



**GUAM WATERWORKS AUTHORITY**

# **EXHIBIT B**



Petition for Approval of Guam Waterworks Authority's Five-Year  
Financial Plan and Rate Relief; GWA Docket 19-08

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8 **BEFORE THE GUAM PUBLIC UTILITIES COMMISSION**

9  
10 IN RE: REQUEST BY THE GUAM  
11 WATERWORKS AUTHORITY  
12 FOR APPROVAL OF (1) THE  
13 GUAM WATERWORKS  
14 AUTHORITY FINANCIAL PLAN  
15 AND CAPITAL IMPROVEMENT  
16 PROGRAM (FY 2020 – FY 2024)  
17 AND (2) A LOW-INCOME  
18 CUSTOMER ASSISTANCE  
19 PROGRAM.

DOCKET NUMBER: 19-08

TESTIMONY OF MIGUEL C.  
BORDALLO IN SUPPORT OF THE  
REQUESTS FOR APPROVALS OF  
THE GUAM WATERWORKS  
AUTHORITY FINANCIAL PLAN AND  
CAPITAL IMPROVEMENT PROGRAM  
(FY 2020 – FY 2024) AND LOW-  
INCOME CUSTOMER ASSISTANCE  
PROGRAM

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24 **INTRODUCTION AND BACKGROUND**

25 **Q1. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS**  
26 **ADDRESS.**

27  
28 A1. My name is Miguel C. Bordallo. I am a registered professional mechanical  
29 engineer on Guam, and I am the General Manager of the Guam  
30 Waterworks Authority, located at the Gloria B. Nelson Public Service  
31 Building, Route 15, Fadian, Mangilao, Guam.

1           **Q2. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL**  
2           **HISTORY.**

3  
4           A2. I have a Bachelor of Science Degree in Mechanical Engineering from the  
5           College of Engineering, Marquette University, Milwaukee, Wisconsin. I  
6           am a registered and licensed Professional Engineer on Guam (Mech Lic.  
7           No. 1124), and have held registration as a Professional Engineer  
8           previously in the state of Missouri.

9           I have over 28 years of experience in the environmental and engineering  
10          fields. I began my career working on environmental investigation and  
11          restoration projects, and the design of treatment systems for soil and  
12          groundwater remediation for various commercial, industrial, military and  
13          petroleum related facilities throughout California and in Canada. I  
14          returned to Guam in 1995, obtained my license as a Professional  
15          Engineer in 1997 and worked in private practice, becoming a partner in  
16          the consulting firm in which I had been employed in 1998. I eventually  
17          started my own practice and successfully completed multiple design,  
18          design-build, and design-build-finance projects for water and wastewater  
19          infrastructure, commercial, educational and other facilities.

20          I have been the General Manager of the Guam Waterworks Authority  
21          since January of 2016. I am an active member of the American Water  
22          Works Association (AWWA) Western Pacific Subsection, the Water  
23          Environment Federation, and have been a member of and held leadership  
24          positions in the Guam Society of Professional Engineers, the Guam Board  
25          of Registration for Professional Engineers, Architects and Land Surveyors  
26          (PEALS).

27  
28          **SCOPE AND PURPOSE OF TESTIMONY**

29                 **Q3. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**  
30                 **PROCEEDING?**

1 A3. I am testifying in support of GWA's *Five-Year Financial Plan and Capital*  
2 *Improvement Program (FY2020 – FY 2024)* and the associated rate relief  
3 required to enable financing of the capital improvements proposed.  
4

5 **Q4. WHAT ARE THE PROPOSED IMPROVEMENTS IN THE FIVE-YEAR**  
6 **CAPITAL IMPROVEMENT PROGRAM?**

7 A4. The Five-Year Capital Improvement Program is composed of  
8 approximately \$292 million in water, wastewater, control/electrical and  
9 miscellaneous projects over the period from 2020 to 2024. The program  
10 is primarily driven by the previously CCU-adopted *2018 Water Resources*  
11 *Master Plan (2018 WRMP)*, with adjustments made for known upcoming  
12 regulatory priorities.

13 The program includes 47 potable water projects at a cost of \$137 million,  
14 33 wastewater projects at a cost of \$122 million, eight (8) control/electrical  
15 projects at a cost of \$14 million, and 11 miscellaneous/general  
16 improvement projects at a cost of \$19 million. Many of the projects in the  
17 program are more programmatic in nature, allocating regular, periodic  
18 expenditures on a specific program, such as leak detection/repair, fire  
19 hydrant replacement, valve repair/replacement, booster pump station  
20 rehabilitation, and others.

