



BROWNSVILLE
PUBLIC UTILITIES BOARD

2025 Water Strategy

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1 Executive Summary

The Brownsville Public Utilities Board (BPUB) recognizes the urgent need for a comprehensive water strategy to address the Rio Grande Valley's unique challenges. This region faces significant hurdles, including frequent droughts, over-extraction of water resources, reduced reservoir levels, and the impacts of climate change. Rapid population growth—projected to reach 4 million by 2060—and expanding industries such as space exploration and port operations further intensify the strain on water resources. These factors underscore the importance of innovative and sustainable water management practices.

BPUB relies primarily on the Rio Grande Watershed, supplemented with subsurface water sources treated at desalination facilities. However, increasing drought conditions and declining storage in critical reservoirs call for urgent action. BPUB's strategy centers on securing water availability, improving water quality, fostering economic growth, and promoting environmental sustainability while preparing for future challenges.

To achieve these objectives, BPUB is implementing a multi-faceted strategy that includes:

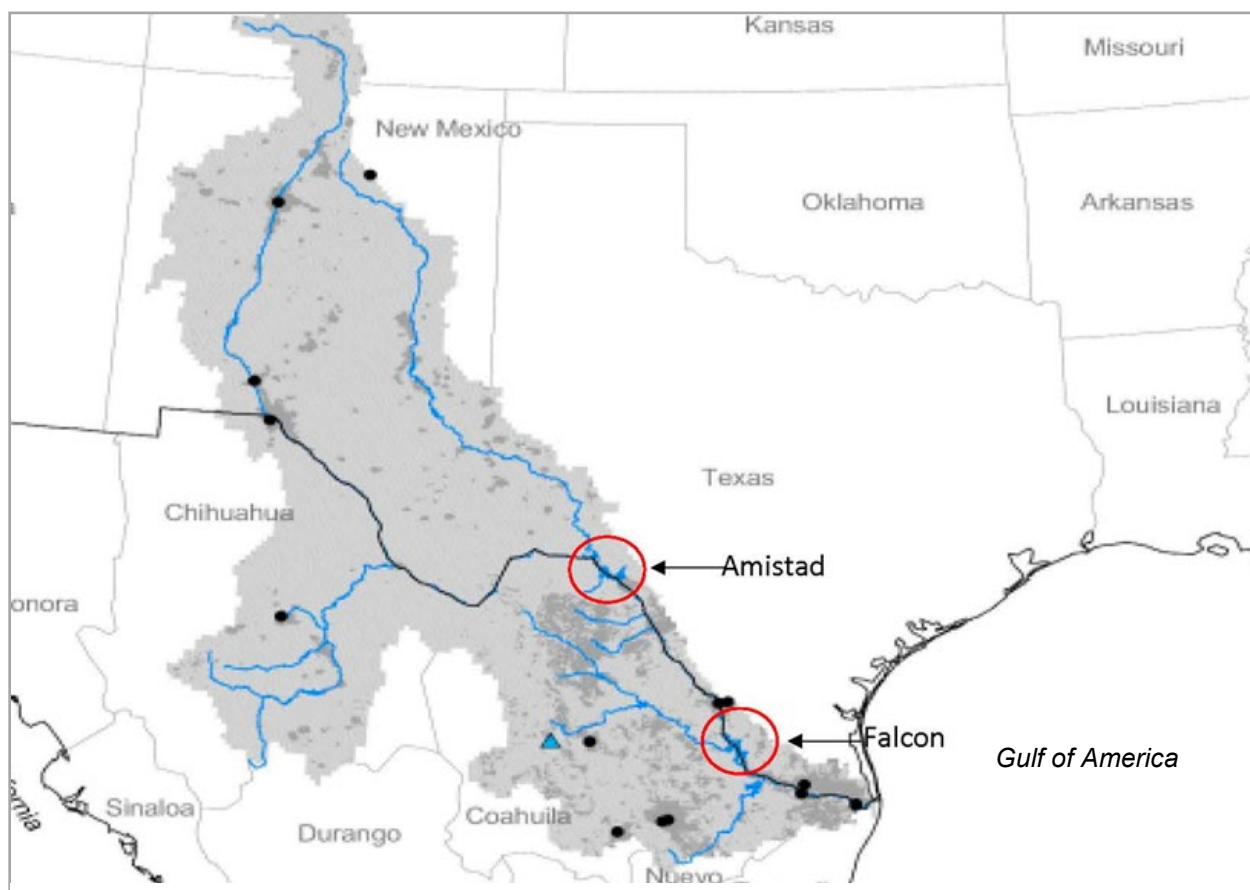
- **Increasing Water Supply and Diversification:** BPUB optimizes its Brackish Groundwater Treatment Facility, explores indirect potable reuse, and invests in desalination and other alternative water sources. Expansion plans include increasing production capacity to ensure resilience against climate and demand pressures.
- **Water Conservation Initiatives:** Comprehensive programs such as tiered pricing, high-efficiency toilet rebates, and the distribution of conservation kits actively promote responsible water use. The revised Water Conservation and Drought Contingency Plan aligns the community's efforts with best practices to safeguard resources.
- **Infrastructure Improvements:** Strategic investments include implementing Advanced Meter Infrastructure to monitor consumption and detect leaks, replacing aging pipelines, and enhancing storage and pumping capacity to bolster the system's reliability and efficiency.
- **Water Quality Enhancements:** BPUB's commitment to superior water quality includes adopting advanced treatment technologies, rigorous compliance with evolving Environmental Protection Agency (EPA) regulations, and continuous monitoring systems to meet and exceed health and safety standards.
- **Funding and Regional Collaboration:** BPUB actively seeks state and federal grants, such as WaterSMART funding, to support vital projects. Collaboration with regional entities, including the International Boundary and

Water Commission and Texas Water Development Board, strengthens resource sharing and strategy alignment.

- **Technological Innovation and Maintenance:** BPUB integrates industry-leading technologies like predictive analytics and water reuse systems into its operations. Proactive maintenance programs ensure the

longevity and functionality of critical infrastructure, safeguarding service reliability.

Through these initiatives, BPUB demonstrates its unwavering commitment to a sustainable and a resilient water future for Brownsville. The utility is a regional leader in water innovation, driving economic development, environmental stewardship, and community engagement to meet today's and tomorrow's challenges.



The Rio Grande watershed is depicted in gray.

2 Regional Water Supply

BPUB heavily depends on surface waters from the Rio Grande watershed, a vital water source for the southwestern United States and northern Mexico. It spans over 182,200 square miles (about the area of California), originating in the San Juan Mountains of Colorado and flowing through New Mexico, Texas, and along the U.S.-Mexico border before emptying into the Gulf of America.

The watershed includes several significant tributaries, such as the Pecos, Conchos, and Devils, contributing significantly to its flow. Two critical international reservoirs within this watershed are Amistad and Falcon. These reservoirs are crucial for water storage, flood control, and irrigation. Amistad is near Del Rio, Texas, and was formed by the Amistad Dam. It has a storage capacity of about 5.7 million acre-feet. Falcon is near Zapata, Texas; the Falcon Dam created it and has a storage capacity of about 2.6 million acre-feet.

The Rio Grande provides water for agricultural, municipal, and industrial uses. It is vital for the arid regions of South Texas and northern Mexico, where water scarcity is a significant issue. The watershed faces several challenges, including climate change, drought, over-extraction, and reduced inflows from the U.S. and Mexico, reducing inflows into Amistad by 33.0% and Falcon by 21.5% since the 1980s. These factors have led to lower water levels in Amistad and

Falcon, 20.7% of their combined capacity, as of December 28, 2024. The Rio Grande Watershed is essential for the region's water security, and ongoing efforts are needed to effectively manage and conserve this critical resource.

BPUB, through its participation in the Southmost Regional Water Authority (SRWA), also uses subsurface waters from the Rio Grande Alluvium. Alluvial deposits are a vital water source for South Texas, particularly in a region where water scarcity is challenging. These deposits, formed by accumulating sand, silt, clay, and gravel over time, play a critical role in collecting and storing water. Rainfall, although variable, is the primary source of recharge for these deposits, with rivers, streams, and arroyos contributing through surface water infiltration. Floodplains are especially significant, as water spreads across them during heavy rains, seeping into the porous sediments below.

The ability of alluvial deposits to store water depends on their composition. Coarser materials like sand and gravel have high permeability, allowing for efficient storage and movement of water, while finer materials like clay and silt hold water but recharge more slowly. These deposits often form shallow aquifers essential for municipal, agricultural, and industrial uses across South Texas. The Rio Grande and its associated alluvial systems are vital, providing a critical supplemental water supply in the region.

However, these water sources face challenges. Over-extraction for irrigation and urban development risks depleting the aquifers, while contamination from runoff and saltwater intrusion threatens water quality. Despite these challenges, the alluvial deposits of South Texas remain indispensable. Proper management and conservation of these resources are crucial to ensuring their sustainability, especially in an arid region where reliable water sources are few and far between.

The alluvium in this region plays a crucial role in water management, particularly in the flow of the Rio Grande and the operation of desalination

2.1 Regional Water Challenges

Brownsville and the Lower Rio Grande Valley are particularly vulnerable to climate variability and change. The region's watershed experiences frequent droughts, which are expected to become more severe and prolonged due to climate change. Increased temperatures and altered precipitation patterns reduce water availability and increase evaporation rates, worsening water scarcity. These climatic changes also affect the timing and quantity of water flow in the Rio Grande, the region's primary water source.

The Rio Grande is Brownsville's primary surface water source, with significant contributions from the Amistad and Falcon international reservoirs. However, the river's flow is highly variable and dependent on upstream conditions and international

plants that treat brackish water from wells tapping into the Rio Grande Alluvium.

Although the South Texas region has not historically used alternative water sources, climate change and population growth dictate that BPUB, like all water providers, must consider conservation and alternative water sources as a possible "first choice" in meeting future water demands. In addition to conservation methods and brackish desalination, BPUB should build the capabilities to use harvested rainwater, reclaimed wastewater, seawater desalination, and captured condensate.



