

Board of Water Supply
Capital Improvement Program
FY 2023
Amendment No. 1 (09/26/22)

Summary by Categories	Operating Fund (1)	Operating Fund - SRF Eligible (2)	Special Expendable Fund (3)	Improvement Fund (4)	Extramural Fund (5)	Total
I. Research and Development	19,999,500	-	-	-	-	19,999,500
II. Renewal and Replacement						
A. Pumps	6,100,000	-	-	16,400,000	6,000,000	28,500,000
B. Reservoirs	-	-	-	-	8,500,000	8,500,000
C. Pipelines	200,000	500,000	-	42,700,000	4,800,000	48,200,000
D. Treatment	1,500,000	-	-	-	-	1,500,000
E. Facilities	6,050,000	-	-	1,800,000	6,000,000	13,850,000
Category II - sub-total	13,850,000	500,000	-	60,900,000	25,300,000	100,550,000
III. Capacity Expansion						
A. Pumps	-	-	4,950,000	-	-	4,950,000
B. Reservoirs	-	-	-	-	-	-
C. Pipelines	-	-	-	-	-	-
D. Treatment	-	-	-	-	-	-
E. Facilities	-	-	19,000,000	-	-	19,000,000
Category III - sub-total	-	-	23,950,000	-	-	23,950,000
Total - Categories I - III	33,849,500	500,000	23,950,000	60,900,000	25,300,000	144,499,500
Construction Cost Index Account	3,051,825	-	3,300,000	8,190,000	3,585,000	18,126,825
Contract Adjustment Account	14,950,000	-	6,500,000	-	-	21,450,000
Capital Improvement Program - Total	51,851,325	500,000	33,750,000	69,090,000	28,885,000	184,076,325

(1) Operating Fund is defined as rate revenue or cash.

(2) Operating Fund - SRF Eligible is defined as projects that are eligible for participation in the State of Hawaii, Department of Health State Revolving Fund (SRF) loan program.

(3) Special Expendable Fund is a restricted fund in which water system facilities charges are deposited and the funding reserved for water system capacity expansion projects.

(4) Improvement Fund is defined as the proceeds of Water System Revenue Bonds.

(5) Extramural Fund is a restricted fund, established by Resolution No. 778, 2007, in which funds received from any governmental agency or private entity, pursuant to negotiated agreements, contracts and/or grants, are deposited and separately accounted for.

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				Operating Fund	Operating Fund - SRF	Special Expendable Fund	Improvement Funds	Extramural Fund	Total	
<u>I. Research and Development</u>										
1. Manoa Well II Exploratory Well	Drill and case replacement exploratory well at existing Manoa Wells II Station (TMK: 2-9-054:033).	CP	Const	1,000,000	-	-	-	-	1,000,000	
2. Exploratory Wells for Red Hill Contamination Response	Drill, case, install test pump and sample up to three (3) exploratory wells as possible replacement sources for the loss of Halawa Shaft due to the Red Hill fuel contamination.	CP	Const	7,567,250	-	-	-	-	7,567,250	
3. Monitoring Wells for Red Hill Contamination Response	Drill and case up to three (3) monitoring wells for use as "sentinel" wells to warn of the presence of an underground fuel plume from the Red Hill fuel contamination.	CP	P&E	3,679,000	-	-	-	-	3,679,000	
			Const	3,228,250	-	-	-	-	3,228,250	
4. Waikele Gulch Exploratory Wells	Prepare plans, specifications, construction bid documents, obtain necessary permits and engineering report to drill, install, test pump and sample up to two exploratory wells.	CP	P&E	2,250,000	-	-	-	-	2,250,000	
			P&E	275,000	-	-	-	-	275,000	
5. Construction Management for Various BWS Construction	Provide construction management and training services for selected BWS construction projects.	CP	P&E	2,000,000	-	-	-	-	2,000,000	
Total Category I - Research and Development				19,999,500	-	-	-	-	19,999,500	

