



BOARD OF WATER SUPPLY

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POWERS, DUTIES, AND FUNCTIONS

The Board of Water Supply (BWS) manages Oahu's municipal water resources and distribution system, providing residents with a safe, dependable, and affordable drinking water supply.

The BWS is the largest municipal water utility in the state of Hawaii. In Fiscal Year 2015, the BWS delivered potable and non-potable water to approximately one million customers on Oahu. The BWS carefully and proactively manages and invests in its intricate system, consisting of 94 active potable water sources, 171 reservoirs, and nearly 2,100 miles of pipeline.

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

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

The BWS consists of the following 11 divisions:

Capital Projects Division, Communications Division, Customer Care Division, Field Operations Division, Finance Division, Information Technology Division, Land Division, Office of the Manager and Chief Engineer, Water Quality Division, Water Resources Division, and Water System Operations Division.

MISSION

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

ACCOMPLISHMENTS

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

Resource Sustainability (Safe)

- The BWS conducted 27,030 chemical tests and 9,475 microbiological tests on samples collected from its

water sources, distribution systems, and treatment facilities to ensure all water served is safe to drink. Chemical tests performed this fiscal year include monitoring BWS wells near the Navy Red Hill Bulk Fuel Facility in response to a fuel leak reported by the Navy in January 2014. Since that date, the BWS has been working with the U.S. Environmental Protection Agency and the Hawaii Department of Health, conducting its own studies to assess the impact the leak may have on the groundwater aquifer.

- In June 2015, BWS completed its annual production and delivery of the Consumer Confidence Report (CCR), also known as the Water Quality Report, to all BWS customers. The report provides information on the quality of the water delivered from the BWS system and was mailed to all customers on record. The report is also available at www.boardofwatersupply.com. The department also placed ads in Honolulu newspapers, including various ethnic language publications, to inform community members of the distribution.
- On August 2, 2014, the BWS celebrated the 25th anniversary of the Halawa Xeriscape Garden Open House and Unthirsty Plant Sale. The event was attended by more than 2,000 people who learned about water conservation. The event received a 2015 Koa Award from the Public Relations Society of America (PRSA), Hawaii Chapter.
- BWS staff held 24 outdoor water conservation classes at the Halawa Xeriscape Garden. These classes focused on reducing water use through efficient landscaping.
- The BWS sponsored its 37th annual Water Conservation Week Poster Contest and the 7th annual Water Conservation Week Poetry Contest, receiving more than 1,400 posters and 275 poems from more than 50 Oahu schools, focused on the theme "Water Matters – Conserve It." All winning entries will be featured in the 2016 Water Conservation Calendar, scheduled for distribution in December 2015.
- Potable water demand has decreased by approximately 9 percent from 1990 to 2015 due to advanced water conservation efforts, economic incentives from sewer and water rate increases, recycled water, public education, and leak detection and repair programs in the BWS water system.
- The North Shore, Ewa, and Central Oahu Watershed Management Plans (WMP) have been completed with the North Shore and Ewa WMPs expected for adoption in FY 2016. These are long-range water resource protection and water use and development plans for the city that are concurrent with and support its

Development and Sustainable Communities Plans for Oahu. The WMPs guide the BWS's long-range capital improvement program, ensuring that adequate natural and alternative water supplies are available to meet Oahu's future growth.

- Recycled water is an important conservation strategy to reduce potable water consumption to extend our high-quality water supplies. Recycled water use from the Honouliuli Water Recycling Facility provides an alternative water supply in Ewa for irrigation and industrial purposes. Recycled water production from the BWS Honouliuli Water Recycling Facility averaged approximately eight million gallons per day. BWS is seeking State of Hawaii land to construct an elevated recycled water reservoir, which will increase recycled water use in Ewa.

Operational Sustainability (Dependable)

- In February 2015, the BWS conducted a customer satisfaction survey with the assistance of Ward Research. The purpose of the survey was to establish baseline measures of customer satisfaction and other factors related to how the public perceives the BWS. Overall findings indicate that the majority of Oahu residents are strongly satisfied with the BWS and have a high level of trust in the BWS.
- The BWS developed and piloted a New Hire Onboarding Checklist for supervisors to supplement the orientation process and nurture the success of new employees. Onboarding gives new employees a clear understanding of the BWS's mission and their role on the BWS team.
- The BWS is in its third year of a three-year comprehensive Water Master Plan to provide a 30-year capital improvement program for the capacity expansion, and repair and replacement of aging water infrastructure. The Water Master Plan applies new technology and best practices in planning and engineering tools in a system-wide condition assessment of all water system assets (pumps, pipelines, reservoirs, and treatment plants) and will guide the update of the BWS financial plan to ensure sufficient funding for infrastructure needs, while keeping water rates affordable.
- In response to Federal Executive Order 13636, the BWS has increased its focus on improving critical infrastructure security and resilience. The BWS has recruited an Information Systems Security Officer (ISSO) to lead this effort, and has initiated activity to establish a cyber security program. Preliminary assessments by the ISSO have been completed, and an in-depth assessment and strategic risk review analysis by an expert cyber security firm is underway.
- The BWS's nationally recognized Geographic Information System (GIS) database and applications continue to be upgraded for best in class industry functionality and performance. This system gives users access to GIS layers and updated imagery, and integrates map service sharing with other city departments. Use of aerial imagery to leverage

geospatial capabilities was piloted, resulting in activities planned for FY 2016 to gather and incorporate more imageries, increasing the value of the GIS.

