



# **ANNUAL TARIFF REVIEW**

**April 29, 2022**

**BELIZE WATER SERVICES LIMITED**

**7 Central American Boulevard**

**Belize City, Belize**

# BWS Annual Review 2022 Report

## Belize Water Services Limited

### Annual Review Report to the Public Utilities Commission

Report Date: April 29, 2022

## TABLE OF CONTENTS

<b>1</b>	<b>Executive Summary .....</b>	<b>1</b>
1.1	Overview .....	1
1.2	Proposed Tariff Structure .....	2
1.3	Summary .....	4
<b>2</b>	<b>Introduction and Background.....</b>	<b>5</b>
<b>3</b>	<b>Tariff History .....</b>	<b>7</b>
<b>4</b>	<b>Justification for Annual Review .....</b>	<b>8</b>
4.1	Legal Basis .....	8
4.2	Exceptional Circumstances .....	8
4.2.1	Revenue and Return Shortfall .....	8
4.2.2	Revenues from Tariffs and Charges .....	10
4.2.3	Increases in cost of Materials and Equipment .....	11
4.2.4	Capital Expenditure Estimates .....	12
<b>5</b>	<b>Other Items for Consideration .....</b>	<b>17</b>
5.1	Securing against vulnerabilities .....	17
5.1.1	Security of Water Resources and Supply.....	17
5.1.2	Climate Change.....	17
5.1.3	Protection of land assets.....	17
5.2	Regulatory changes requested.....	18
<b>6</b>	<b>Rate Setting Methodology (RSM) Calculations .....</b>	<b>20</b>
<b>7</b>	<b>Request for amended Tariffs and Charges .....</b>	<b>22</b>
7.1	Request Summary .....	22
7.2	Proposed Tariffs and Fees .....	22
7.3	Miscellaneous Fees and Charges.....	24
	<b>Appendices.....</b>	<b>25</b>
	APPENDIX A – EXISTING AND PROPOSED TARIFFS .....	26
	APPENDIX B: EXISTING, PROPOSED AND CALCULATED MISCELLANEOUS FEES ....	27
	APPENDIX C: BWS - PROPOSED REGULATORY CHANGES .....	28
	APPENDIX D: BWS – PROPOSED CAPITAL EXPENDITURE LISTING.....	32

## **Tables**

Table 1 – Proposed Residential Tariffs.....	3
Table 2 – Proposed Non-Residential Tariffs .....	3
Table 3 – Proposed Non-Residential Service Fee.....	4
Table 4 – PUC-FD Regulated Asset Values .....	9
Table 5 – BWS Regulated Asset Value Calculations .....	9
Table 6 – Shortfall in Tariff Revenue .....	10
Table 7 – Shortfall in Tariff Revenue (\$'000).....	10
Table 8 – Updated Tariff Revenue Calculation (\$'000) .....	11
Table 9 – Sample of Material Price Increases .....	12
Table 10 – Proposed Capital Expenditure by Location (BZ\$'000) .....	14
Table 11 – Proposed BWS-funded 3-year Capital Expenditure by Category by Year (BZ\$'000).....	15
Table 12 – Proposed Cash Flow Projection (BZ\$'000) .....	16
Table 13 – BWS Regulated Asset Value Calculations .....	20
Table 14 – Tariff Revenue Calculations .....	21
Table 15 – Proposed Residential Tariffs (per 1000 gal) .....	23
Table 16 – Proposed Non-Residential Tariffs (per 1000 gallon).....	23
Table 17 – Proposed Non-Residential Monthly Service Fee .....	23

## **Belize Water Services Limited**

### **Annual Review Report to the Public Utilities Commission**

**Report Date: April 29, 2022**

## **1 Executive Summary**

### **1.1 Overview**

Belize Water Services Limited (BWS) charges tariffs and miscellaneous fees which are reviewed and approved by the Public Utilities Commission (PUC) through a tariff review process. This regulatory process is based on a Business Plan Review for a five-year review period referred to as a Full Tariff Period (FTP). The regulations also provide for annual reviews based on exceptional circumstances. The current FTP is for the five-year period which commenced April 1, 2020, and will end on March 31, 2025. BWS operates on a fiscal year (FY) basis starting each year April 1 and ending March 31. BWS has now entered FY 2022/23, which is the third fiscal year within the current FTP.

BWS submitted a Full Five-Year Business Plan (FFBP) for this FTP to the PUC as part of the regulated review requirement for the FTP review. The business plan included a financial model and projections based on planned future activity and the expected financial results. The submission included a request for a 10% tariff increase to be effective April 2022. The PUC subsequently issued its Final Decision in March 2020, holding tariffs and rates the same, but approving a 2.25% across the board tariff increase to be effective April 1, 2022.

Unfortunately, the COVID-19 pandemic commenced its negative economic impact at the beginning of the FTP and has continued through the first two years of this period. As a result, the company's revenues have been impacted and the cost of capital investments has increased significantly. While the economy seems to have started recovery, the increases in cost, now compounded by the Russian invasion of Ukraine, continue with their upward trend. Due to on-going increases in operating costs and the tremendous investment required to enhance the nation's infrastructure development, the company now submits this report to initiate an annual review. This report highlights the requirement for the requested increase in tariffs.

This submission is requesting an Interim Review by the PUC based on Exceptional Circumstances. It includes updated analysis and forecasts which rely on the last FFBP. These also utilise the latest Financial Statements and Independent Auditor's reports, the FY2022/23 budget and Capital

Expenditure, and other recent information to forecast key financial and operational elements to for the remainder of the FTP, i.e. from FY 2022/23 through FY 2024/25.

During the remainder of the FTP, BWS is planning to expend approximately BZD \$95 million of capital improvements including sewer collection and treatment systems, water expansion projects, water supply projects, meter replacement, capital renewal and replacement, and similar projects. These projects are funded from a blend of tariff revenue, available reserves, additional debt, and Government of Belize (GOB) assistance. However, several larger projects, which require approval and assistance from Government and one or more International Financial Institutions, are specifically excluded as these have not yet reached definitive agreements. The option to obtain financing is often challenging as lenders are wary of the uncertainty of tariff decisions.

### **1.2 Proposed Tariff Structure**

The existing tariff structure has been in place since the formation of BWS in 2001, and the existing level of tariffs has been in effect since April 1, 2015. An adjustment in the tariffs is now proposed. This adjustment is based on the same objectives identified in the tariff design in the FFBP. These include:

- Overall Affordability especially to Residential and small entities.
- Simplifying the consumption blocks for both residential and non-residential customers;
- Maintaining the 1,000-gallon minimum for all customers; and
- Evaluating a fixed service charge by meter size for non-residential customers.

Based on a review of several alternative tariff structures, including tariffs of water utilities in the Caribbean, a revised tariff structure is proposed herein. The new tariff structure is recommended to simplify monthly bill calculations, encourage conservation, maintain water affordability, and better represent the various customer classes served by BWS. The main components of this tariff structure include the following:

- Simplifying the residential tariffs by reducing the consumption blocks from 8 blocks to 4 blocks (not including 0 – 1,000 gallons) while keeping the average tariffs the same;
- No changes to the monthly 1,000 gallon minimum for all customers;
- Block 1 for both residential and non-residential customers is discounted below average cost to provide for an “affordable” tariff level for low consumption customers;

## BWS Annual Review 2022 Report

- A special senior citizen's discount on residential rates for consumption under the national household average of 3,000 gallons per month;
- For non-residential customers only, a fixed monthly charge based on the size of the water meter;
- For non-residential customers only, simplifying the tariffs by reducing consumption blocks from 8 blocks to 2 blocks (not including 0 – 1,000 gallons).
- In order to minimize tariff increases, a revised schedule of miscellaneous charges is recommended for approval. This aims to recover a more significant portion of the actual cost from non-residential customers benefitting directly from the service requested. Again, based on affordability, charges to residential customers are recommended to remain the same.

The proposed tariff changes are designed to provide an average increase of 5% on overall revenues. The following tables summarizes the proposed tariffs for FY 2022 through to 2025:

**Table 1: Proposed Residential Tariffs**

<i>Usage From</i>	<i>Usage up to</i>	<i>Mainland Water only</i>	<i>Mainland Water &amp; Sewer</i>	<i>Ambergris Caye</i>	<i>Caye Caulker</i>
0	1000	8.72	10.47	25.57	23.46
1001	3000	14.29	18.27	31.13	26.60
3001	5000	15.88	20.56	41.93	35.46
5001	8000	18.26	24.11	50.64	42.55
8001	-	19.76	24.99	63.93	51.75
<b><i>Senior Citizens to receive 10% discount on consumption up to 3000 gallons</i></b>					

For non-residential customers, the proposed tariffs include a simplified tariff structure with three tiers, along with a small fixed monthly service fee.

**Table 2: Proposed Non-Residential Tariffs**

<i>Usage From</i>	<i>Usage up to</i>	<i>Mainland Water only</i>	<i>Mainland Water &amp; Sewer</i>	<i>Ambergris Caye</i>	<i>Caye Caulker</i>
0	1000	8.72	10.47	25.57	23.46
1001	8000	17.31	22.69	47.16	39.71
8001	-	19.96	25.24	64.57	52.27

**Table 3: Proposed Non-Residential Service Fee**

<i>Meter Size</i>	<i>Mainland Water Only</i>	<i>Mainland Sewer</i>	<i>Ambergris Caye</i>	<i>Caye Caulker</i>
5/8-Inch	\$5.00	\$6.50	\$10.00	\$10.00
3/4-Inch	\$5.00	\$6.50	\$10.00	\$10.00
1-Inch	\$8.50	\$11.00	\$16.50	\$16.50
1.5-Inch	\$16.50	\$21.50	\$33.50	\$33.50
2-Inch	\$26.50	\$34.50	\$53.50	\$53.50
3-Inch	\$58.50	\$76.00	\$116.50	\$116.50

### **1.3 Summary**

Despite the shortfall in revenue and increases in costs being experienced due to COVID-19 and other factors, BWS is hopeful of an economic upturn. The company is therefore requesting minimal adjustments to the tariffs and charges, with the intention to keep rates the same or even lower for residential and low consumption non-residential customers. However, some increases are requested for non-residential customers. These are expected to provide an increase of 5% in revenue to help the utility maintain operations and perform some level of capital investment for the remaining three years of this Full Tariff Period.

