch main along King Street from Victoria Street to Isenberg Street - approx. 9,000 lin. ft.	P&E	1,800	0	--	--	--	1,800	--	--	--
	Const	0	0	--	--	--	--	--	--	--
7. ALA MOANA BOULEVARD: 24-INCH MAIN, WARD AVENUE TO ATKINSON DRIVE										
Prepare Environmental Assessment	P&E	0	353	--	--	--	--	--	--	--
Prepare plans and specifications	P&E	1,000	0	--	--	--	1,000	--	--	--
Install 24-inch mains and appurtenances along Ala Moana Boulevard from Atkinson Drive to Ward Ave - approx. 5,870 lin. ft. Install 16-inch mains and appurtenances along Piikoi Street from Ala Moana Boulevard to Kapiolani Boulevard; and along Piikoi Street from King Street to Kinau Street - approx. 2,520 lin. ft.	Const	0	0	--	--	--	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023	2024	2025	2026	
8. ALA MOANA BOULEVARD: 24-INCH MAIN, ALA WAI CANAL CROSSING										
Prepare plans & specifications	P&E	300	0	--	--	--	300	--	--	
Install 24-inch mains from the Ala Wai Canal to Atkinson Drive - approx. 1,000 lin. ft.	Const	0	0	--	--	--	--	--	--	
9. KUALAKAI PARKWAY 16-INCH RECYCLED WATER MAIN										
Prepare plans and specifications	P&E	0	860	--	--	--	--	--	--	
Install 16-inch transmission main from future East Kapolei 215 recycled water reservoir stub located at the end of the reservoir access road on Farrington Highway (TMK9-1-018:008) to Mango Tree Road - approx. 10,750 lin. ft.	Const	7,500	0	--	--	--	7,500	--	--	
10. ALA MOANA BOULEVARD: 24-INCH MAIN, RICHARDS STREET TO KEAWE STREET										
Prepare plans & specifications	P&E	1,000	0	--	--	--	1,000	--	--	
Install 24-inch mains and appurtenances along Ala Moana Boulevard from Keawe Street to Aloha Tower Drive; and along Aloha Tower Drive from Ala Moana Boulevard to Richard Street - approx. 2,540 lin. ft. Install 12-inch mains and appurtenances along along Keawe Street from Ala Moana Boulevard to end - approx. 470 lin. ft.	Const	0	0	--	--	--	--	--	--	

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
11. ALA MOANA BOULEVARD 24-INCH MAIN, ALA WAI CANAL TO KALAKAUA AVENUE									
Prepare plans & specifications	P&E	0	1,000	--	--	--	--	--	--
Install 24-inch mains and appurtenances along Ala Moana Boulevard, from Ala Wai Canal to Kalakaua Avenue - approx. 3,300 lin. ft. Install 12-inch mains and appurtenances along Ena Road, from Kalakaua Avenue to Ala Moana Boulevard; and along Kalua Road, from Ala Moana Boulevard to Paoa Place - approx. 1,770 lin. ft. Install 8-inch mains and appurtenances along Hobron Lane, from Ala Moana Boulevard to Ena Road; along Lipeepe Street, from Ala Wai Boulevard to Hobron Lane; and along Kaloo Drive, from Hobron Lane to Hobron Lane - approx. 3,165 lin. ft.	Const	9,435	0	--	--	--	--	9,435	--
12. MELEMANU 808 TO WAIPIO 808 CONNECTION									
Prepare plans and specifications	P&E	1,210	0	--	--	--	--	1,210	--
Install 12-inch main and appurtenances - approx. 6,020 lin. ft.	Const	0	0	--	--	--	--	--	--
13. GLEN AVENUE WATER SYSTEM IMPROVEMENTS									
Prepare plans and specifications	P&E	210	0	--	--	--	--	210	--
Install new 12-inch along Glen Avenue - approx. 900 lin. ft. Abandon cross-country 6-inch mains	Const	0	0	--	--	--	--	--	--
CapExp PIPELINES P&E SUBTOTAL	P&E	10,715	4,000	2,150	0	2,155	4,990	1,420	0
CapExp PIPELINES Land SUBTOTAL	Land	0	0	0	0	0	0	0	0
CapExp PIPELINES Const SUBTOTAL	Const	74,435	0	10,700	4,300	0	7,500	9,435	42,500
CapExp PIPELINES SUBTOTAL		85,150	4,000	12,850	4,300	2,155	12,490	10,855	42,500

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	2023		2024	2025	2026
<u>D. TREATMENT - CapExp</u>										
1. MILILANI WELLS II GAC INSTALLATION										
Prepare plans and specifications	P&E	800	0	--	800	--	--	--	--	--
Install two (2) new GAC vessels, backwash tank system, including pump and filter setup, chlorinator infrastructure and piping	Const	8,000	0	--	--	--	--	8,000	--	--
2. GAC TREATMENT FOR WAIPIO HEIGHTS WELLS AND WAIPIO HEIGHTS WELLS I										
Prepare plans and specifications	P&E	0	0	--	--	--	--	--	--	--
Part A - Install 16-inch mains and appurtenances along Lumihoahu Street from Waipio Heights Wells and Wells I to Lumiaina Street, along Lumiaina Street from Lumihoahu Street to Kamehameha Highway, along Kamehameha Highway from Lumiaina Street to Waipahu Wells III GAC Treatment Facility - approx. 3,800 lin. ft.	Const	6,170	0	--	--	--	--	6,170	--	--
CapExp TREATMENT P&E SUBTOTAL	P&E	800	0	0	800	0	0	0	0	0
CapExp TREATMENT Land SUBTOTAL	Land	0	0	0	0	0	0	0	0	0
CapExp TREATMENT Const SUBTOTAL	Const	14,170	0	0	0	0	0	14,170	0	0
CapExp TREATMENT SUBTOTAL		14,970	0	0	800	0	0	14,170	0	0

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)						
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000) 2023 2024		2025	2026	
<u>E. FACILITIES - CapExp</u>										
1. MANANA CORPORATION YARD - MICROBIOLOGY LABORATORY AND CONTROL CENTER EXPANSION										
This project provides a secondary laboratory testing facility to enable BWS to prepare, respond, mitigate and manage its water resources and operations by expanding its laboratory testing capabilities to ensure the drinking water meets all federal and state regulations and the water is safe to drink. In addition, the provision of a back-up operations control center will enable BWS to safely control and operate its facilities in the event that the main control center is inoperable	Const	3,000	0	3,000	--	--	--	--	--	--
2. KALAELOA SEA WATER DESALINATION FACILITY										
Post-Treatment and Renewable Energy Study to address potential water quality changes in the distribution system and evaluate renewable energy for the facility (TMK: 9-1-031:028)	P&E	0	300	--	--	--	--	--	--	--
Provide project management services to monitor DBOM progress, plans review and RFI response	P&E	1,000	0	--	1,000	--	--	--	--	--
Design-Build-Operate-Maintain (DBOM) contract for a 1.7 MGD desalination facility with limited oversizing for future expansion. Install 16-inch transmission main along the project boundary from desalination facility to Olai Street, along Olai Street from end to Kalaeloa Boulevard, along Kalaeloa Boulevard from Olai Street to the existing 16-inch main near the Northern end of TMK 9-1-031:022- approx. 4,800 lin. ft.	Const	35,000	3,516	--	17,000	18,000	--	--	--	--