Falcon Dam plays a crucial role in the water supply for Brownsville, Texas, and the surrounding region.

water-sharing agreements with Mexico, which has only delivered its water requirements to the U.S. in three of the last six 5-year water cycles. Groundwater resources are also limited and often brackish, requiring desalination for use. The region's reliance on these constrained water sources makes it vulnerable to supply disruptions and shortages.

The Lower Rio Grande Valley, which includes BPUB's water service area, is one of the fastest-growing regions in Texas. The population is projected to increase from 1.7 million in 2010 to 4 million by 2060. This rapid growth places added pressure on already limited water resources. Increased urbanization leads to higher domestic water demand and a more significant strain on municipal water systems, such as BPUB. The growing population also needs expanded infrastructure and services, further complicating water management efforts.

Industrial activities, including manufacturing and energy production, demand considerable water resources. Over the past decade,

industrial water use in the Brownsville area has surged, driven significantly by the economic growth in the space industry and the Port of Brownsville. Over the past decade, the Port of Brownsville, a wholesale customer of BPUB, has dramatically expanded its operations, with cargo tonnage increasing by 17.0% in 2023 alone, solidifying its role as a crucial hub for commerce and regional growth. Space Exploration Technologies (SpaceX), while outside of the BPUB service territory, is a retail customer dependent on BPUB water for its expanding operations at Starbase, Texas. Balancing the needs of these sectors with those of urban populations and environmental requirements is a critical challenge.

3 Brownsville Public Utilities Board

BPUB is a municipally owned utility created and established as a separate and distinct agency in 1960 through the City Charter. BPUB manages, operates, and controls the city's combined water, wastewater, and electric utility systems. The BPUB Board of Directors consists of seven members: six appointed by the City Commission

to serve four-year terms, and the mayor of Brownsville serves as the seventh member ex officio. BPUB's mission is to provide reliable and sustainable utility services to current and future customers, ensuring the community has access to essential resources like water and electricity.

3.1 BPUB Water System

BPUB produces and delivers potable water to the greater Brownsville area's residents and businesses. The Water System draws raw water from the Rio Grande River, consisting of a river rock weir, two river pump stations, and two reservoirs with a total design capacity of 187

million gallons, and the Resaca system, distributaries of the Rio Grande, to store and manage this water supply. Two water treatment plants provide surface water treatment, each with a capacity of 20.0 million gallons per day (MGD). Additionally, two clear wells offer 6.9 million

gallons of storage capacity, and four elevated storage tanks provide 7.0 million gallons of elevated storage capacity. Four high-service pumping stations distribute water through 715 miles of transmission and distribution mains. While BPUB primarily serves residential and commercial customers, it provides treated water to three other water distribution companies under wholesale contracts, accounting for approximately 8.0% of sales.

BPUB is the majority partner and operator of the SRWA's Brackish Groundwater Treatment Facility, which produces approximately 6.5 MGD of potable water for Brownsville, accounting for 29.3% of total water production. This facility is crucial for diversifying water sources and

ensuring a consistent potable water supply, even when surface water resources are strained.

As of 2024, residential customers accounted for 51.4% of the total water produced, while commercial customers consumed 33.0%. Irrigation and wholesale customers, including the El Jardin and Military Highway Water Supply Corporations, and the Brownsville Navigation District, accounted for the rest. Between FY 2019 and FY 2023, BPUB saw a 6.2% increase in water customers and a 7.2% increase in water consumption, reflecting the region's growing demand for water services. As of December 2024, BPUB serves 55,954 water customers, highlighting our role as a critical water provider in the region.



An aerial view of Water Plant 1 and the Silas Ray Power Plant.

BPUB receives an annual allocation of municipal priority water rights from the Texas Commission on Environmental Quality (TCEQ) amounting to 31,965.6 acre-feet of water, dependent on inflow to the Falcon and Amistad Reservoirs. Additionally, BPUB holds Permit No. 1838, entitling it to 40,000 acre-feet of surplus water. BPUB is subject to water quality regulation by the TCEQ and currently holds a “Superior” water system rating under TCEQ regulations. BPUB's water utility service area is subject to the

certification jurisdiction of the TCEQ and has been certified to provide water service within the City's boundaries. A substantial part of the area, three and one-half miles surrounding the City of Brownsville's boundaries (the “extraterritorial jurisdiction”), is dually certified. There is a small water utility system, El Jardin Water Supply Corporation, with customers next to or within the System. BPUB's water system supplies all its treated water.

4 BPUB Water Strategy

BPUB's mission includes ensuring a sustainable and resilient water supply for the community by increasing supply, diversifying sources, and adopting conservation measures. BPUB is committed to enhancing water quality, reducing losses, using grant opportunities, and involving customers through open communications to secure a sustainable water future.

BPUB's vision is to be a Texas leader in water management, recognized for its innovative and sustainable practices, and creating a resilient water system that meets current and future community needs. By protecting the environment, incorporating resiliency, and enabling economic growth, BPUB aims to foster a thriving and sustainable community.

Values represent the core principles and beliefs guiding BPUB's organizational behavior and decision-making as the water provider for the community. They are fundamental to shaping BPUB's culture and interacting with customers, employees, and the community.

The following nine espoused values encapsulate BPUB's efforts in addressing the current water challenge:

- **Sustainability:** BPUB prioritizes sustainable practices to ensure a reliable water supply for future generations.
- **Innovation:** BPUB adopts industry-leading technologies and innovative solutions to

recycle and reuse water, promoting efficiency and sustainability.

- **Collaboration:** BPUB actively participates in and leads regional efforts to address water strategies, fostering collaboration and shared solutions.
- **Transparency:** BPUB communicates openly and transparently with customers to build trust and keep them informed.
- **Customer Engagement:** BPUB involves customers in water solutions, encouraging community engagement and support.
- **Proactive Maintenance:** BPUB protects investments with proactive maintenance to extend the lifespan and functionality of water systems.
- **Environmental Stewardship:** BPUB is committed to protecting and enhancing the environment through responsible water management practices.
- **Economic Growth:** BPUB enables economic growth by ensuring a reliable and sustainable water supply for the community.
- **Data-Driven Decision-Making:** BPUB uses data-driven decision-making in water strategies to make informed and effective choices.

4.1 Strategy Components

BPUB has identified 14 strategy components needed to ensure a sustainable and resilient

water supply for the community. Each component is presented in greater detail in this report. BPUB has made significant progress on some of these strategies, while others are in the preliminary planning stages.

Increase Water Supply and Diversify Sources

BPUB's strategic focus will be on increasing the water supply. BPUB will achieve this by exploring new sources such as groundwater, surface water, re-use, and expanding desalination. Diversifying water sources is crucial to our strategy, creating a more resilient system that can withstand various challenges, including climate change and population growth.

Brackish Groundwater Desalination Optimization and Expansion

As the operating partner of SRWA, BPUB is pursuing the expansion and optimization of Brackish Groundwater Desalination treatment to provide a drought-resistant supply. The actual Brackish Groundwater Treatment Facility production averages approximately 6.5 MGD despite its design capacity of 10.0 MGD. In 2023, BPUB completed a \$200,000 engineering study to optimize potable water production from the Brackish Groundwater Treatment Facility. The study identified 15 projects that, if performed, would result in 10.0 MGD production.

The cost of these projects is currently estimated at \$42.4 million. BPUB started several projects in



To increase water supply, BPUB is pursuing the expansion of the Southmost Regional Water Authority's facilities treatment abilities.

2024 and is seeking funding for the work. BPUB submitted a grant application on September 30, 2024, with the United States Bureau of Reclamation's WaterSMART grant program, which could potentially fund up to \$20.0 million in federal money if the project is selected. The WaterSMART cost share for a Title XVI water recycling grant is 75.0% local and 25.0% federal. With funding, BPUB estimates that the projects will be complete by the end of 2027.

SRWA and BPUB plan to expand the Brackish Groundwater Treatment Facility from 10.0 MGD to 20.0 MGD. Initial estimates for the expansion are \$181.0 million; it could be completed by 2031 if funding were available. The facility site can host an expansion without added real estate. This expansion creates efficiencies since the site has access to the pipelines, power, and discharge system needed to operate a brackish groundwater reverse osmosis facility.

Indirect Potable Re-Use

BPUB is exploring a new water supply source with Indirect Potable Re-Use (IPR). IPR uses reclaimed water for potable purposes by discharging it into a water supply source, such as a surface water body or groundwater aquifer. IPR involves an environmental buffer (e.g., a lake, river, or aquifer) before the water is treated at a potable water treatment plant. This approach provides an added layer of safety and quality control. Texas recognizes both direct and indirect reuse for potable purposes, emphasizing the importance of sustainable water management and

conservation. BPUB has begun the planning and engineering for an IPR project to divert up to 8.0 MGD of effluent discharge from its Robindale Wastewater Treatment Plant, which currently flows to the Gulf of America via San Martin Lake. Redirecting the wastewater effluent to Resaca De La Guerra would augment the raw water supply for the BPUB Water Treatment Plant 2. In October 2024, BPUB applied to the Bureau of Reclamation's WaterSMART Drought Response Program for its Brownsville Indirect Potable Reuse project. The grant request of \$9.5 million has a tentative award date of September 2025. This approach contributes to a resilient water supply system, reduces reliance on traditional sources, and enhances overall water sustainability in Texas.

1944 Water Treaty Minute 331 Agreement

BPUB and its leadership team advocated for and supported the International Boundary Water Commission (IBWC) Minute 331 Agreement to the 1944 Water Treaty, signed on November 7, 2024, which diversified the water supply for the Lower Rio Grande Valley by facilitating water exchanges between the United States and Mexico. This agreement enables more flexible water management, helping both countries cope with drought conditions and fluctuating water availability. It also promotes alternative water sources, such as treated wastewater, to supplement traditional supplies, enhancing water security and sustainability.