BWS stands ready to discuss the submission and its proposals with the PUC in order to continue to assist in every way possible with the development of our country and its infrastructure, while continuing to provide the high level of services expected by our customers.

(Remainder of page intentionally left blank)

### **2 Introduction and Background**

Belize Water Services Limited (BWS) submits this formal request for an Annual Review to the national regulator, the Public Utilities Commission (PUC), based on exceptional circumstances. The company is currently at the beginning of the third year (April 2022) of the current Full Tariff Period (2020-2025). However, during the first two years of the FTP, the economic effect of COVID-19 has significantly reduced revenues, while at the same time causing huge jumps in prices of materials and services.

This submission is made in accordance with Statutory Instrument 67 of 2002, Part IV subsection 27 and subsequent amendments, which stipulates the conditions required for an annual request for a Review to the PUC. It officially commences the proceeding for the company's Annual Tariff Review to determine the tariffs and fees effective as of April 1, 2022.

Belize Water Services Limited takes pride in being the foremost water utility in the Caribbean area in terms of efficiency, water loss reduction, continuity and reliability of supply, and overall viability and sustainability. However, adequate revenues are required from tariffs to support investments, provide debt servicing, cover operational costs and to maintain the overall viability of this essential utility.

BWS, as the national water and sewerage provider, is both mandated and committed to assist with the country's overall development in order to provide services to more people even where there is no positive return on the investment required. Water and Sanitation services provide positive social and health benefits which outweigh the normal economic or financial justifications. Financial resources to perform the Capital Investment and Operational works are required to successfully meet the mandate to aid with the development of the water and wastewater sector, while continuing to provide top-class reliable services to the population of Belize.

Due to a number of exceptional circumstances, cost increases outside of its control, and the need to continue to invest in expansion and infrastructure, BWS is requesting that the PUC consider changes in tariff structures and fees. These changes would keep average tariffs to residential customers the same, or even lower for senior citizens and lower consumption customers. The proposed simplified tariff structure will make it easier for customers to calculate their bills. Some increases are requested in one-off non-tariff fees and charges, and it is proposed to apply a fixed monthly charge to non-residential customers' bills. These would result in an estimated 5% increase in revenues required to finance the vitally necessary Capital Investments. The Rate Setting Methodology indicates a need for a much larger increase in revenue, but BWS expects growth in customers and consumption due to



expansion and COVID recovery. Therefore, the justification for this request can be summarised as follows:

- A cumulative shortfall of \$6.8 million in Revenue for the first two years of the FTP, when compared to the PUC Final Decision forecast
- Increases of over 50% in the cost of most materials; in some cases, over 100%
- Other issues including consideration for climate change requirements, measures to ensure security of supply and protection of supply sources and critical assets.

**(Remainder of page intentionally left blank)**

### 3 Tariff History

Belize Water Services Limited (BWS) operates under a 25-year license, which is now nearing expiry. BWS commenced operations in March 2001. The company was initially mandated to go through a 3-year transition period (2001-2004) with no tariff changes. Since then, the company has gone through four Full Tariff Reviews and a number of Annual Tariff Reviews. These reviews have sometimes resulted in tariff increases, sometimes in no increase, and, occasionally, in a tariff reduction. It is noteworthy that, despite several requests, the miscellaneous charges and fees have not changed over the last 21 years.

In October 2019, as required by its regulations, Belize Water Services Limited (BWS) submitted its fourth 5-year Full Business Plan Report, for the period April 2020 to March 2025, inclusive of a request for a 10% tariff increase at the beginning of Year 3 (April 2022) to cover costs and Capital Expenditure Investments. After conducting its review, the PUC made a Final Decision, reducing the Capital Expenditure from \$327 million to **\$94 million** and reducing the Tariff increase from 10% to **2.25%**.

Subsequently, being cognizant of the social and economic conditions, BWS' Board has sought ways to improve the company's profitability and cash flow other than tariff increases. The company, having bought out Consolidated Water Belize Limited, has saved significantly on water costs in San Pedro. At the beginning of this FTP, the company also obtained agreement with GOB to continue to forego dividend payments through to 2025. The company continues to seek grants and low interest loans to help finance Capital projects.

However, the reduction in revenues caused by COVID-19 is of particular concern, especially given the need for increased pipeline replacement works as well as system expansions, and investment in increased production and storage and in sewer collection and treatment. Added to this, there is the need to maintain, replace or acquire assets to ensure safe and continuous supply of services. BWS is committed to supporting a number of Government-initiated projects including the Caye Caulker Sewer system, the Placencia Peninsula Integrated Water and Sewer project and the Ambergris Caye Water and Sewer Expansion. When these are combined with BWS' own Capital Investment requirements to ensure security of supply and continued expansion country-wide, the amounts required for Capital Investments increase dramatically.

(Remainder of page intentionally left blank)

### **4 Justification for Annual Review**

#### **4.1 Legal Basis**

This document and its submission to the Public Utilities Commission (PUC) is requesting an Annual Tariff Review Proceeding based on Exceptional Circumstances in accordance with Part IV of the Water and Sewerage (Tariff) Byelaws (Statutory Instrument No. 67 of 2002) and its amendments (Statutory Instruments 102 of 2004 and 89 of 2008), and the procedures and programme as set out.

In making this submission, the licensee, Belize Water Services Limited, has included proposals relating to income, operating expenses, assets and investment for consideration by the PUC to modify the previous decision relating to the Fourth Full Tariff Period (April 1, 2020, to March 31, 2025).

#### **4.2 Exceptional Circumstances**

SI 67/2002 defines Exceptional Circumstances as *“any act, event or circumstance beyond the reasonable control of a licensee, which has a material effect on the financial position of the licensee.”* The main significant event which has triggered this application is the COVID-19 Pandemic and its economic impact. However, there are some other factors which require both capital and operational expenditure to address or mitigate. Due to these, BWS has experienced severe adverse financial and cash circumstances including the following:

1. Shortfalls in Returns of some \$6.8 million over the last two years of the Full Business Plan Period (2020-2025) when compared to the PUC Final Decision 2020.
2. Increases in the costs of materials, equipment and services required for both operational and Capital Investment.
3. Sharp decline in cash collections over the past two years from an annual average of 99% to 59%.

##### **4.2.1 Revenue and Return Shortfall**

To be effective, BWS needs to generate adequate cash through revenues. Adequate revenue is required to cover operating costs and to finance critical capital expenditure, either directly or via debt servicing where the company utilises borrowed funds to finance capital investments.

## Return on Assets

A significant portion of the revenue derived from the Tariff Basket calculation is from return on assets. Due to a calculation error at the FTRP, the PUC's Final Decision Regulated Asset Value (RAV) is lower than BWS calculation as shown in the tables below.

**Table 4: PUC-FD Regulated Asset Values**

Year ending:	Mar-21	Mar-22	2 Year Total
Starting RAV	136,144,502	147,703,180	136,144,502
Depreciation	7,487,948	8,123,675	15,611,623
Additions	19,046,626	19,610,237	38,656,863
Ending RAV	147,703,180	159,189,742	159,189,742
Return	12,773,146	13,810,182	26,583,328

**Table 5: BWS Regulated Asset Value Calculations**

Year ending:	Mar-21	Mar-22	2 Year Total
Starting RAV	274,228,097	275,358,470	274,228,097
Depreciation	8,489,750	8,303,124	16,792,874
Additions	9,620,123	16,427,349	26,047,472
Ending RAV	275,358,470	283,482,695	283,482,695
PUC FD Return	12,773,146	13,810,182	26,583,328
Actual Return	6,914,666	10,034,398	16,949,064
Rate of Return	2.5%	3.5%	
Shortfall in Return			(9,634,264)

As shown above, there are significant differences in the Regulated Asset Values and in the return in both amount and percentage on the RAV. BWS is hopeful of obtaining a reconciliation of the Asset Values to help resolve this issue.

This **\$9.6 million** shortfall in return on assets impacts the overall revenue calculations when using the approved Rate Setting Methodology. To date, when compared to the PUC-approved Business Plan for 2020-2025, BWS has experienced both shortfalls in revenue and increases in costs, therefore leading to even greater shortfalls in expected profitability and, more critically, cash.

#### 4.2.2 Revenues from Tariffs and Charges

In the 2020 submission, BWS had requested a 10% average tariff increase to be effective April 2022. This submission was prepared and submitted in October 2019, well before the occurrence of COVID-19. Not surprisingly, the calculations are now showing that a more significant increase is required. The table below shows the shortfall from the first two years of the FTP, highlighting a cumulative shortfall of **14.7%**.

**Table 6: Shortfall in Tariff Revenue**

Description	PUC FD 2020-21	PUC FD 2021-22	2-Year Total
Return (on Assets)	12,773	13,810	26,583
Depreciation	7,488	8,124	15,612
Operating Expenses	30,046	30,947	60,993
Annual Corrections	-1,386	-1,428	-2,814
Gross Tariff Basket Revenue	48,921	51,454	100,374
Taxes & License Fees	1,126	1,184	2,310
Less: Other Income	-1,436	-1,479	-2,915
<b>Net Tariff Basket Revenue</b>	<b>48,611</b>	<b>51,159</b>	<b>99,770</b>
<b>BWS Actual Tariff Revenue</b>	<b>44,704</b>	<b>48,264</b>	<b>92,968</b>
<b>Shortfall in Revenue</b>	<b>-3,907</b>	<b>-2,895</b>	<b>-6,802</b>
<b>Shortfall as a % of Actual</b>	<b>-8.7%</b>	<b>-6.0%</b>	<b>-14.7%</b>

The table below is a reproduction of full five-year TBR calculation from the PUC Final Decision Schedule 4, used to highlight the Regulated Asset Values (RAV).