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26)	PRIOR	Fiscal Year (FY)					
		TOTAL (\$ 000)	APPNS (\$ 000)	2021	2022	(\$ 000)		2025	2026
						2023	2024		
3. AIEA 497 REZONE									
Prepare plans and specifications	P&E	70	0	--	--	70	--	--	--
Rezone Aiea 497 and Pearl Harbor area near Aiea 277 Res. and Aiea Well and Booster No. 1. off of Aiea Heights Dr. Streets include (but not limited to): Uhaloa St., Hono Hono St., Aheaha St., Polokoa St., Hakina St., Kanaloa St., Hapuku St., Kaulainahoe Pl. etc.	Const	460	0	--	--	--	--	460	--
4. BERETANIA OFFICE BUILDING AND PARKING STRUCTURE									
Construct new Beretania office building and parking structure on the eastside employee parking lot	P&E	1,400	0	--	--	--	--	1,400	--
	Const	0	0	--	--	--	--	--	--
CapExp FACILITIES P&E SUBTOTAL	P&E	2,470	300	0	1,000	70	0	1,400	0
CapExp FACILITIES Land SUBTOTAL	Land	0	0	0	0	0	0	0	0
CapExp FACILITIES Const SUBTOTAL	Const	38,460	3,516	3,000	17,000	18,000	0	460	0
CapExp FACILITIES SUBTOTAL		40,930	3,816	3,000	18,000	18,070	0	1,860	0
P&E CAPACITY EXPANSION TOTAL	P&E	24,210	10,612	2,950	1,800	2,625	8,990	6,640	1,205
Land CAPACITY EXPANSION TOTAL	Land	600	100	100	100	100	100	100	100
Const CAPACITY EXPANSION TOTAL	Const	222,365	3,516	50,100	21,300	38,000	46,400	24,065	42,500
FY 2021-2026 CAPACITY EXPANSION (CapExp) TOTAL		247,175	14,228	53,150	23,200	40,725	55,490	30,805	43,805

BOARD OF WATER SUPPLY CAPITAL IMPROVEMENT PROGRAM (FY 2021 - 2026)

PROJECT	EXPEND TYPE	(FY21-26) TOTAL (\$ 000)	PRIOR APPNS (\$ 000)	Fiscal Year (FY)					
				2021	2022	2023	2024	2025	2026
FY 2021-2026 RESEARCH AND DEVELOPMENT (R&D) TOTAL		35,425	14,675	2,660	6,900	5,100	4,100	5,850	10,815
FY 2021-2026 RENEWAL AND REPLACEMENT (R&R) TOTAL		700,535	133,786	103,550	121,475	107,505	120,245	132,460	115,300
FY 2021-2026 CAPACITY EXPANSION (CapExp) TOTAL		247,175	14,228	53,150	23,200	40,725	55,490	30,805	43,805
FY 2021-2026 SUBTOTAL (by Category)		983,135	162,689	159,360	151,575	153,330	179,835	169,115	169,920
P&E TOTAL	P&E	161,025	85,559	16,910	23,465	26,960	39,455	28,535	25,700
Land TOTAL	Land	600	100	100	100	100	100	100	100
Const TOTAL	Const	821,510	77,030	142,350	128,010	126,270	140,280	140,480	144,120
FY 2021-2026 SUBTOTAL (by Expend Type)		983,135	162,689	159,360	151,575	153,330	179,835	169,115	169,920
Construction Cost Index Adjustment		82,151	52,520	14,235	12,801	12,627	14,028	14,048	14,412
Contract Adjustment Account		76,900	105,059	17,300	15,600	11,000	11,000	11,000	11,000
Contract & Construction Cost Index Adjustment SUBTOTAL		159,051	157,579	31,535	28,401	23,627	25,028	25,048	25,412
FY 2021-2026 TOTALS (with Adjustments)		1,142,186	320,268	190,895	179,976	176,957	204,863	194,163	195,332

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ITEM FOR INFORMATION NO. 1

“September 27, 2021

UPDATE ON THE
BOARD OF
WATER SUPPLY
BOARD
MEETING
PROTOCOLS
UNDER ELEVATED
COVID-19
CONDITIONS

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 Board Meeting
Protocols Under Elevated COVID-19 Conditions

Respectfully submitted,

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

DISCUSSION: Chair Bryan Andaya and Manager Ernest Lau gave the report.

Chair Andaya stated that the update on the BWS meeting protocols under elevated COVID-19 conditions is a continuation of the discussion from the August meeting. He explained that due to the absence of some of the Board Members, he wanted to allow all Board Members to voice their opinions on the current Board meeting arrangements. He shared that in the previous meeting some Board Members expressed that they enjoyed the flexibility of being able to join Board meetings remotely.

Chair Andaya stated that the Board should be comfortable with the meeting arrangement and asked Board Members that did not get the opportunity to give feedback to please provide their input.

Chair Andaya thanked Manager Lau for arranging a Board meeting policy to accommodate more Board Members asked that Manager Lau update the Board with the current Board meeting policy.

Manager Lau explained under the current circumstance with COVID-19, the BWS has limited the Board room capacity to five people in person.

Manager Lau shared that 90% of BWS employees are fully vaccinated. He commends everyone willingness to help maintain a safe and healthy workplace.

Manager Lau shared in January 2022 some changes will be taking place. By January 2022 agencies will be required to provide a venue for Board meeting public participation, therefore, the BWS is in discussion with corporation counsel to comply with this change. The venue will allow the public the opportunity to participate in person. The BWS is also looking into ways to better support Board Members that prefer to join remotely. He asked for any suggestions that the Board Members had that would improve their experience. He mentioned that virtual meetings may continue to be an option after the Governor's emergency proclamation ends. He

expressed his appreciation to the Board members for their participation at the Board meetings.

Chair Andaya congratulated the BWS for reaching 90% of fully vaccinated employees.

Board Member Anthony also applauded the BWS for reaching 90% of fully vaccinated employees. He also praised the BWS for all the effort that the BWS has done to allow Board meetings to be accessible to Board Members and the public. He stated that the available technology has helped everyone to stay together and engaged. He expressed his appreciation for Manager Lau's leadership and looks forward to the changes that would enhance everyone's experience.

Manager Lau commented that the Board and the BWS have a good partnership.

Chair Andaya asked if there were any further questions or comments. Hearing none, Chair Andaya thanked everyone and stated he looked forward to the continued progress. Chair Andaya conveyed that he was proud of the Board's transparency and ensuring that everyone involved is comfortable with the evolving situation.

ITEM FOR INFORMATION NO. 2

“September 27, 2021

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

There were three aquifer index stations in low groundwater condition for the production month of August 2021. Waialua is in Caution Status. Kaimuki and Punaluu are in Alert Status. The monthly production average for August 2021 was 150.48 million gallons per day.

The Board of Water Supply rainfall index for the month of August 2021 was 98 percent of normal, with a 5-month moving average of 66 percent. As of August 31, 2021, the Hawaii Drought Monitor showed a gradation from abnormally dry conditions along the leeward slopes of the Ko`olau Range to severe drought conditions along the leeward coast from Pearl Harbor to Mākaha. The National Weather Service is forecasting below-normal precipitation through November, due to current ENSO-neutral conditions, with increasing probability of La Niña conditions and above-normal rainfall by winter.