Additionally, the agreement includes provisions for the San Juan and Alamo rivers, ensuring their waters are managed to improve the reliability and predictability of Rio Grande water deliveries.

Adopt Water Conservation

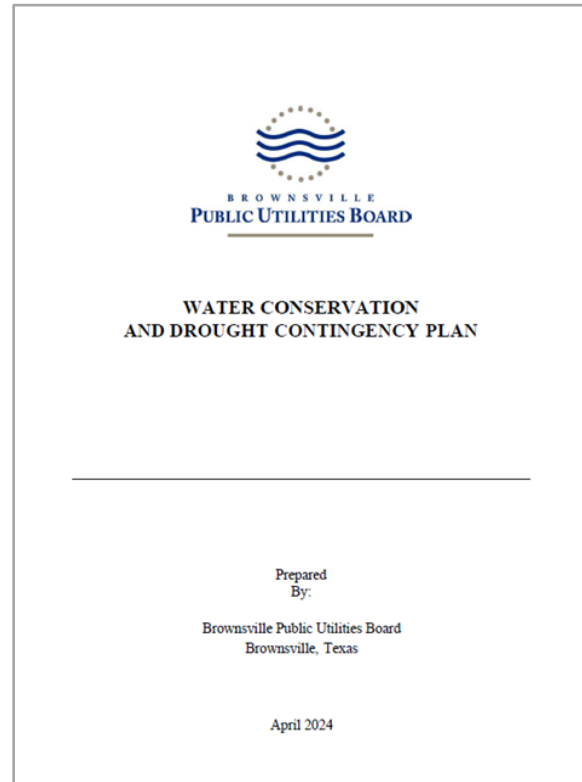
Measures

BPUB will implement water conservation programs to reduce demand as part of its strategy. This is a crucial step that requires the active involvement of all stakeholders, emphasizing shared responsibility. BPUB will promote water-saving technologies, encourage efficient water use among customers, and implement tiered pricing structures to incentivize conservation.

Water Shortage Alert

BPUB enacted Stage 2 - Water Shortage Alert on September 18, 2023. BPUB is committed to water conservation and has developed and implemented a Water Conservation and Drought Contingency Plan (WCDCP), which has been filed with the TCEQ and the Texas Water Development Board (TWDB). The plan, last updated in May 2024, outlines four stages of drought response, ranging from Stage 1 Voluntary Reduction to Stage 4 Water Rationing. Stage 1 is implemented annually on May 1st or when U.S. combined storage levels at Amistad and Falcon reservoirs are at or below 51% and is rescinded on September 30th unless triggering conditions continue. This proactive approach to water management

exemplifies BPUB's commitment to conserving water resources in the face of growing demand and environmental challenges.



BPUB plans to update the WCDCP and demonstrate a commitment to conserving water resources.

Water Conservation and Drought Contingency Plan Update

BPUB and the City of Brownsville are shifting from a compliance-driven WCDCP to an enhanced water strategy plan. In July 2024, BPUB executed a \$200,000 contract with an international engineering firm to develop a WCDCP Update that would benefit from industry best practices and proven science. The effort is to move from simply regulatory compliance to maximizing the return on conservation investments. The Update will utilize the best available science and industry best practices to refine effective strategies for

drought response, including vulnerability assessments and mitigation approaches, conservation strategies and specific targets, leak detection and response, drought stage criteria, measurement and response planning, recommended drought restrictions, and a public awareness and communication strategy. BPUB anticipates the update to the WCDCP will be complete in the second quarter of fiscal year 2025 and will start the projects and programs identified as having the highest likelihood of success in reducing water consumption. This marks the first significant WCDCP update in over 20 years.

Tiered Water Rates

BPUB completed its rate study in 2022, establishing water rates for 2022 through 2026. The study aimed to update the long-term rate plan to enable BPUB to recover sufficient funds to meet operating expenses, capital outlays, debt service, and coverage requirements while minimizing customer impact. BPUB uses inclining block rates, also known as tiered rates. Tiered water rates encourage conservation by charging higher rates for increased usage, motivating customers to reduce their water consumption.

This approach promotes sustainable water use, helps utilities manage resources, and supports revenue stability.

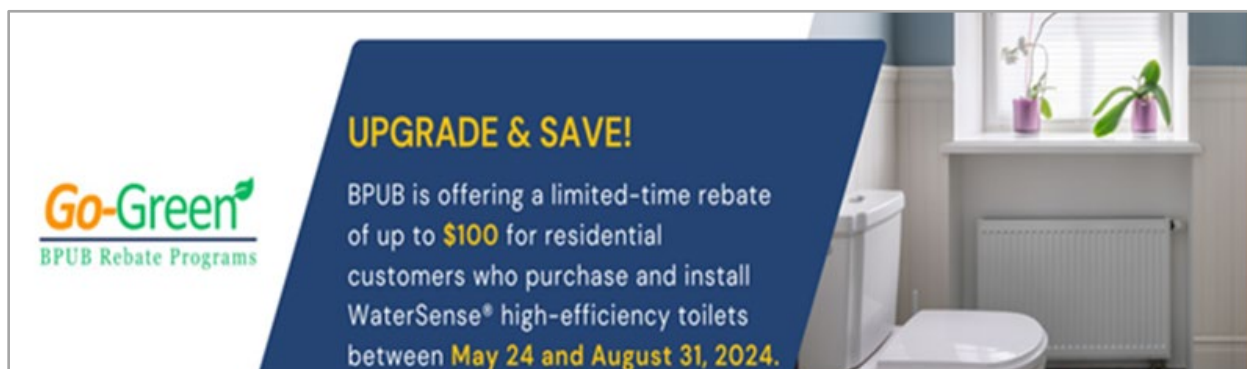
High-Efficiency Toilet (HET) Rebate Program

BPUB initiated a \$7,500 Toilet Rebate Program from May to September 2024 as a conservation measure. The high-efficiency toilet (HET) rebate program for its residential and commercial customers is part of BPUB's Go-Green Rebate Programs. HETs use less water per flush than traditional toilets, saving significant water over time. Certified HETs are estimated to save 4,000 gallons per year.

Water Conservation Eco-Kits Pilot Program

In 2024, BPUB launched a pilot program with \$19,000 to provide water conservation Eco-Kits to 700 residential customers. The program aims to support customers in their efforts to save water.

Each kit includes a high-efficiency showerhead, toilet tank bank, moisture meter, faucet aerators,



As an incentive to conserve water, BPUB temporarily increased toilet rebate savings to \$100.

leak-detection dye tablets, a 5-minute shower timer, and a lawn and garden hose timer.

Initially, the pilot program involved distributing the kits through an online application process, with pick-up or delivery options. Currently, the kits are provided to customers who have set up new residential water accounts with BPUB. Additionally, BPUB distributes kits at various community events. This initiative facilitates ongoing communication about water conservation through open communication with customers on current drought conditions and promoting awareness of the importance of water conservation. Aside from the Water Conservation Eco-Kits Pilot Program, BPUB provided Energy Conservation Kits that included water conservation tools to customers who established new services during Earth Week, April 22 through April 27, 2024.

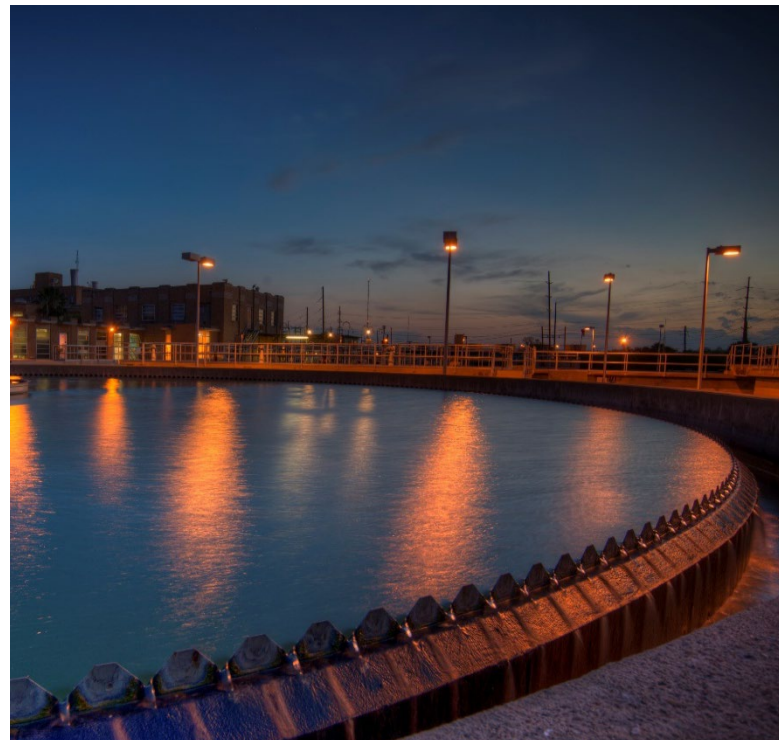
Invest in System Improvements

BPUB will upgrade its infrastructure to reduce water losses. This includes replacing aging pipes, installing advanced metering systems, and using leak detection technologies to find and repair leaks promptly.

Raw Water River Intake Facility Project

BPUB customers get 72% of their water from the Rio Grande. To convey the flow of water from the river to its two surface water treatment plants, BPUB operates two separate raw water intakes. Two river pump stations supply water from the river to the BPUB's two raw water storage reservoirs. The first pump station (PS1) features

two self-priming centrifugal pumps (16.0 and 32.0 MGD) that are over 80 years old and require replacement due to their age, location, condition, and reliability issues. BPUB plans to construct a new raw water pump station, including an intake structure on the riverbank, a pump house with four (4) vertical turbine pumps, and an electrical control room within BPUB's property. The purpose of this new pump station is to meet the current and future needs of BPUB customers by meeting a demand of 64.0 MGD. BPUB consultants have completed 30.0% of the design and will move to complete 100% of the design by early 2026. The current opinion of the probable construction cost for the project is \$36.2 million. A second river pump station (PS2) has a 32.0 MGD vertical turbine pump station from the late 80s,



Due to the equipment's age, BPUB is looking construct a new raw water pump service station to meet customers' needs.

used primarily to capture Permit 1838 surplus water.