**Table 7: Shortfall in Tariff Revenue (\$'000)**

Year ending March:	2021	2022	2023	2024	2025	Total
Return (on RAV)	12,773	13,810	14,803	15,720	16,573	<b>73,678</b>
Deprn	7,488	8,124	8,755	9,337	9,876	<b>43,580</b>
OPEX (Excl. Fin. Charges)	30,046	30,947	31,876	32,832	33,817	<b>159,518</b>
Annual Corrections	-1,386	-1,428	-1,470	-1,515	-1,560	<b>-7,359</b>
<b>Gross TBR</b>	<b>48,921</b>	<b>51,454</b>	<b>53,963</b>	<b>56,374</b>	<b>58,706</b>	<b>269,418</b>
Taxes/License Fees	1,126	1,184	1,242	1,298	1,351	<b>6,201</b>
Less: Other Income	1,436	1,479	1,523	1,569	1,616	<b>7,624</b>
<b>Net Tariff Basket Revenue</b>	<b>48,611</b>	<b>51,159</b>	<b>53,682</b>	<b>56,102</b>	<b>58,441</b>	<b>267,995</b>

The following table shows the updated tariff basket revenue calculations, using the Final Decision's RAV return and BWS forecast increase in expenses, plus an adjustment to recover the revenue

shortfall from the first two years. This table shows a calculated **28.2%** increase in revenues from tariffs and charges.

**Table 8: Updated Tariff Revenue Calculation (\$'000)**

<i>Year ending March:</i>	2021	2022	2023	2024	2025	Total
<b>Return (on Assets)</b>	6,915	10,034	14,803	15,720	16,573	64,044
<b>DEPRN</b>	8,570	8,303	10,583	10,944	10,938	49,338
<b>OPEX excl. Finance Charges</b>	29,356	30,055	36,470	37,824	39,243	172,948
<b>Annual Corrections</b>	-	-	3,211	3,211	3,211	9,634
<b>Gross TBR</b>	44,841	48,393	65,067	67,699	69,965	295,965
<b>Taxes &amp; License Fees</b>	1,001	1,090	1,151	1,201	1,256	5,699
<b>Less: Other Income</b>	-1,138	-1,219	-1,269	-1,307	-1,345	-6,278
<b>Net TBR</b>	44,704	48,264	64,949	67,593	69,876	295,386
<b>Revenue Growth (Act. &amp; Proj'd)</b>	-12.2%	8.0%	5.0%	3.0%	3.0%	
<b>Est. Revenue at base tariffs</b>	44,704	48,264	50,677	52,198	53,763	
<b>Annual Tariff Change Required</b>			28.2%	1.3%	1.8%	

It should be noted that while the above is used to illustrate the shortfall, **BWS is proposing a much lower overall revenue increase of 5% in order to keep tariffs affordable and to avoid any burden to residential and lower income customers.**

#### 4.2.3 Increases in cost of Materials and Equipment

BWS, like all other entities, continues to experience increases in prices of materials, equipment and services. Given our ongoing and proposed expansions and increases in production and distribution, such increases are likely to cause an escalation in the overall expenses of the company. Increases in oil prices and shipping have a domino effect on prices of other goods and services. BWS is especially vulnerable to these increases since many of the products required for operations are spin-offs of the oil industry (e.g., PVC material) or require frequent ordering and shipping due to the volume.

Furthermore, additional staffing and equipment are required for BWS to improve its level of service and meet its targeted expansion works.

The table below highlights some of the changes experienced since the COVID-19 pandemic.

**Table 9: Sample of Material Price increases**

Fuel	Percentage Increase	Water Meters	Percentage Increase
Diesel	42%	5/8" x 3/4" Bronze Meter M25-P	47%
Gasoline (Super)	20%	2" EVO Q4 Meter USG	38%
<b>Average % Increase</b>	<b>31%</b>	<b>Average % Increase</b>	<b>42%</b>
PVC PIPE and Other Materials	Percentage Increase	Special Material - Ductile Iron Pipes and Fittings	Percentage Increase
3/4" Angle Lock Valve	32%	10" DI 90 Degree Elbow	147%
3/4" x 20' PVC Pipe SCH 40	106%	10" DI Flanged Gate Valve	58%
1" x 20' PVC Pipe SCH 40	63%	8" DI Flanged Gate Valve	112%
1 1/2" x 20' PVC Pipe SCH 40	74%	6" DI Flanged Gate Valve	30%
3" x 20' PVC Pipe Class 200	75%	8" DI Flanged Adapter	164%
4" x 20' PVC Pipe Class 200	100%	6" DI Flanged Adapter	83%
6" x 20' PVC Pipe Class 200	104%	Trench Adapter	136%
14" x 20' PVC Pipe Class 200	149%	10 inch Gasket Rubber	88%
4" Buried Gate valve push on type	56%	8 inch Gasket Rubber	104%
Assembled cast iron screw valve box	174%	6 inch Gasket Rubber	95%
3" PVC Cap Class 200 gasketed	78%	<b>Average % Increase</b>	<b>102%</b>
4" PVC Cap Class 200 gasketed	76%	Chemicals	Percentage Increase
4" x 4" x 4" PVC Tee class 200 gasketed	77%	Alum	7%
6" x 6" x 4" PVC Tee class 200 gasketed	78%	Chlorine	129%
3" X 1" PVC Threaded Saddle	63%	Sequest	18%
4" X 1" PVC Threaded Saddle	65%	Caustic Soda	16%
<b>Average % Increase</b>	<b>86%</b>	Sulfuric Acid	27%
Guard Services	Percentage Increase	Antiscalant CC	25%
Security Guard Services	17%	<b>Average % Increase</b>	<b>37%</b>

#### 4.2.4 Capital Expenditure Estimates

BWS, as the national water and sewerage provider, is both mandated and committed to assist with the country's overall development, even, as in some expansions, where there is no positive return on the investment required. Water and Sanitation has clear social, environmental and health benefits which oftentimes outweigh economic or financial justifications.

BWS' Mission Statement and Government's commitment in furtherance of the Sustainable Development Goals for water and sewerage expansion countrywide require significant investment and financing, currently estimated at \$38.3 million for this financial year and \$95.4 million over the next three years. This will necessitate BWS raising debt financing of a further \$50 million.

The planned capital investments over the remainder of the FTP include sewer collection and treatment systems, water expansion projects, water supply projects, meter replacement, plant renewal and replacement, and similar projects. These projects are funded from a blend of tariff revenue, available reserves, additional debt, and Government of Belize (GOB) assistance.

Areas for investments which have been identified to expand services or to improve services or secure supply, include:

1. Water System Expansions within service areas
2. New Storage and Water Treatment Plant for San Ignacio/Santa Elena
3. Storage Reservoir at Belize District Water Treatment Plant
4. New Storage and additional Water Treatment Plant for Caye Caulker
5. New underwater crossing to north Caye Caulker
6. Expansion and Improvement of existing Sewage Treatment Systems

Added to this, is the need to maintain, replace or acquire new assets to ensure safe and continuous supply of services – for example, BWS now absolutely needs to acquire a new well rig to replace its 50-year-old dysfunctional unit; the conservative estimated cost for this is BZ\$3.1 million.

Taking the above into consideration, along with the necessary investments to ensure a safe, secure supply of services and adequate operational viability and response, BWS has identified a number of Capital Expenditure requirements over the next five years.

The detailed listing of proposed Capital Expenditure is attached as Appendix D. The Capital Expenditure requirement is summarised in the tables below.



**Table 10: Proposed Capital Expenditure by Location (BZ\$'000)**

Location	2022/23	2023/24	2024/25	Total
All/Multiple Locations	8,904	8,663	5,567	23,133
Belmopan	2,625	1,825	1,752	6,202
Benque Viejo	530	305	1,025	1,860
Belize City & Mainland	5,766	7,010	3,145	15,921
Caye Caulker	1,630	3,755	2,420	7,805
Corozal	850	680	4,930	6,460
Dangriga	900	825	1,685	3,410
Orange Walk	1,770	855	1,160	3,785
Punta Gorda	260	335	1,535	2,130
Placencia	7,715	5,415	3,390	16,520
San Ignacio/Santa Elena	3,550	4,848	4,638	13,036
San Pedro	3,810	2,460	2,335	8,605
<b>Totals:</b>	<b>38,310</b>	<b>36,976</b>	<b>33,582</b>	<b>108,867</b>

**Table 11: Proposed BWS-funded 3-year Capital Expenditure by Category by Year (BZ\$'000)**

	2022/23	2023/24	2024/25	Total
<b><i>Water Production and Distribution</i></b>				
Resource Development and Protection	2,850	825	1,020	4,695
Water Treatment Works	2,535	3,525	3,360	9,420
Reservoirs and boosters	4,050	5,300	3,500	12,850
Distribution Expansion -water	3,915	3,150	8,662	15,727
Water mains & services	10,206	9,298	7,748	27,252
New Connections-water	735	735	735	2,205
<b>Sub Total</b>	<b>24,291</b>	<b>22,833</b>	<b>25,025</b>	<b>72,149</b>
<b><i>Wastewater Systems</i></b>				
Wastewater Systems	1,815	3,125	1,065	6,005
Wastewater Expansion	190	190	190	570
<b>Sub Total</b>	<b>2,005</b>	<b>3,315</b>	<b>1,255</b>	<b>6,575</b>
<b><i>Major Developments</i></b>				
New Water and/or Sewer Systems	3,210	1,930	650	5,790
<b>Sub Total</b>	<b>3,210</b>	<b>1,930</b>	<b>650</b>	<b>5,790</b>
<b><i>Other Capex</i></b>				
Heavy Duty Equipment/Mobile Plant	2,678	6,150	1,750	10,578
Office Buildings, Furniture & Equipment	715	450	1,445	2,610
Motor Vehicles	905	500	500	1,905
Computer Equipment & Software	3,451	1,648	2,262	7,360
Other Capex	1,055	150	695	1,900
<b>Sub Total</b>	<b>8,804</b>	<b>8,898</b>	<b>6,652</b>	<b>24,353</b>
<b>Total Proposed CapEx</b>	<b>38,310</b>	<b>36,976</b>	<b>33,582</b>	<b>108,867</b>
<b>Proposed Deferred CapEx</b>	<b>-</b>	<b>-</b>	<b>13,433</b>	<b>13,433</b>
<b>Final Proposed CapEx</b>	<b>38,310</b>	<b>36,976</b>	<b>20,149</b>	<b>95,435</b>

The table above shows that some Capital Expenditure is being deferred beyond the time window of this FTP. This is simply due to there not being enough cash available based on the company's cash flow projections.