Most monitoring wells exhibited stable to slightly decreasing head levels for the month, likely due to increased pumping during the summer dry season combined with relatively higher rainfall compared to recent months. Average monthly Production for August 2021 was slightly higher than the previous year and slightly lower than the 5-year
Submitted, Respectfully

/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 AUGUST 2021**

POTABLE

STATION	MGD
HONOLULU (1)	
KULIOUOU	0.05
WAILUPE	0.15
AINA KOA	0.03
AINA KOA II	0.76
MANOA II	0.85
PALOLO	1.08
KAIMUKI HIGH	2.09
KAIMUKI LOW	3.68
WILDER	8.65
BERETANIA HIGH	4.38
BERETANIA LOW	2.00
KALIHI HIGH	0.00
KALIHI LOW	0.00
KAPALAMA	0.99
KALIHI SHAFT	7.46
MOANALUA	1.32
HALAWA SHAFT	11.12
KAAMILO	0.85
KALAUAO	5.98
PUNANANI	12.30
KAAHUMANU	0.27
HECO WAI AU	2.52
MANANA	0.38
WELLS SUBTOTAL:	66.91
MANOA TUNNEL	0.17
PALOLO TUNNEL	0.00
GRAVITY SUBTOTAL:	0.17
HONO. SUBTOTAL:	67.08

STATION	MGD
WINDWARD (2)	
WAIMANALO II	0.39
WAIMANALO III	0.00
KUOU I	0.99
KUOU II	0.08
KUOU III	0.74
LULUKU	0.88
HAIKU	0.36
IOLEKAA	0.00
KAHALUU	0.66
KAHANA	0.00
PUNALUU I	0.00
PUNALUU II	3.46
PUNALUU III	2.50
KALUANUI	1.31
MAAKUA	0.33
HAUULA	0.26
WELLS SUBTOTAL:	11.95
WAIM. TUNNELS I & II	0.00
WAIM. TUNNELS III&IV	0.19
WAIHEE INCL. WELLS	0.65
WAIHEE TUNNEL	3.56
LULUKU TUNNEL	0.20
HAIKU TUNNEL	0.32
KAHALUU TUNNEL	1.66
GRAVITY SUBTOTAL:	6.58
WIND. SUBTOTAL:	18.53

STATION	MGD
NORTH SHORE (3)	
KAHUKU	0.43
OPANA	0.28
WAIALEE I	0.44
WAIALEE II	0.66
HALEIWA	0.00
WAIALUA	2.56
N.SHORE SUBTOTAL:	4.36

STATION	MGD
MILILANI (4)	
MILILANI I	2.35
MILILANI II	0.00
MILILANI III	0.77
MILILANI IV	2.19
MILILANI SUBTOTAL:	5.31

STATION	MGD
WAIHAWA (5)	
WAIHAWA	1.04
WAIHAWA II	2.32
WAIHAWA SUBTOTAL:	3.36

STATION	MGD
PEARL CITY-HALAWA (6)	
HALAWA 277	0.69
HALAWA 550	0.00
AIEA	1.26
AIEA GULCH 497	0.20
AIEA GULCH 550	0.24
KAONOHI I	1.26
WAIMALU I	0.00
NEWTOWN	1.06
WAI AU	0.76
PEARL CITY I	0.81
PEARL CITY II	1.19
PEARL CITY III	0.23
PEARL CITY SHAFT	0.93
PEARL CITY-HALAWA SUBTOTAL:	8.64

STATION	MGD
WAI PAHU-EWA (7)	
WAIPIO HTS.	1.92
WAIPIO HTS. I	0.00
WAIPIO HTS. II	0.32
WAIPIO HTS. III	1.19
WAI PAHU	5.68
WAI PAHU II	2.29
WAI PAHU III	3.97
WAI PAHU IV	2.99
KUNIA I	4.73
KUNIA II	2.08
KUNIA III	1.50
HOAEAE	7.24
HONOULIULI I	0.00
HONOULIULI II	4.26
MAKAKILO	0.64
WAI PAHU-EWA SUBTOTAL:	38.81

STATION	MGD
WAI ANAE (8)	
MAKAHA I	0.75
MAKAHA II	0.00
MAKAHA III	0.43
MAKAHA V	0.12
MAKAHA VI	0.00
MAKAHA SHAFT	0.00
KAMAILE	0.08
WAI ANAE I	0.18
WAI ANAE II	0.50
WAI ANAE III	0.71
WELLS SUBTOTAL:	2.78
WAI A. C&C TUNNEL	1.40
WAI A. PLANT. TUNNELS	0.21
GRAVITY SUBTOTAL:	1.61
WAI ANAE SUBTOTAL:	4.39

NONPOTABLE

NONPOTABLE	MGD
KALAUAO SPRINGS	0.37
BARBERS POINT WELL	1.33
GLOVER TUNNEL NP	0.29
NONPOTABLE TOTAL:	2.00

RECYCLED WATER (JULY 2021)

RECYCLED WATER	MGD
HONOULIULI WRF R-1	7.79
HONOULIULI WRF RO	1.35
RECYCLED WATER TOTAL:	9.14

**PRODUCTION, HEAD AND RAINFALL REPORT
MONTH OF AUGUST 2021**

PRODUCTION SUMMARIES

TOTAL WATER	MGD
PUMPAGE	142.12
GRAVITY	8.36
POTABLE TOTAL:	150.48
NONPOTABLE	2.00
RECYCLED WATER	9.14
TOTAL WATER:	161.62

CWRM PERMITTED USE AND BWS ASSESSED YIELDS FOR BWS				
POTABLE SOURCES				
WATER USE DISTRICTS		A	B	C
		PERMITTED USE/ BWS YLDS	AUG 2021	DIFF. A-B
1	HONOLULU	82.93	66.91	16.02
2	WINDWARD	25.02	14.32	10.70
3	NORTH SHORE	4.70	4.36	0.34
4	MILILANI	7.53	5.31	2.22
5	WAHIAWA	4.27	3.36	0.91
6	PEARL CITY-HALAWA	12.25	8.64	3.61
7	WAIPAHU-EWA	50.63	38.81	11.82
8	WAIANAEE	4.34	2.78	1.56
TOTAL:		191.67	144.49	47.18