II. Renewal and Replacement

A. Pumps

6. Honouliuli Wells II MCC Replacement	Replacement of above ground piping and valves at pumping units, replacement of MCC and other electrical equipment, replacement of hydro-pneumatic tank, and modification to existing control building.	CP-ME	Const	-	-	-	5,900,000	-	5,900,000
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				Operating Fund	Operating Fund - SRF	Special Expendable Fund	Improvement Funds	Extramural Fund	Total
7. Mililani Wells IV – Replacement of Pumps No. 1 and 3	Replacement of pumping units and controls and starters, replacement above ground piping and valves at pumping units, replacement of MCC and other electrical equipment, perform wastewater vault investigation, and perform power study.	CP-ME	Const	-	-	-	8,000,000	-	8,000,000
8. Haleiwa Wells Renovation	Replacement of pumping units and controls and starters, replacement of above ground piping and valves at pumping units, replacement and relocation of the site electrical transformer, replacement of MCC and other electrical equipment, and perform new permanent discharge study.	CP-ME	Const	-	-	-	-	6,000,000	6,000,000
9. Temporary Pumping Connections	Install connections for temporary pumps at critical pump stations to improve reliability	CP-ME	Const	-	-	-	2,500,000	-	2,500,000
10. Pump Renewal and Replacement	Renewal and replacement of various BWS pumps and plant facilities.	CP-ME	Const	3,500,000	-	-	-	-	3,500,000
11. Selected Deactivated Wells Condition Assessment	Conduct a condition assessment of one well each at the existing Waimalu Wells II, Kaonohi Wells II sites and the Kaamilo Wells Unit #2, to determine the viability of the wells for potable production use to add more source capacity to the Metropolitan system to make up for the loss of Halawa Shaft caused by the Red Hill fuel contamination.	WR	P&E	1,500,000	-	-	-	-	1,500,000
12. Kailua Heights Booster Electrical Upgrades	Install electrical upgrades and facility repairs	CP-ME	P&E	450,000	-	-	-	-	450,000
13. Niu Valley Booster No. 1 MCC Replacement	Install MCC replacement and facility repairs	CP-ME	P&E	400,000	-	-	-	-	400,000
14. Pump Renewal and Replacement	Renewal and replacement of various BWS pumps and plant facilities.	CP-ME	P&E	250,000	-	-	-	-	250,000
Pumps Total				6,100,000	-	-	16,400,000	6,000,000	28,500,000

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B. Reservoirs										
15. Wilhelmina Rise 811 Reservoir Replacement	Replace the existing 0.43 reservoir and appurtenances.	CP-D	Const	-	-	-	-	8,500,000	8,500,000	
Reservoirs Total				-	-	-	-	8,500,000	8,500,000	

C. Pipelines

16. Keolu Hills Water System Improvements, Part II	Install 12-inch mains and appurtenances along Keolu Drive, from Akumu Street to Nanialii 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.	CP-D	Const	-	-	-	-	-	-
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				Operating Fund	Operating Fund - SRF	Special Expendable Fund	Improvement Funds	Extramural Fund	Total
16a. Keolu Hills Water System Improvements, Part II	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.	CP-D	Const	-	-	-	8,500,000	-	8,500,000
17. Moanalua Road 8-Inch Main, Waimalu Neighborhood Park Vicinity	Install 8-inch mains and appurtenances along Moanalua Road, from fire hydrant L00646 to Kaahele Road - approx. 580 lin. ft.	CP-D	Const	-	-	-	1,400,000	-	1,400,000
18. Barbers Point 215 Water System Improvements	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	CP-D	Const	-	-	-	-	-	-

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				Operating Fund	Operating Fund - SRF	Special Expendable Fund	Improvement Funds	Extramural Fund	Total
18a. Kalama Valley Water System Improvements, Part II	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.	CP-D	Const	-	-	-	11,200,000	-	11,200,000