BWS can cover its operating costs including finance charges from Revenues, but will not be able to generate sufficient revenue to finance all required Capital Expenditure in the short to medium term.

The table below shows the summary cash flow projection. The company plans to raise some \$51.3 million in debt financing to assist with funding the identified Capital Expenditure.

**Table 12: Proposed Cash Flow Projection (BZ\$'000)**

<i>(Amounts in \$'000)</i>	2022/23	2023/24	2024/25
<b>Opening Cash Balance</b>	17,409	33,840	-2,375
<b><u>Receipts</u></b>			
Trading	50,585	54,965	58,827
Loans	51,300	-	-
Interest	77	34	34
Other	2,266	965	2,629
<b>Total Receipts</b>	<b>104,228</b>	<b>55,964</b>	<b>61,490</b>
<b><u>Payments</u></b>			
Operating & overhead costs	-41,623	-44,596	-47,491
Tax	-932	-981	-1,026
Capital expenditure	-38,260	-38,176	-21,349
Loan (redemption)	-2,686	-2,685	-2,550
Interest	-3,405	-5,208	-5,108
Dividends*	-867	-508	0
Other	-24	-25	-25
<b>Total Payments</b>	<b>-87,797</b>	<b>-92,179</b>	<b>-77,549</b>
<b>Closing Cash Balance</b>	<b>33,840</b>	<b>-2,375</b>	<b>-18,434</b>

Additionally, it should be noted that several larger projects, which require approval and assistance from the Government and one or more International Financial Institutions, are specifically excluded from the Capital Expenditure plan provided, as these have not yet reached definitive agreements.

These projects include:

1. Sewerage Collection and Treatment system for south Caye Caulker
2. Expansion and Improvement of existing Sewage Treatment Systems
3. Sewerage Collection and Treatment system for Placencia Peninsula
4. Water and Sewerage systems for North Ambergris Caye.

(Remainder of page intentionally left blank)

### **5 Other Items for Consideration**

#### **5.1 Securing against vulnerabilities**

##### **5.1.1 Security of Water Resources and Supply**

In the past, it was casually assumed that Belize was abundant in water supply and that there was no danger of water shortage to the population. However, over the last ten years, BWS has witnessed a number of challenges to water resources and water sources. These include climate change related issues such as droughts and floods which have adversely affected water sources. Additionally, increasingly, the impact of mining activities also pose danger to supply areas, both from contamination and from changes in the water run-off and retention. Increases in population has led to increased water demand, which has created situations where well sources get run down. In other situations, weather related changes have adversely affected the replenishment rate for well sources and rivers. More and more, these lead to diminishing raw water supplies in the extended dry seasons.

These combinations of factors mean that more investment has to be placed in finding additional sources and protecting existing sources, as much as is possible. BWS now has to give priority to obtaining a modern well rig and the requisite training in its operation, as well as conduct scientific studies to determine underground water availability in order to determine potential well sites.

##### **5.1.2 Climate Change**

BWS, is especially vulnerable to the impacts and potential impacts of climate change. Many of our systems and assets are located in coastal communities which are vulnerable to direct damages from hurricanes, tidal surges, tsunamis, and sea-level rise. The company must therefore invest in measures and improvements to mitigate against this ever-increasing risk, and to be able to recover quickly should adverse events arise. This all comes at additional costs, but also mandates that the company has adequate cash reserves to aid in recovery.

##### **5.1.3 Protection of land assets**

BWS has a number of outstanding land issues, some dating back to the vesting of the assets of the predecessor entity, the Water and Sewerage Authority (WASA), to BWS in 2001. Some of these

issues relate to obtaining proper ownership documentation for existing properties, some to obtaining new properties for use or as protective reserves, and others to protecting lease properties from being amended or cancelled. BWS is also very concerned that previously reserved lands around the sewer lagoons have become privately owned thereby reducing or removing the intended protective buffer zones.

As a result of these issues, BWS' Board has opted to attempt to gain full title for all lands required for these purposes and to acquire lands required for expansion or protection of buffer areas. This process will include a number of expenditures for research and surveys as well as the actual acquisition costs, including the conversion of leases to titles. It may also involve legal costs in some cases.

### **5.2 Regulatory changes requested**

As has been documented in several previous submissions, BWS has proposed a number of regulatory changes with a view to improving operational efficiency, reducing costs, or distributing costs or rates based on affordability. More recently, BWS has shared draft regulation with PUC for revised infrastructure charge legislation.

BWS proposes to reduce the current high number of disconnections by utilising technology to provide efficient reminder services for all those customers who have adequate security deposits, but charge a small late fee or finance charge when payments are not made by the due date. This avoids a major inconvenience caused to customers and is a frequent request made from them as it avoids the annoyance of being denied service which customers have come to rely upon. Also, this would be substantially less costly than disconnection to residential customers while saving the company from performing tens of thousands of essentially unnecessary (disconnection/ reconnections) jobs annually.

The company has recommended some regulatory changes to assist with this as well as some of the problems identified in the Full Business Plan. A number of other changes to the regulations are proposed to facilitate the company in performing its functions. These are intended to help to facilitate customers, or to assist in reducing costs, or to add marginally to revenue. These are detailed in Appendix C and summarised briefly below.

1. Classification of Customers – to support regulation for the classification of customers including: Residential, Apartments/Condominiums, Government, Essential Services, Hotels/Resorts, Commercial, etc.
2. Infrastructure Costs – As a result of the overwhelming cost associated with water and sewer infrastructure, BWSL would like to repeal SI 42/2001 and amend SI 67/2002 to better allocate the costs of new infrastructure to those who will benefit. BWS has shared draft legislation with the PUC for their review (December 2021).
3. Security Deposits – to allow some changes to these to benefit residential and small business customers and to allow for larger consumption non-residential customers.
4. Late Fees and Finance Charges – to allow the use of these to reduce the requirement for disconnections
5. Backflow Prevention devices – to allow for the use of these to protect the supply from inflow from other sources
6. Commercial Abstraction licenses – to define clear rules with regard to abstraction within service areas
7. Water Theft – to modify the regulations to simplify the processing of cases. Also, there have been continuing increases in water theft by means of illegal connections to BWS water lines or bypassing the meter registration.
8. Leaks – to modify the regulations to reduce the processing time for residential leak complaints
9. Licensing and certification of Plumbers – to allow for the implementation of proper plumbing standards.

BWS hereby reiterates the request for consideration of the proposed changes, as these can assist with keeping rates affordable. Some of the above are included in the proposed schedule of fees and charges.

**(Remainder of page intentionally left blank)**

## 6 Rate Setting Methodology (RSM) Calculations

As Section 8 below reiterates, BWS is requesting some changes in tariffs and charges. However, BWS specifically aims to keep residential tariffs at the same average rates, and in fact to reduce the charges for senior citizens within the lower consumption bands. This request is intended to ensure affordability of tariffs but at the same time ensuring that the company can continue to maintain viable operations, providing the quality-of-service consumers have come to expect, while still supporting key capital investments to safeguard the provision of services into the future.

The tables below use BWS asset values which are significantly higher than the PUC Final Decision Regulated Asset Value (RAV) figures. However, BWS was unable to identify the asset deductions or exclusions utilised by the PUC to arrive at the RAV in the Final Decision. Due to the much higher RAV, BWS has utilised a much lower forecast return of 4% on the full asset values.

Below are the summary calculations of the Regulated Asset Value and the Rate Setting Methodology. The schedule of Regulated Asset Value using BWS Asset values and calculated return for the three-year forecast are shown below.

**Table 13: BWS Regulated Asset Value Calculations**

	<i>Actual</i>		<i>Forecast</i>		
Year ending:	Mar-21	Mar-22	Mar-23	Mar-24	Mar-25
<b>Starting RAV</b>	274,228	275,358	283,483	292,743	300,941
<b>Depreciation</b>	8,490	8,303	10,583	10,944	10,938
<b>Additions</b>	9,620	16,427	19,843	19,142	19,022
<b>Ending RAV</b>	275,358	283,483	292,743	300,941	309,025
<b>PUC FD Return</b>	<b>12,773</b>	<b>13,810</b>	<b>14,803</b>	<b>15,720</b>	<b>16,573</b>
<b>BWS Return</b>	<b>6,915</b>	<b>10,034</b>	<b>11,710</b>	<b>12,038</b>	<b>12,361</b>
<b>Rate of Return*</b>	<b>2.5%</b>	<b>3.5%</b>	<b>4.00%</b>	<b>4.00%</b>	<b>4.00%</b>

As shown in Section 4.2, if COVID-19 considerations were ignored, then a tariff increase of as much as 28% would be required to adjust the Tariff Basket Revenue for the FTP. However, BWS feels that an average revenue increase of 5%, when combined with expected growth in water sales would provide sufficient revenues for the company to remain operationally viable and execute essential Capital works for the remaining three years of this FTP. This is shown in the table below.