Advanced Meter Infrastructure

BPUB is investing \$29.7 million to install and use Advanced Meter Infrastructure (AMI) on over 100,000 electric and water meters. The water meter installation will begin in March 2025 and is expected to be completed by February 2027. The scope of work for the project includes materials, supervision, installation, retrofitting, and replacing over 57,000 water meters, ongoing maintenance and customer support services for an AMI system, a customer-facing portal, and integration with Cayenta billing software. This initiative supports water conservation efforts through leak detection and isolation, malfunctioning meter detection, and providing consumption data for

customer behavior programs. Additionally, it aims to design better rates to encourage and reward water conservation.

Improved Elevated Water Storage

In 2023, BPUB commissioned a two-million-gallon elevated storage tank to replace the Southmost Elevated Storage Tank and the University of Texas at Rio Grande Valley Elevated Storage Tank, which were one million gallons in capacity each and were built in 1969. The new elevated storage tank was put into service at the end of 2023 at \$6.8 million. The TCEQ requires BPUB to maintain a total storage capacity of 200 gallons per connection and an elevated storage capacity of 100 gallons per connection. After the demolition of the UTB Tank in the Spring of 2025, BPUB will own and operate three two-million-



Marie Leal, Director of Water/Wastewater Engineering & Capital Planning, and David Vera, Field Technician, stand before the new Elevated Storage Tank.

gallon elevated storage tanks: the Alton Gloor, Martinal, and Southmost.

BPUB analyzed the water use and found that BPUB customers use much less water per connection than the 0.6 gallons per minute requirement in the TCEQ rules. The alternative capacity requirement study was approved by TCEQ and granted an Equivalency Ratio (ER) of 0.68. By applying the ER, TCEQ requires 136 gallons per connection and an elevated storage capacity of 68 gallons per connection. BPUB meets the TCEQ requirement for total and elevated storage capacity.



BPUB has acquired new equipment to inspect infrastructure for leaks.

Leak Detection and Repair Program

BPUB acquired leak detection equipment to initiate an in-house formal Leak Detection and Repair Program. This program is designed to identify water leaks that are otherwise

undetectable visually and serves to mitigate water losses. To assist with launching the program and take a more aggressive approach, BPUB has awarded a \$390,870 contract in 2024 for technical services and to acoustically inspect 486 miles of PVC water line infrastructure, including valves, hydrants, service lines, water meters, air release, and blow-off valves.

Water Distribution & Meter Management Audit

BPUB engaged and authorized an engineering firm to conduct a five-year comprehensive Water Audit and Meter Management Evaluation, completed in March 2023, to better understand an increase in Non-Revenue Water (NRW). Applying best management practices, the goals of the evaluation were to verify the current volume of water loss associated with metering, to find the various causes of this loss, and to consider the potential long-range cost-effectiveness of programmed meter application, sizing, and replacement. The report showed areas of water loss and recommendations for improvement. BPUB has begun implementing the following improvements found in the report:

- Meter replacement program. The AMI Project will replace 55,369 residential and commercial water meters by the 2nd quarter of 2027.
- Water and Wastewater Operations continue to track repair locations by categories (main break, service leaks, etc.) for system evaluation for operations and maintenance

(O&M) and Capital Improvement Project (CIP) planning.

- Based on tracked repairs, asbestos-contaminated concrete waterlines have been identified and analyzed. These areas are examined more closely during the budgeting process for O&M and CIP projects.

Water and Wastewater Operations has implemented a service line replacement program. Leaking service lines are replaced from the main to the water meter.

Improve Water Quality

Ensuring high water quality is a top priority. BPUB will invest in advanced treatment technologies and regularly monitor water quality to meet and exceed health and safety standards. Public

education campaigns will also inform customers about water quality and safety.

Water Analytical Laboratory

The BPUB Analytical Laboratory collects and analyzes 15 parameters from the Rio Grande River monthly as a Texas Clean Rivers Program partner. Six employees collect or analyze 16 test parameters every eight hours. Parameters include ammonia nitrogen, biochemical oxygen demand, E. Coli, Colilert-18, enterococci, enterolert, total dissolved solids, turbidity, total suspended solids, conductivity, hydrogen ion conc (pH), alkalinity, hardness, chloride, calcium, total organic carbon, and dissolved organic carbon.



BPUB employee analyzes test parameters to ensure high water quality.

Consumer Confidence Report – Drinking Water Quality Report

The Consumer Confidence Report (CCR), or the Drinking Water Quality Report, is a snapshot of the previous year's drinking water data for the Community Water Systems (CWS).

The report aims to inform the customer of the water quality. Analytical data indicates that BPUB has continuously complied with the EPA National Primary Drinking Water Regulations and Texas Secondary Standards. BPUB was removed from the Water Quality Parameters sampling schedule in 2019 due to continuous compliance with the Lead and Copper Rule and other monitoring requirements. BPUB has been designated a "Superior Water System" since 1994.

Continuous Monitoring of Pressure Points in the Water Distribution System

Pressure points are monitored during water breaks to ensure a proper response, immediate public notification (e.g., Boil Water Notices), and appropriate reporting actions when the pressure in the distribution system drops below the 20-psi minimum threshold. In recent years, only one Boil Water Notice has been issued, on January 15, 2020.

The water plants monitor pressure points daily through the SCADA system to ensure the proper operation of the water plants and the distribution system.

2017 Nitrification Action Plan

The purpose of the 2017 Nitrification Action Plan (NAP) is to address and mitigate nitrification, which is the microbial conversion of ammonia into nitrite and nitrate in water systems. This process can degrade water quality in distribution systems that use chloramine (a combination of chlorine and ammonia) as a disinfectant. Total chlorine residual must be maintained at a minimum of 0.5 mg/L and a maximum of 4.0 mg/L (based on the running annual average) in the distribution system. BPUB has continuously complied with the NAP requirements: sampling, preventive maintenance (flushing), disinfection effectiveness, and reporting.

The 2017 Nitrification Action Plan helps BPUB maintain high-quality drinking water by systematically addressing factors that contribute to nitrification.

Lead and Copper Rule Improvements

The Lead and Copper Rule (LCR), established by the EPA in 1991, aims to reduce lead and copper levels in drinking water, primarily caused by plumbing corrosion. The rule mandates regular monitoring and testing of water at customer taps, with action levels set at 15 parts per billion (ppb) for lead and 1.3 parts per million (ppm) for copper. If these levels are exceeded, water systems must implement corrosion control measures, inform the public, and potentially replace lead service.

In 2021, the EPA introduced significant revisions known as the Lead and Copper Rule Revisions (LCRR), which took full effect on October 16, 2024. These revisions included more stringent requirements for finding and replacing lead service lines, enhanced public notification protocols, and mandatory testing in schools and childcare facilities. The LCRR also emphasizes the importance of developing and keeping a comprehensive inventory of service line materials.

Further improvements, termed the Lead and Copper Rule Improvements (LCRI), were announced in October 2024. These improvements aim to strengthen the LCRR by accelerating lead service line replacements and enhancing protections for communities at higher risk of lead exposure.

BPUB complies with these updated regulations and sent its initial service line inventories to TCEQ before the October 16, 2024 deadline. Based on the survey, 4.5% of the publicly owned and 29.5% of the privately owned service lines in the BPUB service territory are of unknown materials. Customers were notified by letter before November 16, 2024; 18,134 letters and 6,347 e-mails were sent to BPUB customers before the notification deadline.

BPUB is working closely with the TCEQ, which provides guidance and resources to help water systems meet the requirements and ensure safer drinking water for all Texans.

Customer Service Inspection

A Customer Service Inspection (CSI) is essential for ensuring the safety and quality of drinking water in BPUB's water system. As the Texas Administrative Code mandates, BPUB must conduct a CSI before continuous water service is provided to new constructions or when significant changes are made to the plumbing system. The inspection aims to prevent the introduction of potential contaminants by checking for cross-connections between potable and non-potable water supplies, ensuring compliance with lead content standards, and verifying the presence of backflow prevention devices to prevent non-potable water from contaminating the public water system. Licensed inspectors from BPUB perform these inspections, documenting the results to certify that the water distribution system is safe and compliant with state regulations. This process helps protect public health by ensuring drinking water stays free from contaminants and meets safety standards.

Dead-End Main Line Flushing and Testing

According to state requirements, an internal dead-end line monthly flushing program is in place. Currently, BPUB flushes 253 dead-end mains monthly according to American Water Works Association (AWWA) standards. In 2023, BPUB manually flushed 3.9 million gallons to support water quality in the distribution system. BPUB also has 17 auto-flushers in the system that automatically flush problem areas to support good water quality.

Leverage Grant and Funding Opportunities

BPUB will seek grants and other funding opportunities at the state and federal levels to fund supply and demand projects. This added funding will support initiatives and help us achieve strategic goals.

WaterSMART Grant Award for Advanced Metering Infrastructure

On September 9th, 2023, the Bureau of Reclamation's WaterSMART Water and Energy Efficiency Grants for FY 2023 awarded BPUB \$5.0 million for the AMI Project. This project aims to replace approximately 17,678 manual-read meters with AMI smart meters and retrofit around 39,773 existing meters with compatible registers and endpoints. It is expected to result in annual water savings of 2,103 acre-feet, which is currently lost to leaks.