- The BWS continues to upgrade its computerized maintenance management system. Testing of the new mobile solution to be used in the field and the overall upgrade is anticipated to be completed in mid-FY 2016.
- BWS staff responded to 294 main breaks, or about 14 breaks per 100 miles of pipeline.
- BWS staff helped protect Oahu's water resources and prevent damage to BWS infrastructure by handling 7,708 One Call locate requests and providing in-field support for 889 water line leaks and breaks. The BWS leak detection team proactively looked for and identified leaks in the BWS system and used the data collected to schedule planned repairs to the water system. The BWS staff proactively investigated 20,857 meters to ensure accurate and timely billing, and assisted 3,718 customers with concerns about bills reflecting high water consumption.
- BWS staff assisted 152,116 customers: 142,693 (93.8%) by phone; 4,693 (3.1%) in-person; 2,764 (1.8%) via online forms; 1,692 (1.1%) through email; and 274 (0.2%) by mail and fax. The average response time for phone calls was 90 seconds and electronic inquiries received a response within one business day.
- In preparation for the upcoming construction of the Nuuanu Reservoir No. 4 Dam Improvements, BWS elected to conduct a public fishing day to help remove any fish from the reservoir before it was dredged and the water level lowered. BWS received 1,375 applications to participate, and 160 applicants were given fishing slots.

Financial Sustainability (Affordable)

- More than \$15 million in construction contracts and more than \$3.2 million in professional services contracts were awarded by the Capital Projects Division as of June 15, 2015. The major programs include the following:
 - **Water Main Replacement Program:** Aging and corroded water mains are systematically identified and replaced throughout the municipal water system to improve system reliability, reduce main breaks, and to ensure sufficient system pressure during periods of peak demand. In conjunction with main replacement projects, existing fire hydrants are replaced and new hydrants are installed to improve fire protection and ensure that current standards are met. Over \$9 million in water main construction projects were awarded by the Capital Projects Division. Once completed, these projects will improve the water systems in the Nuuanu, Waianae, and Wilhelmina Rise areas. Design contracts were awarded for water main replacements in Kailua, Kamehameha Heights, and Moiliili.

- **Water Facility Improvement Program:** Identification and improvements of deficiencies to the appearance and integrity of aging BWS water facilities continues. These facilities include water reservoirs, wells and booster stations, and administrative offices belonging to the department. During this fiscal year, new construction contracts were awarded to repair, renovate, repaint, and/or reroof the Beretania Public Service Building, Microbiological Laboratory and Parking Lot, Kalihi Pump Station, Makaha 242 Reservoirs No. 1 & 2, Mauna Olu 530 Non-potable Reservoir, Pearl City 865 Reservoir, Waialae Iki Booster No.1, Waiau 285 Reservoir, Waiau 550 Reservoir, Wailupe Line Booster, and Waimalu 217 Reservoir. New design contracts were awarded for facility improvements at Kalihi Corporation Yard and installation of security fencing at various locations.
- **Mechanical and Electrical Renovation Projects:** Renovation projects ensure the dependable service and operational efficiency of the BWS's pump and booster stations. Construction contracts were awarded for the renovation of the mechanical and/or electrical systems at the Aina Koa Booster I, Hoaeae Wells, Kaamilo Wells, Kunia Wells III, Manoa Well II, Maunawili Booster, Pacific Heights Booster, and Waipio Heights Wells II. Design contracts were awarded for renovation work at Halawa Wells and Booster No. 2, Makiki 180 Reservoir, Mililani Wells II, Moanalua Wells, Pearl City Wells I, Pearl City Wells II, Punanani Wells, Waialae Iki 180 Reservoir, and Waialae Iki Well.
- In November 2014, the BWS received a low-interest loan through the Drinking Water State Revolving Funds (DWSRF) administered by the State Department of Health. The loan was used to refinance outstanding bonds and resulted in more than \$6 million of interest savings. The BWS issued \$144,985,000 in water system revenue bonds on December 9, 2014. The Series 2014A and Series 2014B bonds were sold at a value of 3.36 percent. Combined with the savings from the bond sale, the BWS realized savings of more than \$19 million in interest or nearly \$1 million per year for the next 23 years. These savings will be reinvested into the BWS water system infrastructure, which will result in better reliability and will help offset some of its future water service improvement projects. The bond ratings from Moody's Investors Service and Fitch Ratings are Aa2 and AA+, respectively.
- BWS staff received mail-in payments via lockbox, which continued to be the most popular method of payment for BWS customers, with 41 percent utilizing the service, down 7 percent from last fiscal year. Automatic bill payments accounted for 30 percent of the BWS's total bill collections, a 5 percent increase from the previous fiscal year. Credit card payments accounted for 11 percent of payments, a 2 percent increase over last fiscal year. Of these credit card

payments, 8 percent were completed online, while 3 percent were processed by phone or over the counter. Walk-in customers and payments made at Satellite City Hall locations remain steady at 3 and 4 percent respectively.