**Table 14: Tariff Revenue Calculations**

	2020-21	2021-22*	2022-23	2023-24	2024-25
Return (on Assets)	6,915	10,034	11,710	12,038	12,361
DEPRN	8,570	8,303	10,583	10,944	10,938
OPEX excl. Finance Charges	29,356	30,055	36,470	37,824	39,243
<i>Annual Corrections</i>	-	-	-	-	-
Gross TBR	44,841	48,393	58,763	60,806	62,542
Taxes & License Fees	1,001	1,090	1,151	1,201	1,256
Less: Other Income	-1,138	-1,219	-1,269	-1,307	-1,345
Net TBR	44,704	48,264	58,645	60,700	62,453
Revenue Growth (Act. & Proj'd)	-12.2%	8.0%	5.0%	3.0%	3.0%
Tariff Change proposed			5.0%		
Revenue incl. of growth and tariffs			53,090	54,683	56,324

(Remainder of page intentionally left blank)



### 7 **Request for amended Tariffs and Charges**

#### 7.1 **Request Summary**

BWS is therefore seeking amended tariffs, fees and other charges to help offset the financial circumstances described above. This request is in line with BWS' Full Five-Year Business Plan (2020-2025) submission. Specifically, BWS requests that the PUC consider implementing separate rates for Residential and Non-Residential customers and consider revising other fees and charges to help with partially off-setting costs associated with providing the relevant services.

Based on the requirements identified above for Capital Investments, continuity and security of services, and continued increases in costs, this request is expected to contribute to a 5% increase in revenues. These investments are needed to continue to provide these essential services to a growing customer base, while ensuring security of supply, environmental protection and climate change resilience.

However, BWS is very cognizant of the economic strain that COVID-19 and the subsequent increases in prices of goods and services is causing on our population. Taking this into consideration, along with the company's objective of ensuring affordable rates, BWS is requesting only a **5% increase** in tariff related revenue. The company is aware that this will require a lower rate of return on assets for the remaining three years of the FTP, but feels that this is justified by the essential nature of the services it provides and the overall welfare of the populace that are its consumers.

This proposal provides for no increase to residential customers; in fact, it includes a 10% discounted rate to senior citizens who use less than 3000 gallons a month. For non-residential customers, it proposes a small increase in tariff at the higher consumption bands, plus a small service fee.

#### 7.2 **Proposed Tariffs and Fees**

The proposed tariff charges simplify the tariff structure but keep the average tariffs at the same levels for residential customers. The tariffs continue to be structured with lower rates to low usage customers. Additionally, BWS now proposes to offer a 10% discount to senior citizens at their residence on monthly consumption of 3000 gallons or less. As per previous tariffs, the rate on the 0 to 1000 gallons usage is a minimum charge. The proposed residential tariffs are in the table below.

**Table 15: Proposed Residential Tariffs (per 1000 gal)**

<i>Usage From</i>	<i>Usage up to</i>	<i>Mainland Water only</i>	<i>Mainland Water &amp; Sewer</i>	<i>Ambergris Caye</i>	<i>Caye Caulker</i>
0	1000	8.72	10.47	25.57	23.46
1001	3000	14.29	18.27	31.13	26.60
3001	5000	15.88	20.56	41.93	35.46
5001	8000	18.26	24.11	50.64	42.55
8001	-	19.76	24.99	63.93	51.75
<b>Senior Citizens to receive 10% discount on consumption up to 3000 gallons</b>					

For non-residential customers, the proposed tariffs include a small fixed monthly service fee for non-residential customers and a simplified tariff structure with fewer tiers. These tariffs and service fees are slightly different from those proposed in the 2020 submission.

**Table 16: Proposed Non-Residential Tariffs (per 1000 gallon)**

<i>Usage From</i>	<i>Usage up to</i>	<i>Mainland Water only</i>	<i>Mainland Water &amp; Sewer</i>	<i>Ambergris Caye</i>	<i>Caye Caulker</i>
0	1000	8.72	10.47	25.57	23.46
1001	8000	17.31	22.69	47.16	39.71
8001	-	19.96	25.24	64.57	52.27

**Table 17: Proposed Non-Residential Monthly Service Fee**

<i>Meter Size</i>	<i>Mainland Water Only</i>	<i>Mainland Sewer</i>	<i>Ambergris Caye</i>	<i>Caye Caulker</i>
5/8-Inch	\$5.00	\$6.50	\$10.00	\$10.00
3/4-Inch	\$5.00	\$6.50	\$10.00	\$10.00
1-Inch	\$8.50	\$11.00	\$16.50	\$16.50
1.5-Inch	\$16.50	\$21.50	\$33.50	\$33.50
2-Inch	\$26.50	\$34.50	\$53.50	\$53.50
3-Inch	\$58.50	\$76.00	\$116.50	\$116.50

The schedules of the above proposed tariffs and service charges are reproduced in Appendix A.

### **7.3 Miscellaneous Fees and Charges**

The proposed fees and charges requested are the same as per the 2020 submission. These are attached as Appendix B.

**(Remainder of page intentionally left blank)**

## Appendices

- A. Existing and Proposed Tariffs
- B. Existing and Proposed Charges and Fees
- C. Proposed Regulatory Changes
- D. Proposed Capital Expenditure Listing

**APPENDIX A – EXISTING AND PROPOSED TARIFFS**

**Existing Tariffs – All Customers**

<i>Usage From</i>	<i>Usage up to</i>	<i>Mainland Water only</i>	<i>Mainland Water &amp; Sewer</i>	<i>Ambergris Caye</i>	<i>Caye Caulker</i>
0	1000	8.72	10.47	25.57	23.46
1001	2000	13.95	18.02	30.22	26.98
2001	3000	15.12	19.76	32.54	29.61
3001	4000	15.69	20.92	34.87	32.50
4001	5000	16.27	22.09	37.19	35.67
5001	6000	17.44	23.25	44.17	39.14
6001	7000	18.60	23.82	52.31	42.96
7001	8000	19.17	24.41	58.11	47.15
8001	-	19.76	24.99	63.93	51.75

**Proposed Residential Tariffs**

<i>Usage From</i>	<i>Usage up to</i>	<i>Mainland Water only</i>	<i>Mainland Water &amp; Sewer</i>	<i>Ambergris Caye</i>	<i>Caye Caulker</i>
0	1000	8.72	10.47	25.57	23.46
1001	3000	14.29	18.27	31.13	26.60
3001	5000	15.88	20.56	41.93	35.46
5001	8000	18.26	24.11	50.64	42.55
8001	-	19.76	24.99	63.93	51.75
<b>Senior Citizens to receive 10% discount on consumption up to 3000 gallons</b>					

**Proposed Non-Residential Tariffs**

<i>Usage From</i>	<i>Usage up to</i>	<i>Mainland Water only</i>	<i>Mainland Water &amp; Sewer</i>	<i>Ambergris Caye</i>	<i>Caye Caulker</i>
0	1000	8.72	10.47	25.57	23.46
1001	8000	17.31	22.69	47.16	39.71
8001	-	19.96	25.24	64.57	52.27

**Proposed Non-Residential Service Fee**

<i>Meter Size</i>	<i>Mainland Water Only</i>	<i>Mainland Sewer</i>	<i>Ambergris Caye</i>	<i>Caye Caulker</i>
5/8-Inch	\$5.00	\$6.50	\$10.00	\$10.00
3/4-Inch	\$5.00	\$6.50	\$10.00	\$10.00
1-Inch	\$8.50	\$11.00	\$16.50	\$16.50
1.5-Inch	\$16.50	\$21.50	\$33.50	\$33.50
2-Inch	\$26.50	\$34.50	\$53.50	\$53.50
3-Inch	\$58.50	\$76.00	\$116.50	\$116.50

## BWS Annual Review 2022 Report

### APPENDIX B: EXISTING, PROPOSED AND CALCULATED MISCELLANEOUS FEES

Description	Existing	Proposed	Full Cost Allocation
<b>Reconnection Fee</b>	\$25.00	\$25.00	\$38 - \$58
<b>Transfer of Account (Name Change)</b>	\$20.00	\$10.00	
<b>Transfer of Service (Location)</b>	\$20.00	\$20.00	
<b>Transfer New Connection</b>	\$20.00	\$20.00	
<b>Water Connection Fee</b>			
<u>Mainland:</u>			
Residential	\$85.00	\$85.00	\$2,221
All Other	\$85.00	\$330.00	\$2,221
<u>San Pedro:</u>			
Residential	\$127.50	\$127.50	\$4,173
All Other	\$637.50	\$650.00	\$4,173
<u>Caye Caulker:</u>			
Residential	\$100.00	\$100.00	\$2,679
All Other	\$300.00	\$400.00	\$2,679
<b>Sewer Connection Fee</b>			
<u>Belize City &amp; Belmopan:</u>			
Residential	\$100.00	\$100.00	\$2,447
All Other	Varies	Varies	\$2,447
<u>San Pedro:</u>			
Residential	\$150.00	\$150.00	\$5,208
All Other	Varies	Varies	\$5,208
<b>Water Infrastructure Fee</b>			
Residential	\$150.00	\$150.00	
All Others	\$150.00	Varies	
<b>Sewer Infrastructure Fee</b>			
Residential	\$1,695.00	\$1,695.00	
All Others	Varies	Varies	
<b>Security Deposit</b>			
<u>Mainland:</u>			
Residential	\$50.00	\$50.00	
All Other:			
3/4" Meter	\$200.00	\$100.00	
1" Meter	\$200.00	\$200.00	
1.5" Meter	\$200.00	\$500.00	
2" Meter	\$200.00	\$1,000.00	
<u>San Pedro:</u>			
Residential	\$50.00	\$50.00	
All Other:			
3/4" Meter	\$300.00	\$150.00	
1" Meter	\$300.00	\$300.00	
1.5" Meter	\$300.00	\$750.00	
2" Meter	\$300.00	\$1,500.00	
<u>Caye Caulker:</u>			
Residential	\$50.00	\$50.00	
All Other:			
3/4" Meter	\$250.00	\$125.00	
1" Meter	\$250.00	\$250.00	
1.5" Meter	\$250.00	\$625.00	
2" Meter	\$250.00	\$1,250.00	
<b>Late Payment Charge</b>			
Residential	N/A	N/A	
All Others [1]	N/A	2% per Month	

[1] Minimum charge of \$10.00.