21 A detailed listing of the projects in each category, as well as the proposed  
22 funding sources, can be found in the capital improvement program portion  
23 of the *Five-Year Financial Plan and Capital Improvement Program*  
24 *(FY2020 – FY2024)*.  
25

26 **Q5. WHY ARE THE PROPOSED IMPROVEMENTS NECESSARY?**

27 A5. The improvements proposed in the program are necessary to continue  
28 the progress GWA has made over the last decade in replacing and  
29 refurbishing its aging infrastructure for the water and wastewater systems.  
30 The program is based on a detailed and comprehensive master planning  
31 effort which took two years to complete, resulting in the publication of  
32 GWA's 2018 WRMP. The detailed systems review, condition

1 assessments, analysis and hydraulic modelling conducted as part of that  
2 planning effort were used to compile a program of necessary  
3 rehabilitation, upgrade and replacement projects and programs designed  
4 to meet current and future operational requirements and improve the  
5 levels of service GWA provides to its ratepayers. The levels of service  
6 goals that GWA incorporated into its planning effort and the subject capital  
7 improvement program go beyond the four basic goals that drove the 2006  
8 Water Resources Master Plan They 'raise the bar' for GWA, both  
9 internally and externally, to provide improved services expected of a well-  
10 run utility.

11 The proposed improvements are necessary to replace aging  
12 infrastructure, to provide appropriate capacity in our water and wastewater  
13 systems for current and future needs, and to improve the delivery of  
14 services to our customers.

15  
16 **Q6. WHAT IMPACTS WILL THE PROPOSED IMPROVEMENTS HAVE ON**  
17 **LEVELS OF SERVICE FOR GWA RATEPAYERS?**

18 A6. GWA is continuously working to improve levels of service provided to our  
19 customers. In developing the 2018 WRMP, GWA defined 16 levels of  
20 service (LOS) goals. The capital improvement program includes projects  
21 that, once completed, will positively impact many of the 16 LOS. A  
22 number of the 47 potable water projects involve water line replacement  
23 and upgrades. These projects will have a positive impact on the reliability  
24 of water service (LOS#2) and distribution system integrity (LOS#12) by  
25 reducing the number of unplanned outages due to breaks in older piping,  
26 as well as eliminating leaks in the distribution system. Similarly, many  
27 projects will improve water storage reservoirs and system control valves,  
28 such as pressure-reducing valves, thereby allowing GWA to provide  
29 sufficient water at appropriate pressures (LOS#8) within our water  
30 distribution system.

31  
32 On the wastewater side, a major focus of the 33 proposed improvement  
projects in the program is the rehabilitation and upgrade of sewer gravity

1 lines, lift stations and force mains. Completion of these projects will  
2 improve reliability of critical pump station assets (LOS#13) and reduce the  
3 number of wastewater spills in the system (LOS#4) resulting from pump  
4 failures and undersized lines. The program also includes a  
5 Septic/Cesspool Elimination Program which will expand the wastewater  
6 collection system to eliminate private septic systems and connect  
7 customers served by such systems to GWA's sanitary sewer network  
8 (LOS#14).  
9

10 **Q7. DOES THE CAPITAL IMPROVEMENT PROGRAM TAKE INTO**  
11 **CONSIDERATION CURRENT U.S. DISTRICT COURT ORDER AND**  
12 **FUTURE REGULATORY PRIORITIES?**  
13

14 A7. Yes. The capital improvement program includes projects which are  
15 necessary to complete the only remaining work under the 2011 District  
16 Court Order, namely, the completion of several tank  
17 repair/rehabilitation/replacement projects. These projects are slated for  
18 completion in 2021.