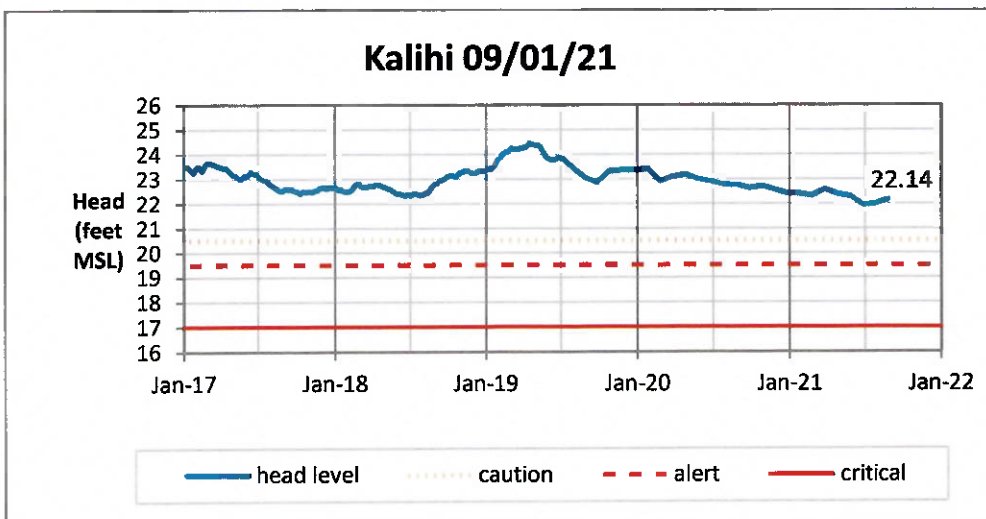
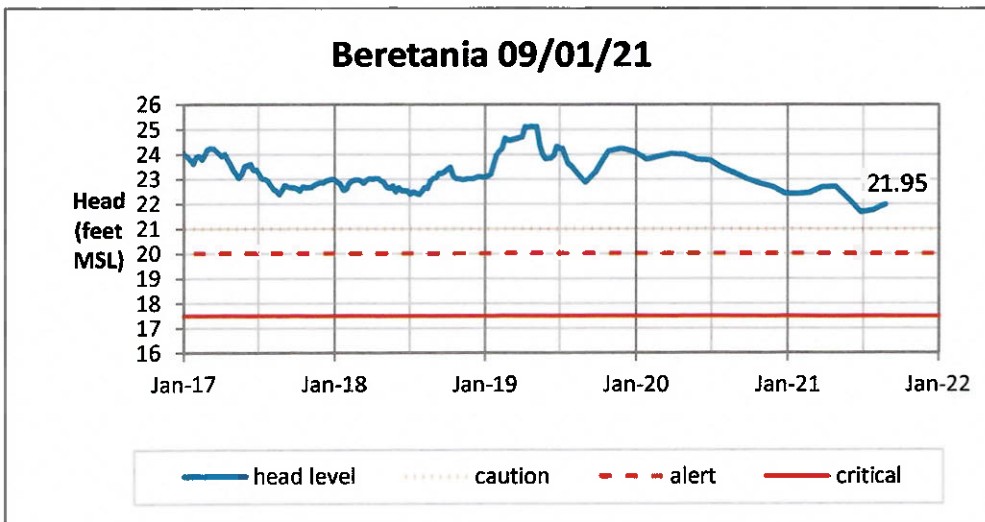
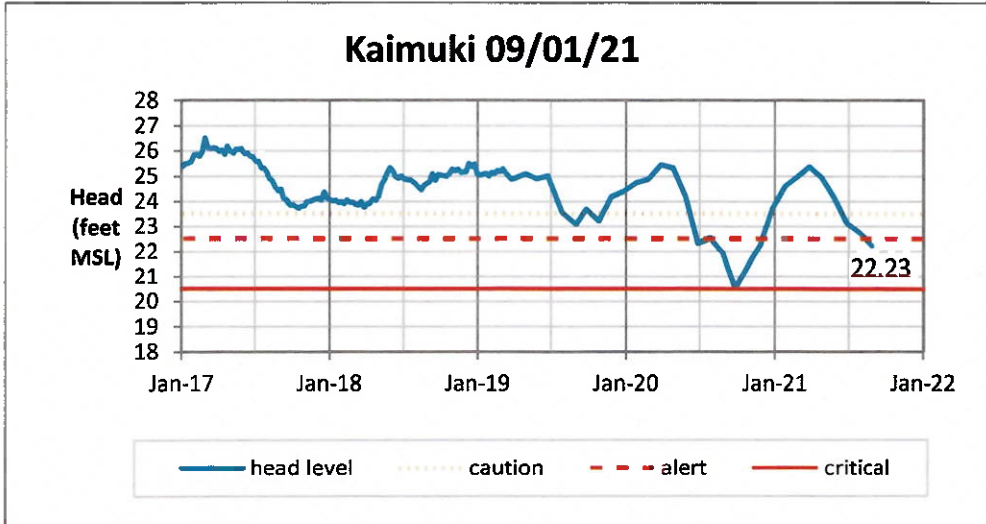
CWRM PERMITTED USE FOR BWS				
NONPOTABLE SOURCES				
WATER USE DISTRICTS		A	B	C
		PERMITTED USE	AUG 2021	DIFF. A-B
7	WAIPAHU-EWA (BARBERS POINT WELL)	1.00	1.33	-0.33
TOTAL:		1.00	1.33	-0.33

EFFECTIVE WATER DEMAND PER DISTRICT

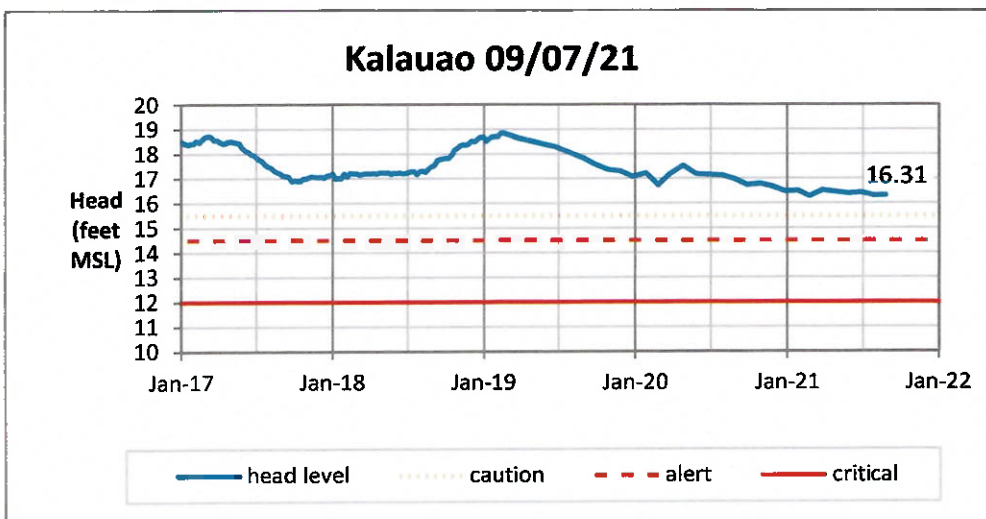
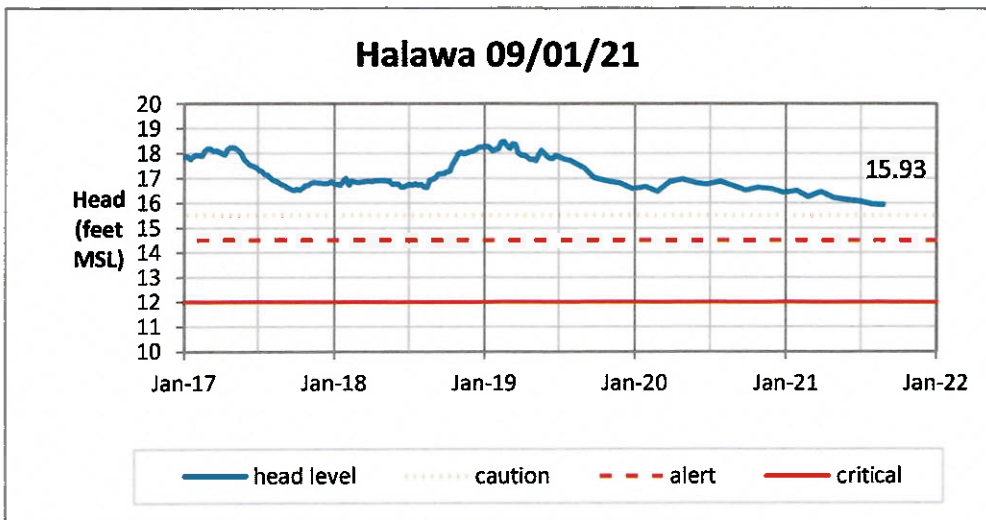
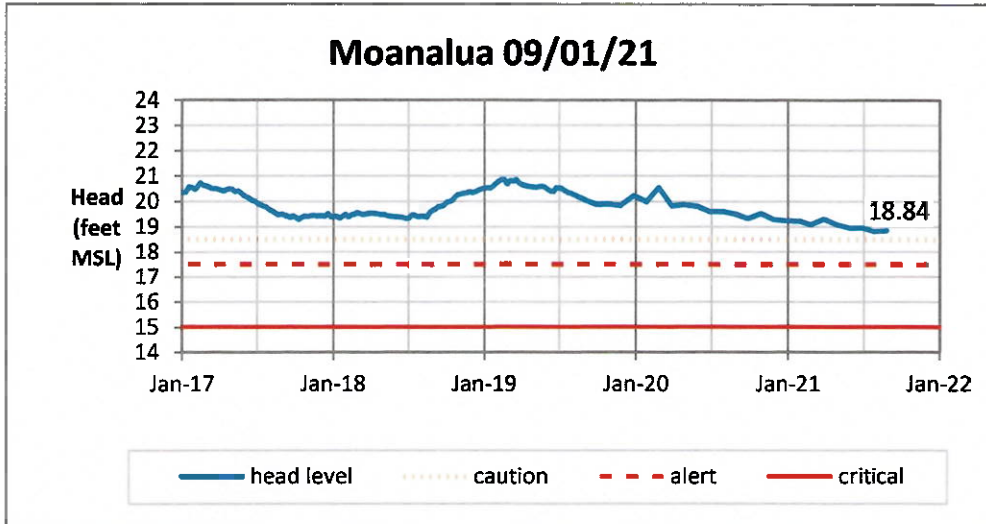
IMPORT/EXPORT BETWEEN WATER USE DISTRICTS			
FROM	TO		MGD
2	1	WINDWARD EXPORT	0.21
7	8	BARBERS PT LB	6.60