### **APPENDIX C: BWS - PROPOSED REGULATORY CHANGES**

#### **Background:**

Belize Water Services Limited (“BWS”) provides potable water to the nine major municipal areas and adjacent villages, and sewerage services to three of these areas. Over the last six years, BWS has improved its efficiency and implemented improved cost control. These improvements along with the 2004/2005 tariff increases have helped the company to attain some profitability. However, the company is unable to generate enough cash flow from operations currently to meet its asset investment (expansion) and dividend commitments. It is worth noting that minority shareholders have been incessantly agitating for dividends. The regulatory changes proposed below should help to assist the company with earning additional, or collecting outstanding, revenues and cash thereby reducing the quantum of future tariff increases.

#### **History:**

BWS was formed in January 2001 and vested with the assets and liabilities of the former Water and Sewerage Authority in March 2001. BWS has a 25-year operating license, effective from March 2001 through to March 2026. Under the Cascal majority-ownership, Cascal had requested changes to the legal infrastructure and the Government had suggested that Cascal submit proposed draft changes. Since then, BWS, which is now under renewed Government ownership, has been requested to, as much as possible, minimize tariff increases. The Government has promised consider other means of assisting the company to achieve financial viability and the company has been requested to suggest regulatory changes which can assist it with improving efficiency, revenue and collections.

#### **Regulatory Framework:**

The regulations regarding the Water Industry include the Water Industry Act, 2001 (“WIA”), a detailed License issued by the PUC as authorised under the WIA, various Statutory Instruments (“SI’s”), and a “Codes of Practice” (“CoP”) which was mandated by the WIA and the License, and agreed by the Regulator and the BWS in 2004. There are several areas where the regulations, through silence, ambiguity or original approach, are hindering the efficiency or financial performance of BWS and where appropriate changes in the regulations could assist greatly in improving the performance of the company.

#### **Suggested Regulatory Changes:**

The following items have been identified for regulatory changes to meet the objectives identified. Based on legal advice received, the majority of these changes can be implemented by Statutory Instruments initiated by the PUC. The “Recommendations/Conclusions” column was inserted after a review with Mr. Gian Gandhi in November 2007.

No.	<u>Short Description</u> <i>Current Regulations</i>	Recommended Regulatory Changes
1	<p><b><u>Classification of Customers</u></b></p> <p><u>Current Legislation</u></p> <p>WIA, SI (existing tariffs – fee &amp; deposit structure) and Codes of Practice</p>	<p>Currently customers are categorised as either “Residential” or “Non-Residential”. BWS recommends some further classifications to include: Residential, Apartments/Condominiums, Government, Essential Services, Commercial, and Other (e.g., NGOs, Churches, etc.). These will provide some needed flexibility allowing BWS to identify and handle special needs or key customers and will support charging of tariffs and fees to those customers who can afford it.</p>
2	<p><b><u>Infrastructure Costs</u></b></p> <p><u>Current Legislation</u></p> <p>SI 42/2001 and schedule 2 of SI 67/2002 – (New Property Development) Currently a one-time (\$150 – Water and \$1,695 – Sewerage) infrastructure fee is payable for each connection in newly expanded areas.</p>	<p>As a result of the overwhelming cost associated with water and sewer infrastructure, BWSL would like to repeal SI 42/2001 and amend SI 67/2002 to better allocate the costs of new infrastructure to those who will benefit.</p> <p>BWS has shared draft legislation with the PUC for their review (December 2021).</p>
3	<p><b><u>Security Deposits</u></b></p> <p>SI 102/2004 and Codes of Practice under the disconnection Code. This requires \$50 deposit for residential customers and \$200 deposit to non-residential. Where a customer is disconnected for non-payment to bills more than twice within a 12-month period, the security deposit is increased to 3 times the average monthly bill (rounded up to nearest \$10.00)</p>	<p>The proposed charges and fees, include proposals for increases to these for non-residential customers based on meter sizes.</p> <p>For all customers: Option to reduce “increased” deposits back to ‘normal’ after a period (12 months) of successful payment history.</p> <p>Average customer bill to be based on 12 months consumption due to seasonal nature of consumption (dry or tourist season consumption may be several times higher than in other months).</p>
4	<p><b><u>Late Fees/Finance Charges</u></b></p> <p>The regulations currently do not allow this. At present BWSL’ only resort is disconnection and customers are charged a \$25 reconnection fee.</p>	<p>Proposed charges are included in the fees and charges</p>



5	<p><b><u>Backflow Prevention Devices</u></b></p> <p>The regulations are currently silent regarding this, although the Codes of Practice specify that <i>“where BWSL water supply is connected into a customer storage reservoir, the reservoir is to be installed in such a way as to avoid backflow into the BWSL systems, especially if the reservoir is supplied to another source such as well or rain water”</i>.</p>	<p>There are obvious health and legal aspects to this situation and BWSL feels that the best solution is for standards requiring the installation of backflow prevention devices be prescribed in an SI instituted by the PUC. BWSL be authorized to install backflow prevention devices and charge designated fees where a customer has not performed and installation within a specified time or where the customer requests that BWSL performs the installation. The fee would be dependent on the connection size and could be finalized with input from the PUC.</p>
6	<p><b><u>Commercial Abstraction Licenses and Charges</u></b></p> <p><i>No legislation exists, other than those relating to water extraction licenses.</i></p>	<p>A new water resource bill is currently being finalised, which would establish a National Water Resources Commission (“NWRC”) with responsibility for the protection of this valuable resource including the responsibility of issuing water abstraction licenses. BWS, along with the PUC, should coordinate with the pro-tem NWRC committee, to agree restrictions on the issuing of abstraction licenses within BWS or other (rural) service areas and where licenses are issued for commercial purposes, then the conditions can be placed to mandate connection to the existing supply for water to be used for consumption purposes unless that entity can guarantee water quality.</p>
7	<p><b><u>Illegal Connections</u></b></p> <p>Water Industry Act 2001 Sections 105(1) and 105 (1 and 2)</p> <p>The legislation indicates that any theft is a criminal offence and that the Licensee (the Company) has to collect any amounts due as a civil debt against the person(s) who tampered or illegally connected.</p> <p>The current problem is to prove who committed the act.</p>	<p>The responsibility should shift to the consumer benefiting from the usage. BWSL will assess and bill the usage plus costs. BWSL wishes to ensure that penalties exist (e.g., interest for payments delays). Only in cases of default of payment or if the connection is by non-customers would criminal and civil charges be the course of action.</p> <p>Also, to facilitate collections of outstanding debts, to make owners of premises in any event liable for the payment of water usage assessment and charges relating to the detection and removal of illegal connections and to constitute such rates as statutory charges on the premises.</p>

8	<p><b><u>Leaks</u></b></p> <p>License (which was granted under Section 15 of the Water Industry Act, 2001) and are embodied in the Leakage Code (Part of the Codes of Practice).</p> <p>For Residential Customers: Bills to be adjusted to average bill if leak is not due to negligence. This places the onus on the company to prove that customers are 'negligent' in order to be able to charge them for leaks within their premises.</p>	<p>For Residential Customers: In cases where a residential customer's consumption due to leaks (not caused or left unchecked by clear negligence on the part of the customer or his agent) exceeds a limit of two and a half times their monthly average or 3,000 gallons (whichever is higher) BWSL to absorb the loss above the limit up to a maximum total consumption of five times the monthly average consumption or 6,000 gals (whichever is higher); amounts thereafter to be split 50/50.</p> <p>All other customers will be expected to be fully responsible for all plumbing problems within their premises and pay full cost of all correctly metered water.</p>
9	<p><b><u>Licensing and Certification of Plumbers</u></b></p> <p>No regulations exist.</p>	<p>PUC to perform certification and licensing of plumbers, and to charge a fee for such. This will allow for the implementation of proper plumbing standards and will help protect customers from 'unqualified' plumbers. Additionally, it will assist with control over plumbers who persistently part-take in establishing illegal connections.</p> <p>This legislation can be modelled on that regarding licensed electricians.</p>

## Appendix D - Proposed BWS Capital Expenditure Listing

District	Group		2022-23	2023-24	2024-25	3 YearTotal
BZ	WWT	Improvement to BZC Sewer Treatment Plant	500	2,500	-	3,000
SP	DEV	3rd Water Project (South Expansion and Improvement of works)	940	940		1,880
BP	DEV	WNE Camlote Area (SIF)	1,470			1,470
CC	WWT	Design of Wastewater Treatment Solutions for Coastal Areas (Caye Caulker Sewer System Design)	400	200		600
All	DEV	Acquire new lands required for works Countrywide.	250	250	250	750
All	DEV	Purchase BWS lands from Lease to Title Countrywide	200	200	200	600
All	DEV	Ground Water Exploration - Geophysical Study - Cayo & Belize Phase II	-	340		340
CZ	WNE	WNE to Corozal Freezone			3,000	3,000
BZ	DEV	R&D Project Proposals	150			150
All	DEV	Small Projects or Contingencies	200	200	200	600
ST		<b>Subtotal</b>	<b>4,110</b>	<b>4,630</b>	<b>3,650</b>	<b>\$ 12,390</b>
All	WNE	BWS contribution to Developer's Project	200	200	200	600
CC	WNE	North Caye Caulker Water Expansion.	100	100	100	300
PL	WNE	WNE to Placencia Peninsula North - Seine Bight to Maya Beach	1,500	700	-	2,200
PL	WNE	WNE to Placencia Peninsula North - Maya Beach to Riversdale			3,000	3,000
SP	WNE	Water Network Expansion to San Mateo - Phase 3, San Pedro	150	150		300
BZ	WNE	Normal Progression - Belize District	300	350	350	1,000
BP	WNE	Normal Progression - Belmopan	300	300	300	900
CC	WNE	Normal Progression - Caye Caulker	100	100	100	300
BV	WNE	Normal Progression - Benque	50	50	50	150
CZ	WNE	Normal Progression - Corozal	200	200	200	600
DG	WNE	Normal Progression - Dangriga	165	150	100	415
OW	WNE	Normal Progression - Orange Walk	200	200	200	600
PG	WNE	Normal Progression - Punta Gorda	50	50	50	150
SI	WNE	Normal Progression - San Ignacio, Santa Elena and Esperanza	250	250	250	750
SP	WNE	Normal Progression - San Pedro	300	300	300	900
PL	WNE	Normal Progression - Placencia Peninsula	50	50	50	150

