Barbados Water Authority

PROJECT MANAGEMENT OFFICE (PMO)

Brief On Water Supply Network Upgrade Project




Barbados Water Supply Network Upgrade Project - Loan No. 33/Or-Bar & Grant No. Ga12/Bar

PROJECT SUMMARY

DETAILS	
Executing Agency	The Barbados Water Authority (BWA)
Project Coordinator	Mr. George Reifer
Project Engineer	Various Consultants procured through the project
Financing Agency	Caribbean Development Bank (CDB)
Terms of Funding	**Loan Amount:** BBD$ 71,334,000.00 **Borrower:** Government of Barbados (GOB) **Maximum Grant Amount:** BBD$ 432,000.00 from European Investment Bank (EIB) provided to CDB
BWA Contribution	**Counterpart Funding:** BBD$ 16,859,000.00
Total Project Capital	BBD$ 88,625,000.00
Spend to Date	BBD$ 39,729,550.94 (as of April 30,2023)
Start Date	**August 2016**
Completion Date	**December 2020**

DESCRIPTION OF THE PROJECT

As part of an initiative to achieve the goals of a twenty (20) year long term strategic plan for improved services to the Barbadian public, the Barbados Water Authority (BWA) has embarked on the Water Supply Upgrade Network Project (WatSNUP), funded by the Caribbean Development Bank. This project, designed to mitigate the challenges experienced by the BWA, will address issues pertaining to failing infrastructure, inefficiency in operations and frequency of water outages currently experienced throughout the island. In this regard, the overall goal of the project is to increase the level of efficiency of operations, through investments in areas that impact service, delivery and efficiency. Specific objectives identified as necessary to achieve the above goals include:

a) Enhance the safety and functionality of water production:
   → Water tanks
   → Reservoirs
   → facility upgrades

b) Reduce operational costs:
   → Non-revenue water reduction project
   → mains replacement
   → photovoltaic installation

c) tariff proposal project and staff training

d) Consideration of climate change:
   → Climate change vulnerability assessment

This project is in alignment with the Barbados Water Authority Strategic Plan 2016 – 2021, strategic imperatives listed below:

- → Reduce non-revenue water
- → Enhance and update operational infrastructure
- → Implement water resource sustainability projects

PROJECT BENEFITS

The expected benefits include:

a) Enhanced safety and efficiency of the potable water supply system in Barbados
b) Enhanced water sector planning capacity in the areas of gender inclusion, non-revenue water (NRW) management and climate change adaptation planning.

The below table lists the benefits by sectors

Benefit Analysis	
Sector	**Benefits**
BWA Customers	→ Reduced instances of water outages to households, schools, businesses and healthcare facilities
BWA	→ Institutional strengthening through staff training → Reduced operational costs through renewable energy generation → Reduction in maintenance costs with new mains, water tanks and refurbished reservoirs → Increased drought resilience → Improved leak detection system and reduction in non-revenue water → Greater understanding of gender issues and level of impact → Recommendations for cost of service improvements
Union	→ Enhanced safety conditions for BWA staff
GOB	→ Reduced supplemental funding

TECHNICAL DESCRIPTION

The scope of the project, categorised by the specific objectives, are as tabulated below:

Specific Objectives	**Project Component**
Enhance the safety and functionality of water production	**Procurement No. 1.5** Upgrade of Water Facilities, Water tank Replacement and Reservoir Refurbishment.
Reduce operational costs	***Procurement 2.2.1****: Purchase of Pipes and Fittings* ***Procurement 2.2.2****: Civil Works, Trenching and Reinstatement, HDPE Installation* ***Procurement 2.2.3****: Pipe Laying (PVC) and Connections* **Procurement No. 5**: Purchase and Installation of PV Systems ***Procurement No. 9.1****: Cost of Service Study and Tariff Proposal*
Consideration of climate change	***Procurement No. 7.1****: Climate Change Vulnerability Assessment*

PROJECT STATUS – MAY 2023

Description	Company (ies)	Project Status	Activities
Procurement No. 1.5 Upgrade of Water Facilities, Water tank Replacement and Reservoir Refurbishment:	Innotech Services Limited, Barbados	In Progress	**Rehabilitation of Ten (10) Reservoirs:** Shop Hill, St. Thomas Golden Ridge, St. George Providence, Christ Church Hanson, St. Michael Warleigh, St. Peter **The installation of four (4) new water Tanks (nearing completion) located at:** Half Acre, St. Lucy Mount Stepney, St. Peter Indian Ground, St. Peter Ellerton, St. George
Procurement No. 5: Purchase and Installation of PV Systems Installation of four (4) 150 KW photovoltaic systems to be located be located at the Belle Pumping Station facility	DCH Solar Gigha GMBH, Germany	In Progress	a) All solar panels were procured and are currently on site. b) Construction of foundations and erection of PV system should begin in June 2023.
***Procurement No. 2.2.1**: Purchase of Pipes and Fittings* Replacement of approximately 23 kilometres of water mains at various locations in the north and east of the island.	Ortus Plumbing, Natron Inc., DGL Building Materials Solutions Inc., Barbados	Completed	a) Procurement completed and all deliverables received
***Procurement No. 2.2.2**: Civil Works, Trenching and Reinstatement, HDPE Installation*	Jada Builders Inc. (Infra Inc.), Barbados	Completed	Installation, Commissioning and Reinstatement Completed – November 2021
***Procurement No. 2.2.3**: Pipe Laying (PVC) and Connections*	Barbados Water Authority – Capital Works Unit	Completed	
***Procurement No. 7.1**: Climate Change Vulnerability Assessment*	Mott MacDonald, United Kingdom	Completed	May 2022

Description	Company (ies)	Project Status	Activities
Procurement No. 9.1*: Cost of Service Study and Tariff Proposal*	Cowater Sogema, Canada	Completed	August 2021

Appendix 1- Rehabilitation of 10 Reservoirs and Erection of 4 Water Storage Tanks

Figure 1- Storage Tank at Mount Stepney, St. Peter

Figure 2- Storage Tank at Indian Ground, St. Peter

Figure 3- Storage Tank at Half Acre, St. Lucy

Figure 4- Storage Tank at Ellerton, St. George

Appendix 2 – TABLE A: LOCATION OF MAINS REPLACEMENT ROUTES – See Appendix 2 – MAP A

ROUTE	LOCATION	PARISH
2	Benthams Road to Charles Duncan O'Neal Rd	St. Lucy
3	Charles Duncan O'Neal Rd to Trents	St. Lucy
5	Church Gap	St. Andrew
7	Logan Road Junction to St. Judes Primary	St. George
8	Greens Junction to Logan Road Junction	St. George
10	Drax Hall Jump to Drax Hall Woods	St. George
11	Drax Hall Woods to Mount Gardens	St. George
12	Logan Road Junction to Middleton	St. George
13	Applewhaites Plantation to Locust Hall	St. George
14	Four Road to Todds	St. John
15	Highway H (Colleton to Massiah Street)	St. John
16	Colleton Plantation to Coach Hill	St. John
17	Church View / Newcastle	St. John
18	Pothouse Road	St. John
19	Welch Town	St. John
20	Gall Hill to Coach Hill (including side roads)	St. John

Appendix 3 – MAP A: LOCATION OF MAINS REPLACEMENT ROUTES