WATER USE DISTRICTS		SUBTOTAL	IMPORT	EXPORT	EFFECTIVE WATER DEMAND
1	HONOLULU	66.91	0.21	-	67.12
2	WINDWARD	14.32	-	0.21	14.11
3	NORTH SHORE	4.36	-	-	4.36
4	MILILANI	5.31	-	-	5.31
5	WAHIAWA	3.36	-	-	3.36
6	PEARL CITY-HALAWA	8.64	-	-	8.64
7	WAIPAHU-EWA	38.81	-	6.60	32.20
8	WAIANAEE	2.78	6.60	-	9.38
TOTAL:		144.49	6.81	6.81	144.49

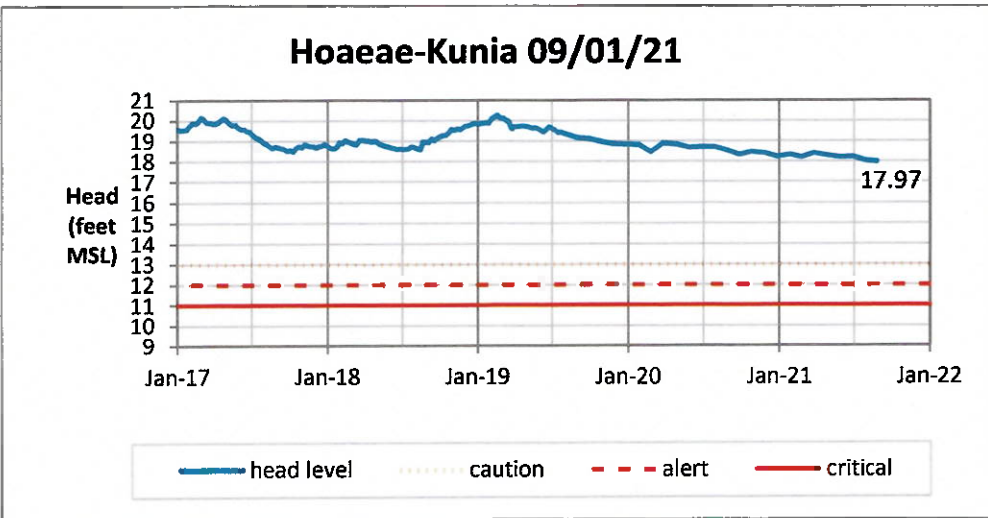
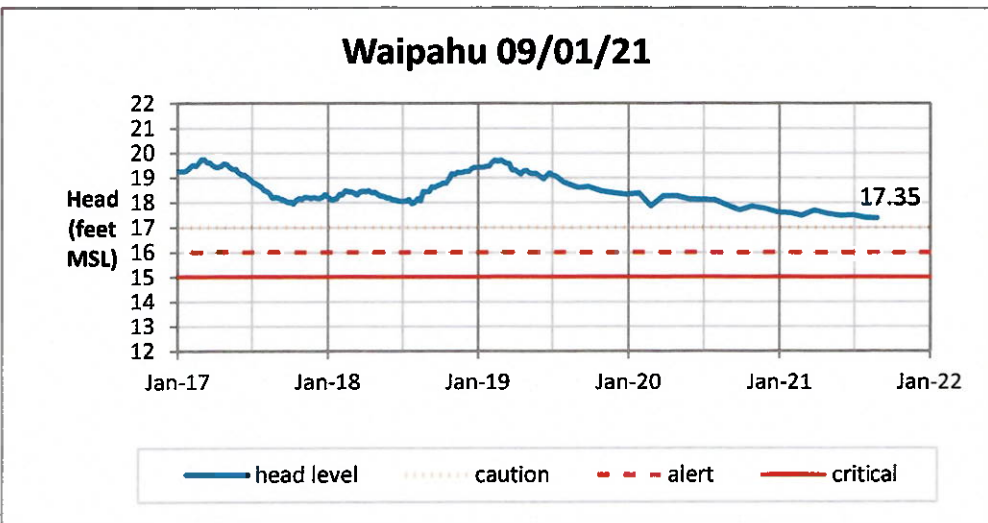
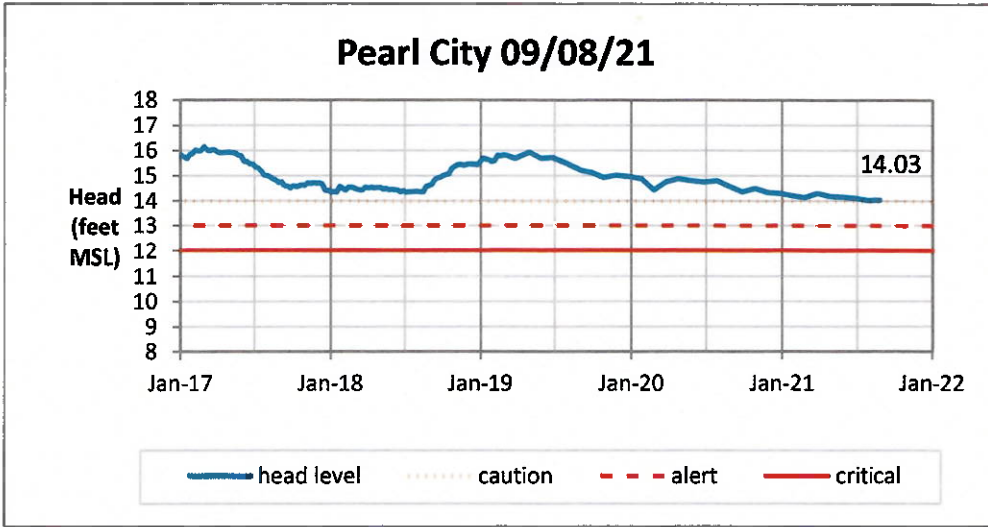
Head Report