WaterSMART Grant Application for SRWA Optimization Project

On September 30, 2024, BPUB submitted an application to the Bureau of Reclamation's WaterSMART Desalination and Construction Program for its SRWA Optimization project. On January 14, 2025, the USBR issued BPUB a response letter offering a partial award of \$5,030,654. The project involves reconstructing existing groundwater wells at the SRWA BGTF to enhance their productivity and efficiency, and constructing two new wells to provide redundancy in the event of maintenance or failure of any existing wells. Additionally, the project includes

modifications to the reverse osmosis (RO) permeate piping, installation of added microfiltration (MF) racks and an MF filtrate transfer pump, upgrades to electrical equipment and instrumentation, and improvements to chemical dosing and storage. These upgrades will enhance the BGTF's ability to serve as a robust and reliable supplemental water source for SRWA's five regional partners.

WaterSMART Grant Application for SRWA New Wells for Drought Resiliency and Groundwater Reliability Project

On October 7, 2024, BPUB submitted an application to the Bureau of Reclamation's WaterSMART Drought Response Program for its SRWA New Wells for Drought Resiliency and Groundwater Reliability project. With a grant request of \$8.8 million, the project has a tentative award date of September 2025. This will enable SRWA to provide more reliable groundwater to southern Cameron County, Texas, by constructing two new wells. These wells will enhance resilience, redundancy, and reliability in the wellfield, adding 726 acre-feet per year (AFY) to the existing water supply.

WaterSMART Grant Application for Indirect Potable Reuse Project (IPR)

On October 7, 2024, BPUB applied to the Bureau of Reclamation's WaterSMART Drought Response Program for its Brownsville IPR project. With a grant request of \$9.5 million, the project has a tentative award date of September 2025. It will increase water supply reliability, build long-term resilience to drought, and help avoid

the need for emergency drought responses in the service area of the BPUB by treating effluent from the Robindale Wastewater Treatment Plant (WWTP) to indirect potable reuse standards.

WaterSMART Grant Application for Resaca de la Guerra Resilience and Restoration Project

On June 25, 2024, BPUB submitted an application to the Bureau of Reclamation's WaterSMART Environmental Water Resources Projects for its Resaca de la Guerra Resilience and Restoration Project and received a response letter from the USBR, offering the full \$3.0 million grant. The project will remove approximately 44,000 cubic yards of sediment to restore around 27 acre-feet of aquatic habitat and add 27 acre-feet of storage capacity. Additionally, the project will install native vegetation along the resaca banks to restore approximately 3,000 linear feet of riparian corridor, remove invasive vegetation in the riparian corridor, add 2,000 linear feet of walking trails, and install three stormwater treatment units to remove sediment, trash, and debris from stormwater runoff before it drains into the Resaca.

WaterSMART Grant Application for Small-Scale Water Efficiency Projects

On January 14, 2025, BPUB submitted an application with a grant request of \$125,000 to expand the existing high-efficiency toilet rebate program, introduce rebates for washing machines and irrigation controllers, and implement a xeriscaping incentive program to

encourage turf replacement among Brownsville residents.

Economic Development Agency Public Works and Economic Adjustment Assistance Program

BPUB anticipates applying to the Economic Development Agency (EDA) Public Works and Economic Adjustment Assistance Program. This program aims to provide funding to support construction, non-construction, planning, and technical assistance for infrastructure projects, including technology-based facilities, multi-tenant manufacturing facilities, business and industrial parks, telecommunications and development facilities, water and sewer improvements, business incubator facilities, port and harbor expansions, skill-training facilities, and redevelopment. The program allows for rolling applications, and BPUB is currently working to submit an application for the Loma Alta Substation project.

Environmental Protection Agency U.S.–Mexico Border Water Infrastructure Program

BPUB anticipates applying to the EPA's U.S.–Mexico Border Water Infrastructure Program. Application dates have not yet been announced. The program aims to provide funds for the planning, designing, and constructing high-priority water and wastewater infrastructure projects along the U.S.-Mexico border.

Texas Water Development Board's Drinking Water State Revolving Fund

BPUB anticipates applying to the TWDB's Drinking Water State Revolving Fund in March 2025. The program aims to provide low-cost financial help for planning, acquiring, designing, and constructing water infrastructure. Principal forgiveness is available on a limited basis to eligible applicants.

The Water Resources Development Act of 2024

The Water Resources Development Act of 2024 (WRDA), signed by President Biden on January 4, 2025, authorizes \$40 million in federal funding for critical upgrades to water and wastewater infrastructure in Brownsville. This includes improvements to water supply systems. The bill authorizes the U.S. Army Corps of Engineers to prioritize water supply as one of its primary missions, which could help manage water resources during droughts, ensuring a sustainable water supply from vital sources, such as Falcon Reservoir.

Participate in Regional Efforts

BPUB will collaborate with regional partners to address water strategies. Resources, knowledge, and solutions to common water challenges can be shared by BPUB participating and leading regional efforts.

International Water Boundary Committee

BPUB has co-signed joint communications on the Mexican Water Debt from the 1944 Treaty to the Lower Rio Grande Valley Development Council, the IBWC, and the Department of State. On July 10, 2023, the BPUB Board adopted and approved a resolution urging

BPUB will work in tandem with regional partners to address water strategies.

Mexico to follow the terms of the 1944 Treaty and release water to the United States.

BPUB joined other water utilities, farmers, and irrigators in many IBWC regional stakeholders and citizen forums to discuss the current water scarcity challenge and practical solutions in the region. On November 19, 2024, BPUB submitted a letter to the TCEQ Commissioner, Bobby Janecka, requesting authorization to divert water from the San Juan and Alamo Rivers via Water Permit 1838.



The IBWC signed the Minute 331 Agreement on November 7, 2024. Minute 331 focused on improving the reliability and predictability of Rio Grande water deliveries under the 1944 Water Treaty. The historic agreement allows Mexico to use waters from the San Juan and Alamo Rivers to fulfill part of the requirements under the 1944 Water Treaty. The water enters the Rio Grande south of the Falcon Reservoir, so it cannot be impounded and held for later use. However, BPUB can draw and divert water into its reservoirs and Resaca De La Guerra. This agreement, which will be in force for five years, provides added sources of surface raw water for BPUB and other providers in the lower Rio Grande Valley. The agreement also gives Mexico tools and flexibility to deliver water earlier in the five-year cycle to reduce or prevent shortfalls in water deliveries to the United States.

Texas Water Development Board, Region M Planning Group

BPUB is represented by the Rio Grande Regional Water Planning Group (RWPG) as an Executive Committee Member. The RWPG works with state agencies and local stakeholders to develop and update a Regional Water Plan, which guides the development and stewardship of the region's water resources. The Region encompasses eight counties. Its major cities include Brownsville, McAllen, Laredo, Harlingen, and Eagle Pass. Over 60.0% of the region lies within the Rio Grande Basin, with the Rio Grande being the region's primary water source. The most significant economic sectors in the region are

agriculture, trade, services, manufacturing, and hydrocarbon production. The region's primary water source will remain the Rio Grande, tributaries, and international reservoirs. BPUB staff is actively participating in drafting the 2026 Rio Grande Regional Water Plan.

Participation in the Southmost Regional Water Authority

In 1981, in response to the drought conditions and water supply issues in Southern Cameron County, the SRWA was created as a conservation and reclamation district. The SRWA was set up through legislation to address the region's water challenges. Its partners include the City of Los Fresnos, the Town of Indian Lake, the Laguna Madre Water District, Valley Municipal Utility District No. 2, the Brownsville Navigation District, and BPUB. SRWA completed its Brackish Groundwater Treatment Facility in 2004 for \$29.0 million, with a capacity of 7.5 MGD. In 2015, the WDB funded the facility with \$13.0 million, expanding its capacity to 10.0 MGD and adding microfiltration pretreatment to improve water quality. This facility saves up to approximately 11,200 acre-feet of surface water annually from the Rio Grande, showing its critical role in reducing reliance on surface water and enhancing regional water security.

Texas Clean Rivers Program

BPUB participates in the Texas Clean Rivers Program (CRP), a partnership between the TCEQ and regional water authorities that coordinates and conducts water quality monitoring, assessment, and stakeholder

participation to improve surface water quality within each river basin in Texas. Established in 1991, CRP is a fee-funded, non-regulatory program created to provide a framework and forum for managing water quality issues more holistically. The program focuses on working at the watershed level, within each river basin, by coordinating the efforts of diverse organizations. The TCEQ and the CRP Partners work together to implement the program as laid out in the Texas Water Code, Section 26.0135, and the Clean Rivers Program Rule, Texas Administrative Code, Chapter 220.

Texas Commission on Environmental Quality – Rio Grande Watermaster

BPUB participates in the Rio Grande Watermaster Advisory Committee, set up in January 1998 under the Texas Water Code Section (§)11.3261. Watermaster programs allocate water between users and ensure compliance with water rights within their designated basins. Advisory committee members recommend activities that help water rights holders within their jurisdiction.

Protect Investments with Proactive Maintenance

BPUB's investments are protected with proactive maintenance to extend the lifespan and functionality of water systems.

Asset Management Program

Asset Management will enhance proactive maintenance for BPUB by keeping a detailed

inventory, using predictive analytics to forecast failures, and understanding asset lifecycles for prompt replacements. It focuses resources on critical components, reducing costs and ensuring regulatory compliance. This approach improves service reliability by minimizing downtime and integrating technologies like Geographic Information Systems and Computerized Maintenance Management Systems for efficient data management. Overall, it supports long-term planning and sustainability.

BPUB has committed to developing its Asset Management Program with a budget of \$322,973 in FY 2025 and adding three engineering positions to the group in 2024 and 2025.

Valve and Hydrant Maintenance Program

BPUB has a Valve and hydrant maintenance program with 12 employees, covering 14,636 valves and 5,316 hydrants. In 2023, crews performed various maintenance and repair tasks, including maintenance on 179 hydrants, repairing or replacing 27 hydrants, and flushing 2,911 hydrants. Additionally, the BPUB crews maintained 603 valves, replaced 30 valves, and installed 17 new valves.