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19. Halupa Street 12-Inch Main	Install 12-inch mains and appurtenances along Halupa Street, from Molehu Drive to Punihi Street - approx. 1,200 lin. ft.	CP-D	Const	-	-	-	-	-	-
19a. Palolo Water System Improvements, Part III	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.	CP-D	Const	-	-	-	10,500,000	-	10,500,000
20. Kahilina Place and Aiea Heights Drive Area Water System Improvements	Install 8-inch mains and appurtenances along Kahilina Place, from Aiea Heights Drive to end; along Aiea Heights Drive, from Hoio Street to Aiea 277 Reservoir; along Aheahe Street, from Kanaloa Street to Aiea Heights Drive; and along Hakina Street, from Kanaloa Street to Kaulainahee Place - approx. 4,070 lin. ft.	CP	Const	-	-	-	-	-	-
20a. Puiwa Road 12-Inch and Dowsett Avenue 8-Inch Mains	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.	CP	Const	-	-	-	2,000,000	-	2,000,000

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21. Mailiili Road 20-Inch Main, Paakea Road to Lualualei Homestead Road	Install 20-inch main and appurtenances along Mailiili Road, from Paakea Road to Lualualei Homestead Road - approx. 3,800 lin. ft.	CP	Const	-	-	-	-	-	-
21a. Waiomao Homestead Road 8-Inch Main	Install 8-inch mains and appurtenances along Waiomao Homestead Road, from Waiomao Road to Palolo Chlorinator - approx. 700 lin. ft.	CP	Const	-	-	-	1,300,000	-	1,300,000
22. Kakela Drive and Mohala Way Water System Improvements	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.	CP	Const	-	-	-	-	-	-
23. Monsarrat Avenue Water System Improvements	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.	CP	Const	-	-	-	-	4,800,000	4,800,000
24. Diamond Head Water System Improvements Part III	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.	CP	Const	-	-	-	1,800,000	-	1,800,000

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				Operating Fund	Operating Fund - SRF	Special Expendable Fund	Improvement Funds	Extramural Fund	Total
25. Water Main Installation & Replacement	Install and replace water mains at various locations.	CP	Const	50,000	-	-	-	-	50,000
26. Water System Improvements at Various Locations	Install mains and appurtenance to replace high risk water mains at various locations throughout the island.	CP	P&E	-	-	-	6,000,000	-	6,000,000
27. Kapolei Parkway 24-Inch R-1 Water Main	Install 24-inch mains and appurtenances along Kapolei Parkway, from near FH No. L04892 to Kamokila Boulevard - approx. 700 lin. ft.	CP	P&E	-	500,000	-	-	-	500,000
28. Service Laterals of Unknown Materials Replacements	Replace service laterals of unknown materials at various locations	WQ	P&E	100,000	-	-	-	-	100,000
29. Water Main Installation & Replacement	Install and replace water mains at various locations.	CP	P&E	50,000	-	-	-	-	50,000
Pipelines Total				200,000	500,000	-	42,700,000	4,800,000	48,200,000
D. Treatment									
30. GAC Interior Corrosion Control at Various Locations	Perform interior corrosion control of selected BWS GAC facilities. CM services funding included for this project.	WSO	Const	1,000,000	-	-	-	-	1,000,000
			P&E	500,000	-	-	-	-	500,000
Treatment Total				1,500,000	-	-	-	-	1,500,000
E. Facilities									
31. Nuuanu Reservoir No. 1 Dam Improvements	Rehabilitate dam, spillway and outlet works; install remote water level monitoring equipment	CP-S	Const	-	-	-	-	-	-
32. Pump Station Instrumentation & Controls and SCADA Upgrade	Upgrade instrumentation and controls equipment at various pump stations and revamp SCADA system to provide smarter functionality.	WSO	Const	-	-	-	1,500,000	-	1,500,000
	Project planning, design, and management services	WSO	P&E	-	-	-	300,000	-	300,000