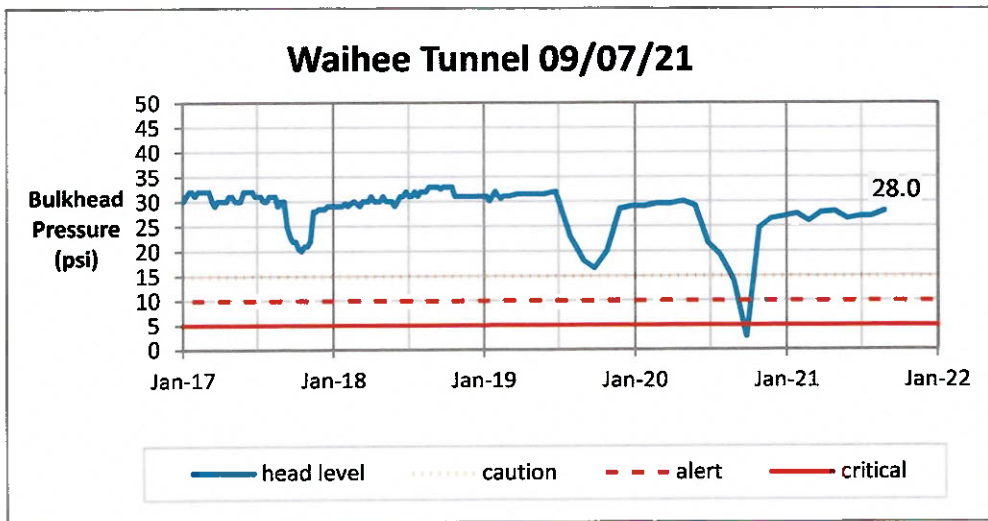
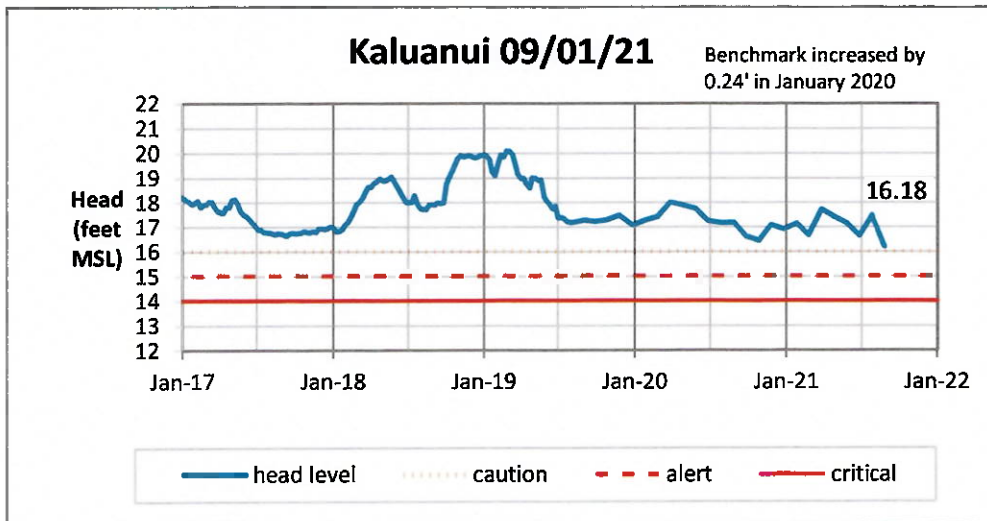
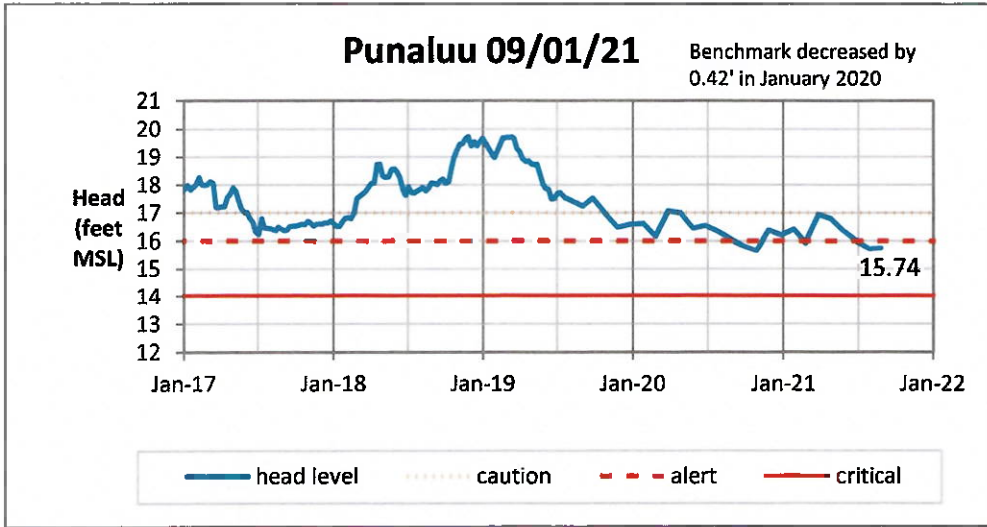
Head Report