Cross Connection Control and Backflow Inspection Program

BPUB's Cross-Connection Control program prevents contaminants from entering the potable water supply. It involves identifying potential cross-connections, installing backflow prevention devices, and conducting regular testing and maintenance. Public education and staff training

are essential to ensure compliance and awareness. Detailed record-keeping supports regulatory compliance and program effectiveness. By implementing these measures, BPUB maintains water safety and quality, protects public health, and prevents contamination incidents. BPUB staff hold a Backflow Prevention Assembly Tester's license issued by the TCEQ. BPUB staff annually perform testing & maintenance (repair/replacement if needed) on approximately 131 BPUB-owned backflow preventers.

BPUB staff assist with testing backflow preventers for the City of Brownsville annually, covering approximately 142 backflow devices. BPUB staff enforce testing and installing backflow devices for the public to meet state and local requirements. The public has around 5,800 backflow devices that require testing on an annual or tri-annual basis. BPUB staff assist new project developments to implement proper backflow devices that help protect the public drinking water supply. Around 180 new development projects are approved every year.

Customer Service Inspection Program

BPUB has an internal program to perform CSI that consists of 4 employees who are CSI-licensed by the TCEQ. BPUB follows city ordinances that adhere to City and State requirements. In 2024, BPUB crews performed 1,384 inspections throughout the system. Additionally, BPUB contracted with a specialist consulting firm in 2024 to perform CSI. During this

time, 2,373 inspections were performed for a total cost of \$213,570.

Water Main and Service Line In-House Repair Program

BPUB's internal water main and service line repair program is in place. Calls are reported to BPUB dispatch and prioritized by scheduled or emergency work status. The BPUB distribution system covers 736 miles of water main, providing services to 60,266 connections. In 2023, BPUB crews performed 72 water main repairs and 1,873 water service replacements.

Adopt Industry-Leading Technologies

We will adopt innovative technologies to recycle and reuse water. This includes implementing water reclamation projects and using treated wastewater for non-potable purposes, such as irrigation and industrial processes.

Non-Potable Reuse at Wastewater Treatment Plants

The wastewater treatment plants use treated effluent for wash-down stations, the disinfection system, odor control, belt press, and other process applications, saving millions of gallons of water annually.

Extension of Filter Runtimes to Reduce Water Used for Backwash

The surface water treatment plants have conventional mixed media filters that require periodic backwashing using treated water. The

two plants extended their filter runtimes, reducing the use of treated water by over 20.0%.

5-Year Water Distribution & Meter Management Audits

In 2023, BPUB completed the utility's Water Distribution & Meter Management Audit report. A three-year history of water production records and a metered consumption history of over 56,000 active accounts were reviewed. All large meters installed since 2017 were inspected, and the leak repair history and non-revenue water use for the previous three years were examined. Production meters were tested in the field and were within 2.0% accuracy. BPUB crews processed over 4,470 water system-related work orders from 2018 to 2022, including line breaks, service leaks, hydrant and valve leaks, and other maintenance or operational issues. The 2023 report showed that BPUB had added over 7,100 new accounts, a 14.5% increase compared to the previously completed water audit report in 2016.

The 2023 report also showed water production and sales increasing by approximately 5.2% and 7.2%, respectively. The report details water production, non-revenue water reviews, metered consumption reviews, analysis of large meters, and leaks and apparent losses in the BPUB system. BPUB's internal water main and service line repair program is in place. Calls are reported to BPUB dispatch and are prioritized by scheduled or emergency work status. BPUB's distribution system covers 736 miles of water main, providing services to 60,266 connections.

In 2023, BPUB crews performed 72 water main repairs and 1873 water service replacements.

Utilize Data-Driven Decision-Making

BPUB's water strategies will be guided by data-driven decision-making. This includes using advanced analytics and modeling to make informed choices about water management, ensuring operational effectiveness and efficiency.

Chemical Analysis at SRWA

SRWA uses various chemicals for membrane treatment, water stabilization, and disinfection. SRWA focused on chemical dosages and corresponding water quality data to optimize chemical dosing for effectiveness and efficiency. Reducing chemical dosages for chlorine dioxide, sodium bisulfite, ferric chloride, and scale inhibitors led to significant savings in annual operation and maintenance costs. By optimizing the dosage rate, the facility achieved the desired treatment outcomes with lower chemical consumption. This efficiency reduced chemical costs and decreased handling and storage requirements, contributing to an overall savings of \$140,000 annually. This demonstrates the financial benefits of process optimization in chemical management while maintaining operational effectiveness.

Implementation of Office 365 and Microsoft Copilot Pro

Artificial Intelligence (AI) offers significant benefits. Office 365 applications like Excel, combined with Microsoft Copilot Pro, can

integrate data from multiple sources, perform advanced analytics, and create powerful visualizations, helping to find trends, anomalies, and areas for improvement in water management. Microsoft Copilot Pro's advanced analytics and machine learning capabilities aid in building predictive models to forecast water demand, detect leaks, and optimize resource allocation, ensuring proactive issue resolution and improved overall efficiency. Furthermore, Office 365 tools like SharePoint and Teams help seamless collaboration among team members, enabling them to share insights, reports, and dashboards, ensuring that all stakeholders are informed and can make data-driven decisions.

Performance Management

The Operations business unit implemented Performance Management in FY 2025. Performance management involves the establishment of key performance indicators and other related metrics to guide and evaluate individual and business unit performance against BPUB's strategic outcomes. Using Power BI from Office 365, data is extracted and analyzed from BPUB's financial and operational systems and tracked against predefined target values to measure performance. Beginning in January 2025, the Operations business unit leadership will conduct monthly strategy sessions to review performance and plan action items to meet or exceed performance targets.

Incorporate Resiliency

Resiliency will be incorporated into BPUB's water resources selection, construction, and operation.

This includes designing infrastructure to withstand extreme weather events and ensuring a reliable water supply under various conditions.

Resaca Maintenance

BPUB began dredging Resacas in 2013 and expanded the program from eight personnel to 22. Primarily funded from water rates, which were exchanged for a Resaca Fee in 2022, and federal grants, BPUB's Resaca Operations has expended \$23.5 million since 2012 and removed 234,621 cubic yards of sediment, 1,951 cubic yards of trash, and 4,677 cubic yards of sand from Resacas.

Resaca De La Guerra stores raw water diverted from the Rio Grande River and can be treated at Water Treatment Plant 2. By dredging and improving Resaca De La Guerra's water quality, BPUB increases the resiliency of the raw water supply.

In addition, BPUB is currently planning an IPR project to flow up to 8.0 MGD of treated effluent from the Robindale Wastewater Treatment Plant into Resaca De La Guerra. Maintaining adequate Resaca De La Guerra storage capacity ensures a resilient and reliable water supply.

Backup Power Study for the Water & Wastewater Plants

With the assistance of a consultant engineering firm, BPUB conducted a resiliency study for its five water and wastewater treatment plants in 2024. The water plants included were Water Treatment Plant I (WP#1), Water Treatment Plant 2 (WP#2), and the SRWA plant. The report

findings provide electrical site assessment validations, verifications, and associated opinions of probable construction costs of system upgrades needed to strengthen the resiliency at each site. The proposed backup power solutions will use parallel genset configurations to increase resiliency and reliability. Instead of relying on a single large generator, a system of smaller parallel generators provides redundancy. If one generator fails or requires maintenance, the other can supply uninterrupted power to critical loads that support essential water processes during emergencies.

All solutions within this report meet or exceed Senate Bill 3 (SB3) requirements by providing uninterrupted power to loads necessary for keeping 20 psi of water pressure during prolonged power outages, and are imperative for each plant's continuous operation, safety, and process. The opinions of probable construction costs are \$37 million for WTP#1, \$4.9 million for WTP#2, and \$6.4 million for SRWA. Initial implementation of the backup power study system upgrade recommendations at each water plant listed above could begin in fiscal year 2026.

Risk & Resiliency Assessment, Emergency Response Plan

Completed in 2020, the Risk and Resilience Assessment (RRA) was conducted according to America's Water Infrastructure Act of 2018 (AWIA) to meet the AWIA compliance requirements and to secure the long-term resilience of BPUB infrastructure. The RRA identifies and characterizes asset-specific and

system-wide vulnerabilities and threats and quantifies the consequences of disruption. The RRA helps BPUB navigate the many options and constraints in addressing and mitigating risk and charts a course toward water system resilience. An RRA must be updated every five years.

Protect and Enhance the Environment

BPUB is committed to protecting and enhancing the environment. Implement sustainable water management practices, habitat restoration projects, and pollution prevention measures to safeguard natural resources.

Pretreatment Program

The Pretreatment program is required to satisfy compliance with applicable State and Federal laws required by the Clean Water Act of 1977 (33 U.S.C. § 1251 et seq.) and the General Pretreatment Regulations for Existing and New Sources of Pollution (40 C.F.R. Part 403).

The department operates under a required TCEQ-approved Pretreatment Program and the City of Brownsville Non-Domestic Wastewater Pretreatment Ordinance 2020-795-G. The Ordinance and approved Pretreatment Program provide the legal framework to empower the departmental staff to execute enforcement activities.

The BPUB Pretreatment Department is comprised of two distinct programs. The Industrial Program and Fats, Oil, and Grease (FOG) program. As an approved Control Authority, the BPUB Pretreatment Department

administers and enforces local, state, and federal regulations to:

- Protect BPUB’s infrastructure, wastewater collection systems, treatment plants and workers by controlling pollutants discharged from commercial and industrial customers, which may pass through or interfere with the utility’s underground infrastructure and treatment plants;
- Allow the beneficial reuse of biosolids;
- Allow the reclamation of treated effluent for irrigation or other uses;
- and maintain water quality in the Rio Grande and San Martin Lake.