19 In addition, the program includes many projects focused on the  
20 wastewater collection system, including gravity line replacement and  
21 upgrades, sewer pump station rehabilitations and force main  
22 repairs/replacements. These projects have been prioritized to align with  
23 regulatory considerations currently under discussion with the U.S.  
24 Environmental Protection Agency (EPA).  
25

26 Approximately \$56M of the CIP is **specifically** related to the 2011 CO and  
27 expressed EPA priorities. That amount includes about \$15 million for  
28 water projects and \$41 million in wastewater collection system projects  
29 The vast majority of the remaining capital project spending in the forecast  
30 period is required to enable compliance with current and anticipated future  
31 regulations while delivering improved service levels.  
32

1 **Q8. WHAT REGULATORY ISSUES WILL NEED TO BE ADDRESSED**  
2 **OUTSIDE OF THE CURRENT FIVE-YEAR PLANNING PERIOD?**

3  
4 A8. GWA anticipates that it will still need to make wastewater collection  
5 system upgrades to provide capacity assurance for future growth outside  
6 of the five-year planning period. These projects relate to the capacity of  
7 existing gravity sewer lines to handle flows resulting from the planned  
8 military build-up on Guam.

9 Additionally, GWA is deferring upgrades to the Hagatña wastewater  
10 treatment plant (WWTP) to the end of our 20-year master planning period.  
11 Such deferment will enable GWA to temper the rate increases that will  
12 be required to finance these upgrades and spare GWA ratepayers undue  
13 burden from expected increases in construction costs due to the peak in  
14 military construction and the lack of skilled construction labor resulting  
15 from the U.S. H-2B visa policy.

16 **Q9. WHAT SIGNIFICANT OPERATIONAL CHANGES ARE ANTICIPATED**  
17 **WITH THE FIVE-YEAR FINANCIAL PLAN AND CAPITAL**  
18 **IMPROVEMENT PROGRAM?**

19  
20 A9. GWA anticipates continued focus and improvement in the development of  
21 our asset management program. GWA has implemented a computerized  
22 maintenance management system (CMMS) and has been conducting  
23 training among all four operational divisions to improve the performance  
24 and completion of preventive maintenance work orders, the capture of  
25 material and labor costs data, and the control of needed inventory for  
26 maintenance activities. *The Five-Year Financial Plan and Capital*  
27 *Improvement Program (FY2020 – FY2024)* was developed, in part, using  
28 cost information from our CMMS. As continued improvement in asset  
29 management occurs, GWA will be better able to make capital  
30 maintenance decisions.

31  
32 GWA also expects to increase construction and maintenance work  
performed by in-house crews, particularly for line replacements/upgrades

1 and more complex corrective maintenance activities. The five-year plan  
2 is intended to support such efforts, in part to enhance asset management  
3 performance, and also to reduce reliance on contracted construction  
4 services as the construction market tightens due to the military buildup.  
5 This ties-in with the emphasis on 'programmatic' items, such as 2-inch  
6 waterline replacement, asbestos-cement pipe replacements, and other  
7 programs defined in the capital improvement program. These in-house  
8 resources will also be able to effect fire hydrant replacements, valve  
9 replacements, and sewer manhole repairs – activities which are now  
10 reliant on contracted construction services.

11 Another significant change is a more diverse approach to improvements  
12 in water loss control and the reduction of non-revenue water. GWA has  
13 included several projects for pressure-zone realignment which will reduce  
14 breaks and leaks resulting from excessive pressure. We have budgeted  
15 regular funding for leak detection, now to include new technologies such  
16 as satellite-based leak detection services. We are also finally  
17 implementing a district metering program, along with more robust  
18 production meters, which will allow GWA to monitor and compare  
19 production rates, district consumption rates, and customer consumption  
20 rates, to identify and quickly address suspected leaks within these  
21 districts.

22  
23 **Q10. WHAT SIGNIFICANT CHANGES ARE ANTICIPATED IN**  
24 **OPERATIONAL AND MAINTENANCE EXPENSES FOR THE FIVE-**  
25 **YEAR PLANNING PERIOD?**

26 **A10. Salaries and Benefits:** Operation and maintenance expenses for salaries  
27 and benefits are expected to increase based on a couple of factors. First  
28 is the proposed increased in full-time-employees (FTEs) to staff a  
29 Construction and Maintenance Division, as discussed above. Second, an  
30 increase in expenses is anticipated for migration of GWA compensation  
31 levels to the 20<sup>th</sup> market percentile in accordance with GWA's  
32 compensation study. GWA faces the challenge of recruiting and retaining



1 certified water and wastewater operators when compensation levels are  
2 below those offered by the federal government and its private sector  
3 contractors.