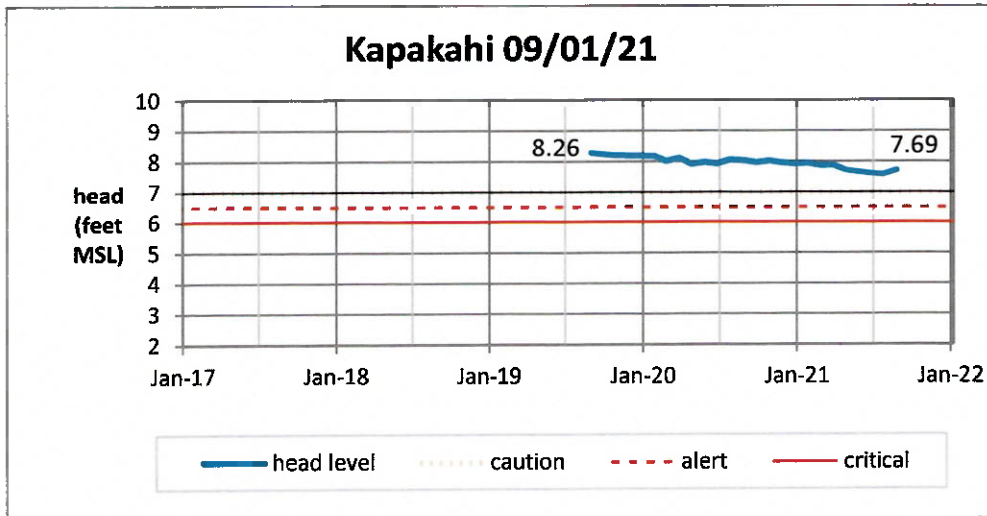
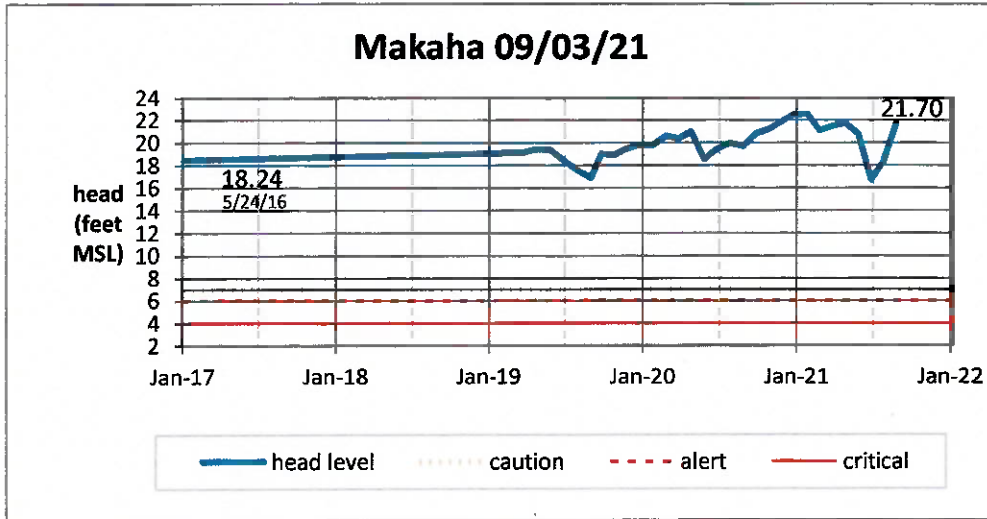
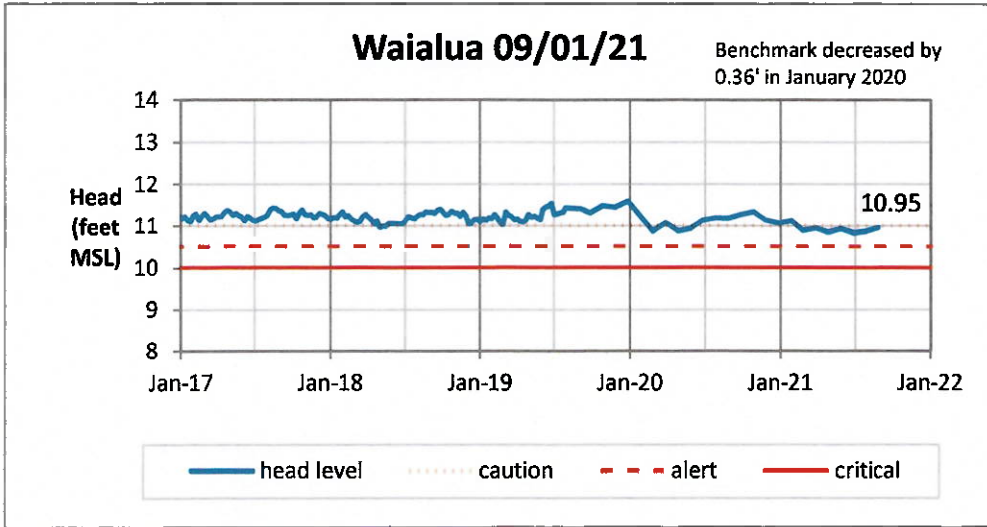
Head Report

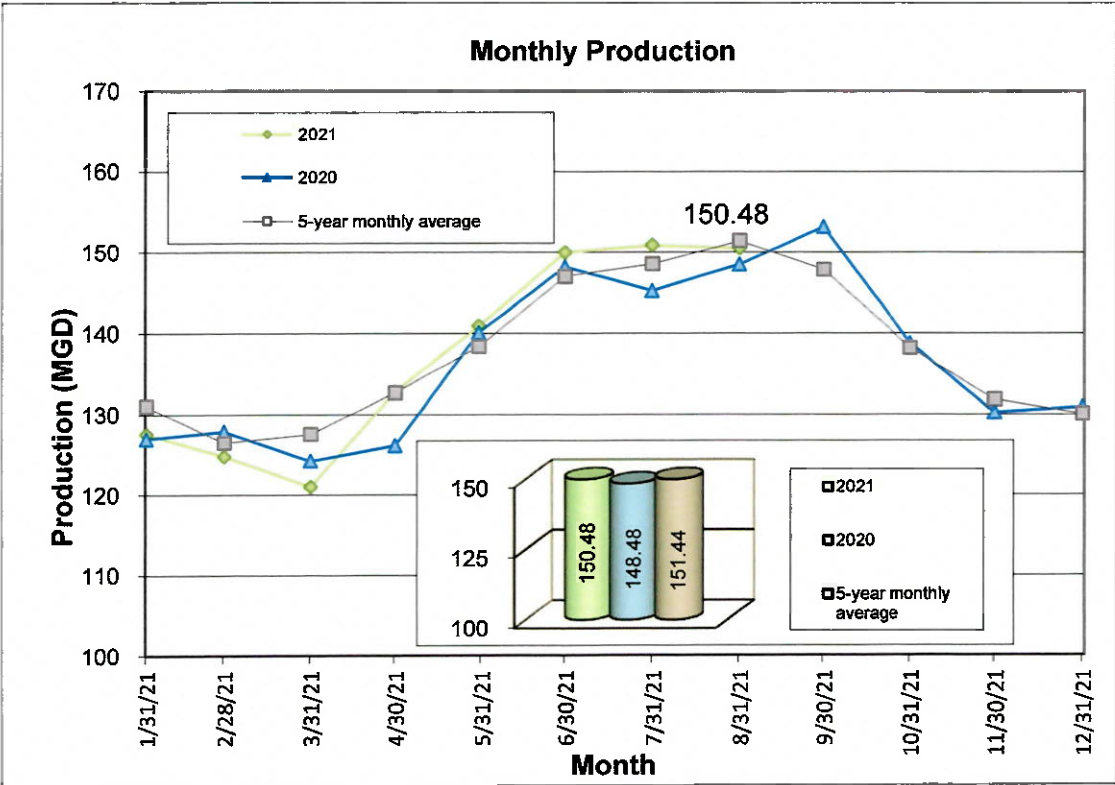
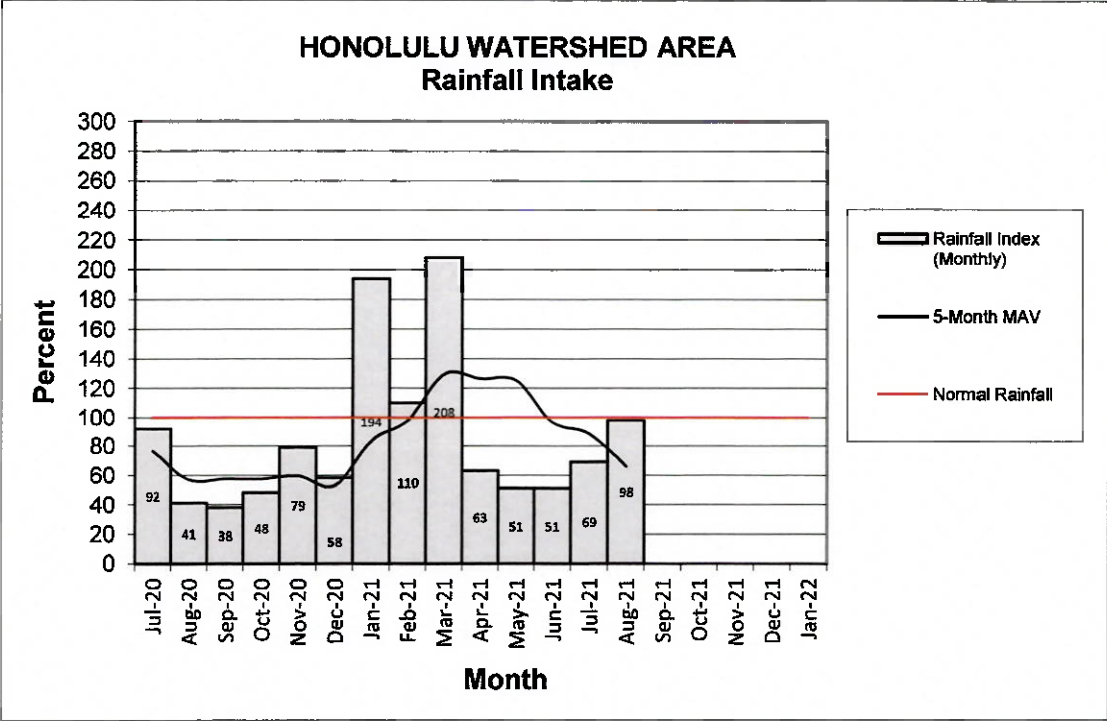