Sanitary Sewer Overflow Reduction Initiative

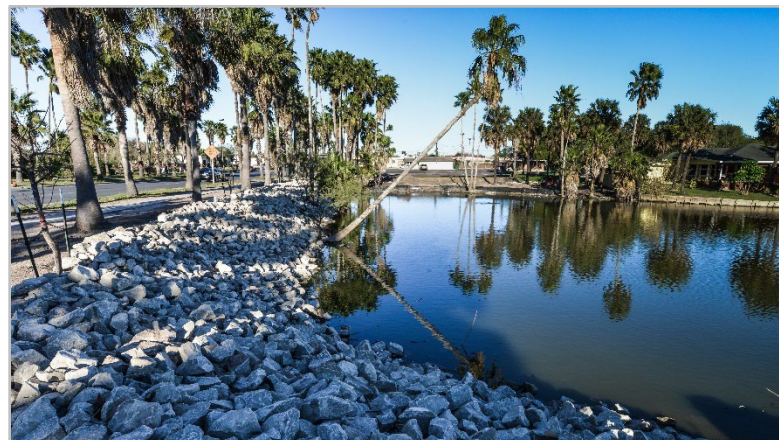
The TCEQ has developed specific programs and initiatives to address Sanitary Sewer Overflows (SSOs). One such program, the SSO Initiative, is a 10-year voluntary effort to reduce SSOs by encouraging utilities to proactively improve their wastewater collection systems. This initiative helps municipalities and utilities address aging infrastructure, prevent compliance issues, and mitigate environmental risks.

BPUB voluntarily participated in the SSO Initiative from 2013 to 2023 and is awaiting approval for a subsequent 10-year participation period. During this time, BPUB made significant infrastructure improvements and

launched several public outreach campaigns, including:

- “Save Your Drains: Bag the Grease”
- “Fight the FOG”
- “It’s a Can, But Not for Trash”
- “Watch What You Flush”

BPUB has seen a steady decline in SSO events and grease-related service calls in the collection system, with only 25 events in 2024. This improvement is attributed to BPUB’s concerted efforts to implement preventive and corrective actions through infrastructure upgrades and public education programs.



Resacas aid in flood control, hydrological processes and provide a habitat for wildlife.

Resaca Restoration

Resaca restoration projects are pivotal in enhancing and preserving the environment. These initiatives bring about many ecological benefits that are crucial for the health and sustainability of local ecosystems.

One of the primary advantages of resaca restoration is the significant improvement in water quality. Over time, resacas can accumulate sediments and pollutants that degrade water quality. Restoration efforts focus on removing these harmful substances, resulting in cleaner water that is safer for wildlife and human use. This improvement in water quality is essential for maintaining the health of aquatic ecosystems and ensuring that the water remains a viable resource for the community.

Other environmental benefits of resaca restoration are flood control, natural habitat for wildlife, and improved hydrological processes. BPUB's efforts improve residents' quality of life and promote a greater appreciation for the natural environment.

Enable Economic Growth

A reliable and sustainable water supply is essential for economic growth. BPUB will support the community's economic development by

ensuring businesses and industries can access the water they need to thrive.

Key Account Marketing Program

BPUB maintains a dedicated Key Account Marketing Program with four employees and an FY 2025 budget of \$378,880. Key Account managers are responsible for maintaining effective relationships with BPUB's large commercial and industrial customers and ensuring that their customers have the water needed to support continued economic growth and development. In addition, they coordinate with Water and Wastewater Engineering and Operations to ensure the effective implementation of water conservation measures at customer sites.

Effective communication with key accounts plays a crucial role in a public utility's efforts to foster water conservation strategies for large customers, such as businesses and institutions. They account for the most significant water usage in the water supply.



BPUB supports economic growth in the city of Brownsville by ensuring businesses have access to the water they need to thrive.

Acquisition of Water Rights

BPUB requires new developments and large commercial customers to contribute or pay to acquire water rights to serve their water demands as they join the system. This fosters sustainable economic growth by ensuring the availability of water resources for current and future needs.

Water is critical for residential, commercial, industrial, and agricultural activities. A well-structured policy incentivizes responsible water management and provides the foundation for long-term economic expansion.

This requirement ensures that new developments do not strain existing water supplies, protecting the Brownsville community's residents and businesses. By contributing to the acquisition of water rights, developers and businesses help expand the local water portfolio, guaranteeing that growth does not lead to shortages. This stability in water availability attracts industries, creating jobs and boosting economic activity.

By integrating water resource management into development policies, BPUB promotes equitable resource allocation and creates an environment where businesses and residents thrive together, ensuring sustainable economic growth.

Impact Fees

BPUB requires new development in its service territory to pay Impact Fees when they join the system. This contributes to sustainable

economic growth by ensuring infrastructure and public services keep pace with expanding populations and businesses. Impact fees are assessed on new construction projects and help fund the necessary upgrades and expansions to the water system to serve the customers.

One significant benefit of impact fees is their role in equitably distributing the costs of water system development and improvements. Instead of placing the financial burden of growth on existing residents, these fees ensure that new developments contribute directly to the public resources they will utilize.

This fiscal responsibility fosters community support for growth and reduces the risk of financial strain on BPUB.

Impact fees also enhance the quality and availability of infrastructure, which is critical for attracting businesses. High-quality water from reliable systems makes the greater Brownsville area more appealing to companies seeking reliable facilities and a strong labor market. As businesses settle in Brownsville, they generate jobs, boost local spending, and contribute to a robust tax base.

BPUB creates an environment conducive to sustainable, well-planned growth by maintaining well-funded water infrastructure and services. This predictability encourages private investment, as developers and businesses can trust that essential public utility services will be available to support their operations.


Open Communication

BPUB is committed to open and transparent communication with customers. Regular updates, public meetings, and digital platforms keep customers informed and engaged in water solutions, building trust, informed decision-making, accountability, participation, and the ability to receive feedback for continuous improvement. Open and transparent communication fosters a collaborative environment where BPUB and the community work together towards sustainable water management.

Safe Drinking Water Act. The primary purpose is to summarize water quality data collected by water systems. It also includes information on compliance, water sources, and educational information pertinent to water conservation, like the State Water Loss Audit, which estimated the water system lost about 10.96% through main breaks, leaks and other causes. Educating customers promotes trust-building, awareness, engagement, and behavioral change.

DRINKING WATER QUALITY REPORT

JUNE 2024



BROWNSVILLE
PUBLIC UTILITIES BOARD
Public Water Supply
ID No. 0310001

Brownsville Public Utilities Board Provides Safe Drinking Water

When we think of water, I think most of us think of something without measure. It seems like there's so much of it out there that it's limitless. Turn the water knob on, and water comes out. It's always there for us, right? The truth is that water is a finite source and something that must be protected.

Our community depends a lot on the health of the Rio Grande and the reservoirs, Falcon and Amistad, that store our region's drinking water. In the last few years, those reservoirs have seen alarming drops in reserves.

This is why BPUB and so many other water utilities in the area are under drought restrictions. While we might have enough to serve our needs today, what about tomorrow? Or more crucially, what about next year? Without significant rainfall in the areas near those reservoirs, we might get faced with very difficult choices in the future.


But you can help. Be mindful of your water use. Start trying to reduce your water consumption in any small ways that you can. Learn more about BPUB's drought contingency plan and follow the current drought restrictions. Make sure to spread the word to friends and family.

This is not something that any one of us can solve alone. We must all act together to make an impact. It will require us learning to change our relationship to water and how we use it, but we can start today by making every drop count. If you would like to learn more, please check out the drought resources on the BPUB website or contact our Customer Service team at 956-983-6121.

Sincerely,

Marilyn D. Gilbert
General Manager and CEO

Este reporte incluye información importante sobre el agua para tomar. Para asistencia en español, favor de llamar al teléfono (956) 983-6100.



We Welcome Your Comments

Public participation and education are important elements of our water quality effort. To find out more information about your drinking water, you are invited to the next meeting of our Public Utilities Board Consumer Advisory Panel (PUBCAP).

Note: PUBCAP meetings are typically on the third Wednesday of every month. The BPUB Board of Directors meets the second Monday of every month. Please check the BPUB website for agendas and meeting details: www.brownsville-pub.com.

Date: July 17, 2024
Time: 5:30 PM
Location: Board Room
Annex Building
1425 Robinhood Drive
Brownsville, Texas 78520

Or
Contact the Communications and Public Relations Department at (956) 983-6271.

CCRs serve to educate customers on water quality.

Consumer Confidence Reports

Annual Consumer Confidence Reports are published by public water systems for their customers as mandated by the EPA through the



Informational booths allow BPUB to maintain a presence in the community and inform customers on resource conservation.

Community Outreach Events

Community outreach events help build a positive relationship with the community, ensuring better cooperation, two-way communication, engagement, and support with conservation efforts. Some of the ongoing community outreach events include:

- Touch-A-Truck Community Event
- Career Days at Multiple Educational Institutions
- Community Tours

- BPUB Informational Booths during multiple stakeholder events, including Sombrero Fest and Hurricane Fair
- Conservation Superheroes Campaign

Involve Customers in Water Solutions

Customer engagement is crucial for the water strategy's success. BPUB will create opportunities for customers to participate in water conservation programs, provide feedback, and participate in decision-making processes.

Involving customers in creating water solutions during water conservation is vital for several reasons. Firstly, customer participation fosters a sense of ownership and responsibility for water conservation efforts. When individuals feel that their input is valued, they are more likely to adopt sustainable practices and encourage others to do the same.

Secondly, customers often have unique insights into local water usage patterns and challenges that may not be apparent to BPUB. By incorporating these insights, water solutions can be tailored to address specific community needs more effectively.

Furthermore, involving customers in decision-making builds trust and transparency between BPUB and the community. This collaborative approach helps to ensure that water policies and conservation measures are well-received and supported by the public.

Lastly, public engagement during drought conditions can lead to innovative solutions and collective action. With diverse perspectives

and ideas, communities can be creative in managing water resources more efficiently and sustainably.

Overall, customer involvement is crucial for the success and resilience of water management systems, particularly during droughts.