4 **Administrative and General:** Chemical costs will see an increase  
5 resulting from contractual unit cost adjustments during the first 2 years of  
6 the planning period. However, upon the completion of on-going upgrades  
7 to secondary treatment facilities at the Northern District WWTP, the use  
8 of chemically-enhanced primary treatment will cease. Biological  
9 secondary treatment will begin at the end of 2021 which will result in a  
10 decrease in chemicals purchased, and a corresponding decrease in that  
11 expense category.  
12

13 Another expense category that is expected to increase will be training  
14 costs. GWA's recruitment efforts have been difficult to complete, resulting  
15 in the need to recruit entry-level trades labor, and "train-up" employees at  
16 all levels to fill needed supervisory and mid-level manager positions.  
17 GWA has ramped up its personnel development efforts, and expects a  
18 corresponding increase in this expense category moving forward.

19 **Contractual:** GWA anticipates a significant increase in contractual  
20 expenses related to upgrades to our enterprise financial management  
21 system, specifically for software, hardware and maintenance. The current  
22 enterprise system is outdated and technical and hardware support is  
23 increasingly difficult to obtain. GWA has obtained grant funding for a  
24 system upgrade, which will offset some of the capital costs. On-going  
25 support and maintenance expenses will be in line with modern system  
26 requirements, resulting in the anticipated increase.  
27

28 We also anticipate nominal increases in laboratory and analytical testing  
29 resulting from increases in the scope of regulated compounds and  
30 chemicals of concern.

31 GWA also anticipates increases in contractual costs for specialized  
32 technical services relating to SCADA/Controls/process equipment, as well

1 as other contractual services necessitated by improved/increased  
2 maintenance efforts, such as motor re-winding services for pump stations  
3 maintenance, increased road restoration contractor services, equipment  
4 repair and maintenance services; and increased building repair and  
5 maintenance expenses.

6  
7 **Q11. DO THE PROPOSED IMPROVEMENTS AND OPERATIONAL**  
8 **CHANGES YOU HAVE DESCRIBED AS PART OF THE FIVE-YEAR**  
9 **FINANCIAL PLAN AND CAPITAL IMPROVEMENT PROGRAM**  
10 **(FY2020 – FY2024) JUSTIFY THE CUMULATIVE 38% RATE**  
11 **INCREASES OVER THAT SAME PERIOD?**

12 A11. The proposed improvements are necessary and critical to meet regulatory  
13 requirements (both the 2011 District Court Order and upcoming regulatory  
14 priorities), to continue the steady improvement to GWA's water and  
15 wastewater systems made over the last 10 years, and to enhance the  
16 Levels of Service that GWA has established as goals in the *2018 Water*  
17 *Resources Master Plan*.

18 The proposed operations and maintenance expenses detailed in the plan  
19 are reflective of and commensurate with the level of expenditures required  
20 of a well-run utility of our size, and were developed using accurate  
21 historical data, and improved O&M projections based on our continuously  
22 improving asset management program.

23  
24 The revenue requirements developed from the analysis of our  
25 consumption history and projections, O&M expenses, capital  
26 improvement requirements, and anticipated financing capabilities, reflect  
27 a balanced approach to needed reserves, revenue funded capital  
28 expenditures, and long-term debt which justifies the cumulative 38% rate  
29 increases. The plan maintains a target indenture debt-service-coverage  
30 ratio of 1.5 to present GWA in the best possible light to investors and credit  
31 analysts with the intent of achieving the lowest cost of financing possible.  
32 The plan also seeks to develop sufficient revenue to attenuate rate spikes  
which would otherwise be required to make debt service payments

1 beyond FY2024 (which will increase following financings contemplated in  
2 the latter years of the planning period FY2020 – FY2024).

3  
4 The proposed rate plan is justified and in the public interest.

5 **Q12. DOES THIS CONCLUDE YOUR TESTIMONY?**

6 A12. Yes.

7  
8 Comes Now, I, Miguel C. Bordallo, do hereby state and aver under penalty of  
9 perjury that the Written Testimony of Miguel C. Bordallo in Support of the Requests for  
10 Approvals of the Guam Waterworks Authority Financial Plan and Capital Improvement  
11 Program (FY 2020 – FY 2024) and Low-Income Customer Assistance Program which  
12 submitted herewith is both truthful and accurate.

13  
14 Respectfully Submitted this 6th day of July, 2019.

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17 

18 \_\_\_\_\_  
19 Miguel C. Bordallo, P.E.  
20 General Manager  
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