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33. Facility Repair and Renovation	Repair, renovation, reroofing, fencing and repainting of selected BWS facilities.	CP-S	Const	4,000,000	-	-	-	-	4,000,000
34. Security Improvements at Various Locations	Security improvements and enhancements includes, but not limited to fencing, doors and windows, vegetation setbacks and access control systems at various BWS locations.	CP-S	Const	-	-	-	-	4,600,000	4,600,000
35. Nuuanu Reservoir No. 2 and 3 - Assessment of Dams' Safety	Evaluate the overall integrity of the dams and identify any safety improvements needed.	LAND	P&E	250,000	-	-	-	-	250,000
36. Kaahumanu Wells Control Valve Renovation	Upgrade control valve assembly and water line connections to more efficiently allow the controlled release of Pearl Harbor 285 system water into the Metropolitan 180 system needed due to the loss of Halawa Shaft because of the Red Hill fuel contamination.	CP	P&E	-	-	-	-	650,000	650,000
37. Manana Wells Control Valve Installation	Install a control valve assembly and water line connections to allow the controlled release of Pearl Harbor 285 system water into the Metropolitan 180 system needed due to the loss of Halawa Shaft because of the Red Hill fuel contamination.	CP	P&E	-	-	-	-	750,000	750,000
38. Pump Station Assessment and Operations/Repairs	Update pump station condition assessments and operations database	WSO	P&E	300,000	-	-	-	-	300,000
39. Facility Repair and Renovation	Repair, renovation, reroofing, fencing and repainting of selected BWS facilities.	CP-S	P&E	1,250,000	-	-	-	-	1,250,000
40. Monitoring Well Assessment and Repair	Provide well condition assessment and associated repair services for monitor wells.	WR	P&E	50,000	-	-	-	-	50,000
41. Professional Services for BWS Projects	Obtain services of archaeologists, botanists, environmental engineers, water quality labs, planners, government agencies and others.	CP	P&E	200,000	-	-	-	-	200,000
Facilities Total				6,050,000	-	-	1,800,000	6,000,000	13,850,000
Total Category II - Renewal and Replacement				13,850,000	500,000	-	60,900,000	25,300,000	100,550,000

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III. Capacity Expansion										
A. Pumps										
42. Ewa Shaft Tunnel Improvements	Drill, case, install test pump and sample up to five (5) exploratory wells	CP	Const	-	-	4,000,000	-	-	4,000,000	
43. 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	WR	P&E	-	-	450,000	-	-	450,000	
44. Hawaii State Hospital Well Test	Survey, video log, clean and clear, test pump and sample well. Provide technical report of findings and recommendations regarding feasibility of bringing well into service.	WR	P&E	-	-	400,000	-	-	400,000	
45. Pacific Heights Booster No. 1	Determine land acquisition costs for the site of a new Pacific Heights Booster No. 1 to eliminate cross-country water main between Jack Lane and the Pacific Heights 578 Reservoir.	Land	Land	-	-	100,000	-	-	100,000	
Pumps Total				-	-	4,950,000	-	-	4,950,000	
B. Reservoirs										
Reservoirs Total				-	-	-	-	-	-	
C. Pipelines										
Pipelines Total				-	-	-	-	-	-	
D. Treatment										
Treatment Total				-	-	-	-	-	-	

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E. Facilities										
46. Kalaeloa Sea Water Desalination Facility	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.	WR	Const	-	-	18,000,000	-	-	18,000,000	
	Provide project management services to monitor DBOM progress, plans review and RFI response.	WR	P&E	-	-	1,000,000	-	-	1,000,000	
Facilities Total				-	-	19,000,000	-	-	19,000,000	
Total Category III - Capacity Expansion				-	-	23,950,000	-	-	23,950,000	
Total Categories I - III				33,849,500	500,000	23,950,000	60,900,000	25,300,000	144,499,500	
Construction Cost Index Adjustment				3,051,825	-	3,300,000	8,190,000	3,585,000	18,126,825	
Contract Adjustment Account				14,950,000	-	6,500,000	-	-	21,450,000	
FY 2023 Capital Improvement Program Total				51,851,325	500,000	33,750,000	69,090,000	28,885,000	184,076,325	