District	Group		2022-23	2023-24	2024-25	3 YearTotal
BP	WNE	WNE to J and W Subdivision, Belmopan	-	-	412	412
ST		<b>Subtotal</b>	<b>\$ 3,915</b>	<b>\$ 3,150</b>	<b>\$ 5,662</b>	<b>\$ 12,727</b>
BZ	NSC	New Connections Pipeline - Belize City	200	200	200	600
BP	NSC	New Connections Pipeline - Belmopan	110	110	110	330
CC	NSC	New Connections Pipeline - Caye Caulker	30	30	30	90
BV	NSC	New Connections Pipeline - Benque	30	30	30	90
CZ	NSC	New Connections Pipeline - Corozal	30	30	30	90
DG	NSC	New Connections Pipeline - Dangriga	50	50	50	150
BZ	NSC	New Connections Pipeline - Hattieville	10	10	10	30
OW	NSC	New Connections Pipeline - Orange Walk	30	30	30	90
PG	NSC	New Connections Pipeline - Punta Gorda	25	25	25	75
SI	NSC	New Connections Pipeline - San Ignacio	100	100	100	300
SP	NSC	New Connections Pipeline - San Pedro	95	95	95	285
PG	NSC	New Connections Pipeline - Elridge /Forest Home	10	10	10	30
PL	NSC	New Connections Pipeline - Placencia Peninsula	15	15	15	45
ST		<b>Subtotal</b>	<b>\$ 735</b>	<b>\$ 735</b>	<b>\$ 735</b>	<b>\$ 2,205</b>
All	NRW	Bulk (DMZ) Meters for DMZ's	100	100	100	300
CZ	NRW	Meter Replacement, Corozal	50	50	50	150
OW	NRW	Meter Replacement, OW	50	50	50	150
BZ	NRW	Meter Replacement, BZ	100	100	100	300
CC	NRW	Meter Replacement, Caye Caulker	-	125		125
CC	NRW	Meter Replacement to AMR, Caye Caulker		750		750
SP	NRW	Meter Replacement, San Pedro	250	-		250
BP	NRW	Meter Replacement, Belmopan	50	50	50	150
SI	NRW	Meter Replacement, San Ignacio/Santa Elena	50	50	50	150
DG	NRW	Meter Replacement, Dangriga	25	25	25	75
PL	NRW	Meter Replacement, Placencia Peninsula	25	25	25	75
PG	NRW	Meter Replacement, Punta Gorda & Forest Home	25	25	25	75
All	NRW	DMZ Protection Improvement	100	100	50	250
All	NRW	Remote AMI Monitoring Equipment	100	100	100	300

District	Group		2022-23	2023-24	2024-25	3 YearTotal
All	NRW	Leak detection equipment (AML f/all district, new correlator, noise loggers etc.)	20	20	20	60
All	NRW	Valve Monitoring and Maintenance system	50	50	50	150
ST		<b>Subtotal</b>	<b>\$ 995</b>	<b>\$ 1,620</b>	<b>\$ 695</b>	<b>\$ 3,310</b>
BZ	BLC	HQ Lift		125		125
BZ	BLC	Resurfacing of HQ rear compound (including wash bay)		150		150
BZ	BLC	Construction of Pipe Sheds with Racks - Storage, Mile 10	-	-	300	300
BZ	BLC	HQ Riverside Parking Lot Building & Storeroom Phase 1			250	250
BZ	BLC	HQ Evergreen Street - shallow drain & rear access modification	40			40
OW	BLC	Chan Pine Ridge Site Solar Lighting	50	-		50
OW	BLC	New OW Office Compound & Parking Lot Improvements - Phase 3	50			50
BP	BLC	BMP WTP Pipe Rack and Storage		-	120	120
SI	BLC	San Ignacio Pipe Rack and Storage		-	60	60
SI	BLC	SI/SE Branch Office Refurbishment			250	250
SP	BLC	San Pedro Pipe Rack and Storage			100	100
CC	BLC	Caye Caulker Pipe Rack			90	90
BV	BLC	Build concrete pump-house to replace the timber pump-house with all associated commercial and industrial electrical & mechanical works	100	-		100
ALL	BLC	Climate Resilience & Safety Improvements, Countrywide	100	100	100	300
SP	BLC	Refurbishment of SPWTP Storage Bld	-		125	125
BZ	BLC	Improvements to M & E Office, BZ City	50	-		50
BZ	BLC	Improvements to HR Office, BZ City	50			50
BZ	BLC	Improvements to Fleet Management Office, BZ City	50			50
BZ	BLC	Improvements to NRW Workshop Office, BZ City	50			50
BZ	BLC	Improvements to Fleet Management Store Room, BZ City	50			50
BP	BLC	Supply & Install backup pump at Lomas (Mountain View) Booster Station	50			50
ST		<b>Subtotal</b>	<b>\$ 640</b>	<b>\$ 375</b>	<b>\$ 1,395</b>	<b>\$ 2,410</b>
All	PPV	Supply and install Valves (Air + Pressure rating + check valves) Countrywide	100	100	100	300
BZ	PPV	Elimination of Galvanized Services & Asbestos Mains Belize City North Side (including crown cone avenue - 126K)	-	300	425	725

District	Group		2022-23	2023-24	2024-25	3 YearTotal
BZ	PPV	Elimination of Galvanized Services & Asbestos Mains Belize City South Side (including replacement of 4 street - BCC works - 145K)	-	450	450	900
BZ	PPV	Replacement and upgrade of mains in Max Boro.	26			26
PL	PPV	Elimination of yard to yard connections Placencia			300	300
CC	PPV	Upgrade of main for Caye Caulker for Playa Asuncion	-		50	50
SP	PPV	Elimination of yard to yard connections <b>San Pedro</b> for Marina Drive, Mermaid St, Mullet St, Water Lane, Boca del Rio, Flying Fish St, Airstrip, Seagrape Drive	-	250	250	500
BP	PPV	Replacement of Galvanized, Thin walled PVC and Asbestos Mains Belmopan and Teakettle	300	300	300	900
SI	PPV	Replacement of Galvanized and Asbestos Mains San Ignacio/Santa Elena (Trechtown Street & Burns Ave - 656K)	800	300	300	1,400
BV	PPV	Replacement of Galvanized and Asbestos Mains Benque	-	225	225	450
CZ	PPV	Replacement of Galvanized, Thin walled PVC and Asbestos Mains Corozal	400	400	400	1,200
DG	PPV	Replacement of Galvanized and Asbestos Mains Dangriga (Tubru Street, Melinda Road, Bacca Town, Foreshore, Sawai, Wagierale, Market Square, Ramos Rd and Bridge Crossing for Ecumenical Dr)	300	300	300	900
PG	PPV	Replacement of Grey/Black thin walled PVC mains Punta Gorda for George Price St, Front St, Jose Maria St, Jose Maria St B, & Middle St	-	225	225	450
OW	PPV	Replacement of Grey/Black thin walled PVC pipes Orange Walk(29620 feet and 776 service connections)	1,000	500	500	2,000
ST		<b>Subtotal</b>	<b>\$ 2,926</b>	<b>\$ 3,350</b>	<b>\$ 3,825</b>	<b>\$ 10,101</b>
BZ	PLE	Supply, install and Commission Generators N2, N4, S4 and S6 Sewer Stations	100	100	100	300
OW	PLE	Supply and install Generator & Electrical for OW office	100			100
CC	PLE	Supply and install 200K R O Plant for south CC	-	1,200	800	2,000
SP	PLE	Make SPWTP R O Plant Climate Resilient	500	500		1,000
ST		<b>Subtotal</b>	<b>\$ 700</b>	<b>\$ 1,800</b>	<b>\$ 900</b>	<b>\$ 3,400</b>
All	RWR	Improvement to Raw Water Resources such as wells etc. , Countrywide.	100	100	100	300
BZ	RWR	Lemonal New Water Well Installation	-		100	100
SP	RWR	Commission 3rd well at SP	300			300
SP	RWR	4 more wells for SP	200			200
CZ	RWR	Commission 3rd Well at Calcutta			100	100