Head Report



Head Report





ITEM FOR INFORMATION NO. 3

“September 27, 2021

WATER MAIN
REPAIR
REPORT FOR
AUGUST 2021

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

Chair and Members:

Subject: Water Main Repair Report for August 2021

Jason Nikaido, Acting Program Administrator, Field Operations Division, will report on water main repair work for the month of August 2021.

Respectfully submitted,

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

Attachment”

The foregoing was for information only.

DISCUSSION:

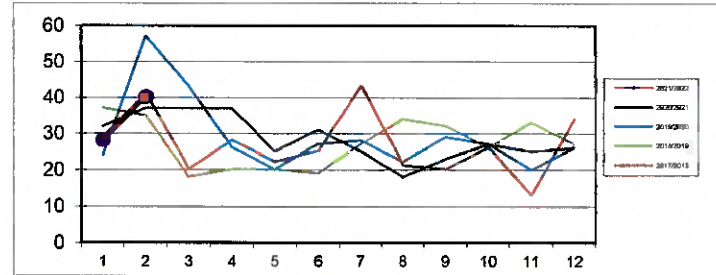
Jason Nikaido, Acting Program Administrator, Field Operations Division, gave the report. There were no comments or discussion.

WATER MAIN REPAIR REPORT

for August 2021

	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	Total
2021/2022	28	40											68
2020/2021	32	37	37	37	25	31	25	18	23	27	25	26	343
2019/2020	24	57	43	26	20	27	28	22	29	27	20	26	349
2018/2019	37	35	18	20	20	19	27	34	32	26	33	27	328
2017/2018	29	41	20	28	22	25	43	21	20	26	13	34	322

Date	Address	Size (In)	Pipe Type
8/1/2021	1460 Onipaa St, Honolulu	8	CI
8/2/2021	2007 Liliha St, Honolulu	12	PVC
8/2/2021	91-032 Hailipo St, Ewa Beach	6	CI
8/3/2021	94-162 Leokane St, Waipahu	12	CI
8/3/2021	2367 Hooehoihoi St, Pearl City	8	CI
8/3/2021	421 Alakawa St, Honolulu	12	PVC
8/4/2021	94-238 Moena Pl, Waipahu	8	CI
8/5/2021	1597 Kaumoli St, Pearl City	8	CI
8/5/2021	92-791 Palailai St, Kapolei	8	CI
8/5/2021	1807 Beckley St, Honolulu	6	CI
8/5/2021	3807 Old Pali Rd, Honolulu	15	CI
8/6/2021	99-476 Iwaiwa St, Aiea	8	CI
8/6/2021	233 Kuliouou Rd, Honolulu	12	--
8/7/2021	5952 Kalaniana'ole Hwy, Honolulu	24	CI
8/10/2021	59-072 Kumupali Rd, Haleiwa	4	PVC
8/10/2021	3161 Woodlawn Dr, Honolulu	6	CI
8/10/2021	144 Hanohano Pl, Honolulu	4	DI
8/10/2021	99-031 Kaamilo St, Aiea	8	PVC
8/11/2021	1319 Manu Aloha St, Kailua	8	CI
8/12/2021	91-119 Hailipo St, Ewa Beach	8	PVC
8/12/2021	62-330 Kamehameha Hwy, Haleiwa	16	CI
8/13/2021	41-536 Kumuhau St, Waimanalo	8	PVC
8/13/2021	1602 Ala Aoloa Loop, Honolulu	8	CI
8/13/2021	1504 Alewa Dr, Honolulu	4	CI
8/14/2021	1334 Akamai Pl, Kailua	8	CI
8/14/2021	3 Aikahi Loop, Kailua	12	AC
8/15/2021	348 Hookela Pl/Sand Island Parkway	16	AC
8/15/2021	87-509 Kulaaupuni St, Waianae	8	CI
8/17/2021	3751 Waaloa Way, Honolulu	12	CI
8/17/2021	1718 Kealia Dr, Honolulu	6	CI
8/19/2021	1615 Silva St, Honolulu	8	DI
8/21/2021	2147 Kalihi St, Honolulu	12	DI
8/25/2021	94-348 Haaa St, Waipahu	8	CI
8/25/2021	94-1166 Awalai St, Waipahu	8	CI
8/26/2021	711 Kealahou St, Honolulu	12	CI
8/26/2021	477 Kawaihae St, Honolulu	12	CI
8/26/2021	47-680 Lamaula Rd, Kaneohe	8	CI
8/27/2021	62-595 Kamehameha Hwy, Haleiwa	6	CI
8/29/2021	66-595 Kamehameha Hwy, Haleiwa	6	CI
8/29/2021	44-135 Kalenakai Pl, Kaneohe	6	CI



18 miles of pipeline were surveyed by the Leak Detection Team in the month of August.

MOTION TO RECESS INTO EXECUTIVE SESSION

There being no further business Chair Andaya at 3:36 PM called for a motion to adjourn the Open Session. Na'alehu Anthony so moved; seconded by Jade Butay and unanimously carried.

Upon unanimous approved motion, the Board recessed into Executive Session Pursuant to [HRS § 92-5 (a)(4)] at 3:37 PM to Consider Issues Pertaining to Matters Posted for Discussion at an Executive Session.

OPEN SESSION

The Board reconvened in Open Session at 4:23 PM.

MOTION TO ADJOURN

There being no further business Chair Andaya at 4:24 PM called for a motion to adjourn the Regular Session. Jade Butay so moved; seconded by Roger Babcock and unanimously carried.

The minutes of the Regular Meeting held on September 27, 2021 are respectfully submitted,


JOY CRUZ-ACHUI

APPROVED:


BRYAN P. ANDAYA
Chair of the Board

OCT 25 2021

Date

THE MINUTES OF THE REGULAR SESSION BOARD MEETING ON SEPTEMBER 27, 2021 WERE APPROVED AT THE OCTOBER 25, 2021 BOARD MEETING			
	AYE	NO	COMMENT
BRYAN P. ANDAYA	X		
KAPUA SPROAT	X		
RAY C. SOON	X		
MAX J. SWORD	X		
NA'ALEHU ANTHONY	X		
JADE T. BUTAY	X		
ROGER BABCOCK JR.	X		