Public Utilities Board Consumer Advisory Panel

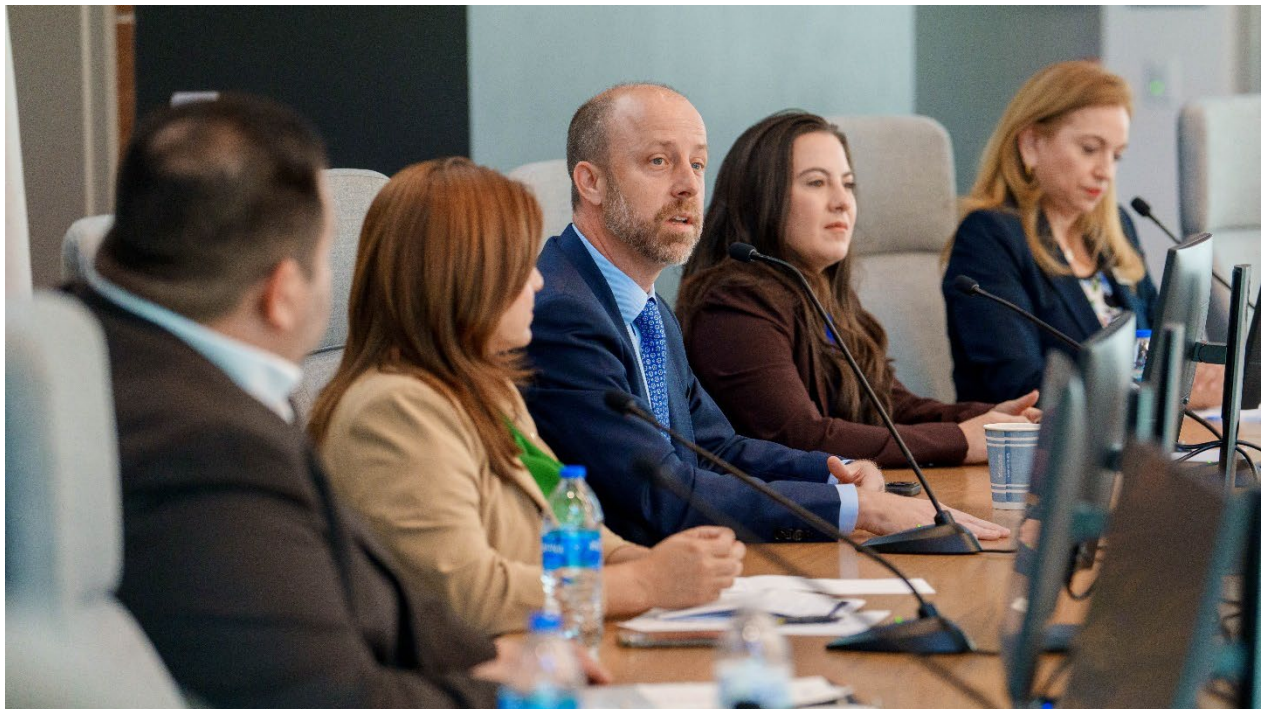
BPUB is committed to addressing customer concerns. As a result of this commitment, BPUB established the Public Utilities Board Consumer Advisory Panel (PUBCAP) in 1983 to provide customers with a forum to express community concerns. PUBCAP consists of 11 members: BPUB selects ten members from recommendations made by PUBCAP members, and one member is a BPUB employee acting as a liaison. PUBCAP meetings are held once a month, typically on the third Wednesday of each month, from 5:30 – 7 p.m. at the BPUB Annex. The public is encouraged to attend monthly PUBCAP meetings.

PUBCAP is specifically tasked with providing a channel for direct communications with BPUB customers. They assist by identifying and addressing electric, water, and wastewater issues affecting BPUB and its customers, providing BPUB with advice and consultation on various issues.

Public Discussions

Public discussions help create an informed, engaged, and committed community to sustainable water use by fostering a collaborative environment. Public discussions raise awareness about the importance of water conservation, educate the community on the finite nature of water resources, and showcase the need to use water wisely. Open communication brings understanding to the challenges and clarity to the efforts involved in water management. For example, the Drought Roundtable event was created for key

accounts, elected officials, and stakeholders to provide a three-way channel of communication on drought-related local and state updates and the challenges being experienced by large customers, the elected representatives in the region, and leaders from BPUB, the City of Brownsville, and the Port of Brownsville. This event will be held annually during Stage 2 and subsequent phases and kicked off on July 11, 2024, at the BPUB Annex Boardroom. The event was very well attended; conversation flowed about efforts, challenges, and plans, and there was coverage from multiple media outlets.



The Drought Roundtable event provided an avenue of communication between key accounts, elected officials, stakeholders and BPUB.

5 Conclusion

BPUB is a cornerstone of water sustainability and resilience in the Rio Grande Valley. Facing an array of challenges, from climate-induced droughts to burgeoning population growth and industrial demands, BPUB has crafted a comprehensive strategy designed to secure the region's water future. By prioritizing innovative solutions, infrastructure development, conservation, and community engagement, the utility is well-positioned to meet present and future needs.

One of BPUB's most significant achievements is its dedication to diversifying water sources. With the Rio Grande as its primary water supply, BPUB recognizes the inherent risks of fluctuating reservoir levels and climate variability. The optimization and planned expansion of the Brackish Groundwater Treatment Facility and the exploration of IPR and desalination technologies showcase a proactive approach to ensuring a stable water supply. These efforts mitigate current vulnerabilities and prepare the community for long-term resilience.

Water conservation remains a critical pillar of BPUB's strategy. Through tiered pricing, rebate programs, and public education campaigns, the utility empowers residents and businesses to actively participate in reducing water consumption. The forthcoming revision of the WDCDP will integrate advanced methodologies, reinforcing BPUB's

commitment to sustainable resource management.

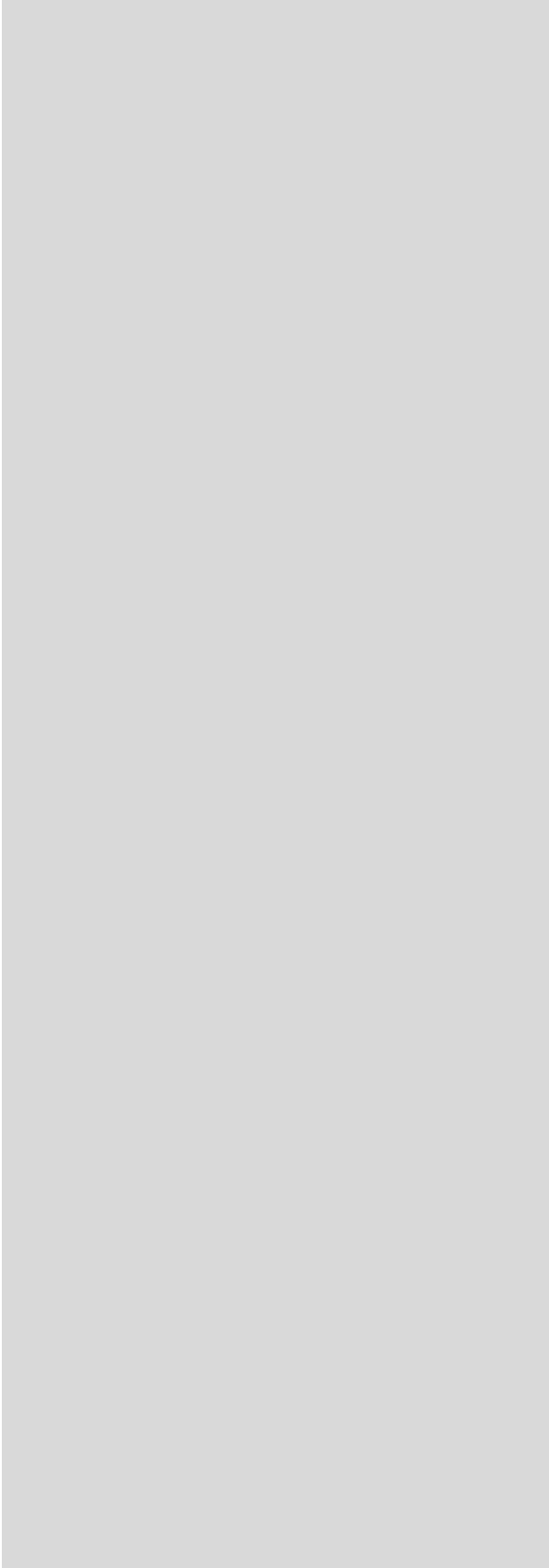
Infrastructure modernization further underpins BPUB's strategy. Investments in AMI, aging pipeline replacements, and expanded storage capabilities enhance operational efficiency and reduce water loss. These upgrades meet the growing demands of Brownsville's expanding population and ensure equitable access to high-quality water for all residents.

BPUB's unwavering focus on water quality underscores its role as a guardian of public health. The utility delivers safe, reliable water that meets the highest standards by adopting advanced treatment technologies, adhering to stringent EPA regulations, and continuously monitoring system performance. Transparent communication, including annual Consumer Confidence Reports and regular community engagement initiatives, further bolsters public confidence.

Collaboration and funding play pivotal roles in BPUB's success. The utility's active pursuit of state and federal grants, such as those under the WaterSMART program, accelerates the realization of critical projects. Partnerships with regional entities, including the IBWC and the TWDB, enhance resource sharing and strategic alignment, fostering a unified approach to water management.

Innovation and maintenance are integral to BPUB’s forward-thinking ethos. The integration of predictive analytics, water reuse systems, and proactive maintenance programs ensures the longevity and efficiency of vital infrastructure. By staying at the forefront of technological advancements, BPUB optimizes its operations and positions itself as a leader in sustainable water management.

In conclusion, BPUB’s comprehensive water strategy embodies a commitment to sustainability, resilience, and community well-being. Through innovative practices, robust infrastructure, and active engagement, the utility addresses the multifaceted water management challenges in the Rio Grande Valley. BPUB’s vision extends beyond immediate needs, striving to create a water-secure future that supports economic growth, environmental stewardship, and a thriving community for generations to come.





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