District	Group		2022-23	2023-24	2024-25	3 YearTotal
SI	RWR	New Intake Gallery & Works	1,500			1,500
CZ	RWR	2nd Well at San Andres			150	150
OW	RWR	New Well at Petville	200			200
OW	RWR	2nd Well at Chan Pine Ridge			130	130
PG	RWR	New Well at BDF Well Site, PG	150	-		150
BP	RWR	Belmopan New Intake pump and works		500		500
BP	RWR	New Well Lomas (Mountain View) Booster Station	-		100	100
BP	RWR	Well and pump at Franks Eddy Elevated Tank Site	200	-		200
DG	RWR	Improvement of Dangriga Raft & Intake Works	-		150	150
ST		<b>Subtotal</b>	<b>\$ 2,650</b>	<b>\$ 600</b>	<b>\$ 830</b>	<b>\$ 4,080</b>
BZ	MNS	New 14" DI Pipe on new Haulover Bridge	500			500
BZ	MNS	Corozal-Progresso Road Upgrade	160			160
CC	MNS	Caye Caulker Split Crossing	1,000			1,000
BZ	MNS	Phillip Goldson HWY Road Crossing - San Joaquin to Czl Town	275			275
DG	MNS	Dangriga Transmission Line Upgrade (WTP-Havana Bridge)		-	550	550
DG	MNS	Distribution Main from Havana Bridge to Habet		-	200	200
SI	MNS	1.51 Miles of Upgrade and Expansion mains for along the Road to Benque (MOW Project - From Chuc G.Station into SI town)		528	528	1,056
SI	MNS	New 10" Transmission Line from SI Reservoir to Cahal Pech		300		300
SI	MNS	SI to Western Border Transmission Line upgrades (MOW Project - Upto Benque Border)		750	750	1,500
BP	MNS	14" Transmission Line Roaring Creek Bridge to Intake - Bmp	100			100
PG	MNS	PG Transmission/Distribution Line Upgrade (Cerro Hill RD:4" to 6", E/FH to PG: 3" to 6")	-	-	1,200	1,200
PL	MNS	New Transmission line from Independence - Seine Bight	4,000	2,200		6,200
PL	MNS	Replace existing 3" water main from BWS office to Wild Orchid DMZ North 5201	-	550		550
PL	MNS	SP Bridge crossing - 8 inch	250			250
ST		<b>Subtotal</b>	<b>\$ 6,285</b>	<b>\$ 4,328</b>	<b>\$ 3,228</b>	<b>\$ 13,841</b>
BV	RVB	Benque/Succotz Ground Storage Reservoir 250kGal	-	-	500	500
CZ	RVB	Calcutta New 250K Gallons Concrete Reservoir with Pump House			500	500

District	Group		2022-23	2023-24	2024-25	3 YearTotal
CZ	RVB	Santa Rita New 250K Gallons Concrete Reservoir with Pump House			500	500
SI	RVB	Santa Elena New Gravity Feed Reservoir at High elevation in Santa Elena - 250K Gallon			500	500
CC	RVB	Construct 150K Gallon Water Tank & Building , CC South		1,250	1,250	2,500
PL	RVB	New 500K Gal Storage Tank + Backfill + Sight Lightings + Fence, Seine Bight	1,875	1,875		3,750
BZ	RVB	500K Gal Storage Tanks, Double Run WTP	2,175	2,175		4,350
OW	RVB	25K Gallon Elevated Tank, Petville			250	250
ST		<b>Subtotal</b>	<b>\$ 4,050</b>	<b>\$ 5,300</b>	<b>\$ 3,500</b>	<b>\$ 12,850</b>
BP	FNS	Cotton Tree Well Fence			70	70
BP	FNS	Cotton Tree Chlorine Pump Site Fence	-		50	50
BP	FNS	Franks Eddy Elevated Tank Fence			25	25
BP	FNS	Rip-Rap to Stream entrance and exit property BMP STP	30			30
BV	FNS	Repairs to Benque Spring fence	-		100	100
SP	FNS	San Pedro Office Fencing	-		100	100
ALL	FNS	Security & surveillance system countrywide	975	100	100	1,175
BZ	FNS	Mile 10 Site Lighting (Solar LED Lights to be placed at proper interval to light whole compound)	-	-	200	200
ST		<b>Subtotal</b>	<b>\$ 1,005</b>	<b>\$ 100</b>	<b>\$ 645</b>	<b>\$ 1,750</b>
BZ	WWC	Belize City Sewer Connections	25	25	25	125
BP	WWC	Belmopan Sewer Connections	15	15	15	75
SP	WWC	San Pedro Sewer Connections	25	25	25	125
ST		<b>Subtotal</b>	<b>\$ 65</b>	<b>\$ 65</b>	<b>\$ 65</b>	<b>\$ 325</b>
All	WWE	Sewer System Expansion	125	125	125	625
ST		<b>Subtotal</b>	<b>\$ 125</b>	<b>\$ 125</b>	<b>\$ 125</b>	<b>\$ 625</b>
BZ	WWT	20 to 25 feet deep prefab manholes for station N2, N4, S4 and S6 to prevent debris from reaching pumps in the stations.	50	50	50	150
BZ	WWT	Automatic Control System for S4, S6, N2 and N4	100	100	100	300
BZ	WWT	Metering and Recorder for S4, S6, N2 and N4	25	25	25	75
BZ	WWT	Upgrade of Sewer Station S6, Belize City	490			490
SP	WWT	Provision of Tertiary Treatment for SP lagoons		-	840	840



District	Group		2022-23	2023-24	2024-25	3 YearTotal
SP	WWT	San Pedro Sewer Manholes Restoration Ph #4	200	200		400
ALL	WWT	Replacement of sewer pumps/motors (mother stations)	50	50	50	150
ST		<b>Subtotal</b>	<b>\$ 915</b>	<b>\$ 425</b>	<b>\$ 1,065</b>	<b>\$ 2,405</b>
BZ	WQL	Sequest Pumps, drums, mixers			40	40
OW	WQL	Sequest and Chorinator for Petville		75		75
ST		<b>Subtotal</b>	<b>\$ -</b>	<b>\$ 75</b>	<b>\$ 40</b>	<b>\$ 115</b>
CZ	SCA	Corozal SCADA	170			170
OW	SCA	Orange Walk SCADA	90			90
SI	SCA	Santa Elena/San Ignacio SCADA		220		220
BV	SCA	Benque Viejo SCADA			120	120
BZ	SCA	DRWTP SCADA			120	120
ST		<b>Subtotal</b>	<b>\$ 260</b>	<b>\$ 220</b>	<b>\$ 240</b>	<b>\$ 720</b>
BZ	WTP	New High Lift Pump Double Run WTP + electrical controls	75	75		150
BZ	WTP	DRWTP Improvements Phase 2		200		200
BZ	WTP	DRWTP Improvements Phase 3 (Tube Settlers, Bury electrical conduit duct bank for old and new clarifiers, metal works)			250	250
All	WTP	Improvement to M & E Equipment, Wiring etc. Countrywide	50	50	50	150
DG	WTP	DGWTP Improvements Phase 4 (Upgrade Old Filters including pipework + New Access Road + Crane)	200			200
DG	WTP	DGWTP Improvements Phase 5 (Landscaping+ Cafeteria + Improvements of Operator's office + Refurbish Chain-link Fence + Guard Hut with Bathroom)	160	300		460
DG	WTP	Dangriga WTP- Phase 6 - Capacity Increase - Tube Settlers and Sludge Removal System		-	310	310
BV	WTP	Benque Viejo HDPE Pipe River Bed Crossing and New Concrete Dosing Hut with Electrical	350			350
BP	WTP	BMP Intake DI/PVC Pipe work upgrade from Intake to property line.		550		550
All	WTP	Refurbish Project Storage Containers Countrywide with Windows, Vent fans, pipe Rack, small Power/light and roofing	-		200	200
BP	WTP	Refurbish BMP WTP			200	200
SI	WTP	San Ignacio Phase #2 - Pump room at Main pumping station with full M & E)	850	850		1,700
SI	WTP	New Water Treatment Plant San Ignacio Phase 3 (Intake, Aerator, Filters, Clarifier	-	1,500	1,500	3,000

District	Group		2022-23	2023-24	2024-25	3 YearTotal
SI	WTP	Relocate SI WTP Reservoir Drain pipes and Overflow pipe works to BWS easement. (out of neighbouring property)		-	350	350
SP	WTP	Generator for old R O Plant San Pedro		-	500	500
SP	WTP	Electrical Conversion of Old SP R/O Plant #1 Efficiency & Climate Resilient	850			850
ST		<b>Subtotal</b>	<b>\$ 2,535</b>	<b>\$ 3,525</b>	<b>\$ 3,360</b>	<b>\$ 9,420</b>
BZ	OFF	Furniture upgrade for HQ include M&E, Ops, NRW&WD, Audit, Credit Control, Sewer Department to allocate it for other purpose, Vehicle Department	75	75	50	200
ST		<b>Subtotal</b>	<b>\$ 75</b>	<b>\$ 75</b>	<b>\$ 50</b>	<b>\$ 200</b>
All	ITS	IT Hardware, Network & Software Capex	2,327	1,428	2,022	5,776
BZ	WQL	Equip WW Lab in DRWTP	50			50
All	WQL	Replacement Equipment for Water Laboratories Countrywide	100	100	100	300
All	ITS	A new billing, customer relationship and workorder system	624			624
All	ITS	Geographical Information System	150			150
BZ	ITS	M & E Management Data Base	90			90
All	PLE	Heavy Duty Equip. ( Backhoes& Excavators)	1,078	500	500	2,078
All	VEH	Small Vehicles	905	500	500	1,905
All	PLE	Excavator (Replacement)	500	-		500
All	PLE	Well Rig	50	3,050		3,100
All	PLE	Sewer Vacuum and Flusher Truck		450		450
All	PLE	Operations - Plant and Equipment	100	100	100	300
All	PLE	Critical Spares Countrywide	250	250	250	750
All	WQL	Field Monitoring Equipment including Automatic Purging Valves Countrywide	50	50	50	150
All	OTH	Construction and Engineering Tools and Equipment	50	50	50	150
ST		<b>Subtotal</b>	<b>\$ 6,324</b>	<b>\$ 6,478</b>	<b>\$ 3,572</b>	<b>\$ 16,373</b>
		<b>TOTAL</b>	<b>\$ 38,310</b>	<b>\$ 36,976</b>	<b>\$ 33,582</b>	<b>\$ 109,247</b>