



CARIBBEAN DEVELOPMENT BANK

**NOTIFICATION OF APPROVAL BY THE PRESIDENT OF A
TECHNICAL ASSISTANCE GRANT**

**WATER SUPPLY EXPANSION AND SEWERAGE
IMPROVEMENT PROJECT – GRENADA**

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Notified at the Two Hundred and Seventy-Fourth Meeting of the Board of Directors on December 8, 2016.

BD 141/16

<i>Director Projects Department</i>	<i>Mr. Daniel M. Best</i>
<i>Division Chief (Ag.) Economic Infrastructure Division</i>	<i>Ms. Merlyn P. Combie</i>

DECEMBER 2016

Team Members:

Sharon Griffith, Operations Officer (Civil Engineer/Coordinator); Hopeton Peterson, Operations Officer (Environmental Sustainability); Elbert Ellis, Operations Officer (Social Analyst); Maria Ziegler, Gender and Development; Peter Werner, Renewable Energy/ Energy Efficiency Specialist; Leah Bobb-Semple, Legal Counsel; Peter Manning, Operations Officer (Analyst); and Tracie Richards, Coordinating Secretary

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CARIBBEAN DEVELOPMENT BANK
TWO HUNDRED AND SEVENTY-FOURTH MEETING OF THE BOARD OF DIRECTORS
TO BE HELD IN BARBADOS
DECEMBER 8, 2016

PAPER BD 141/16

NOTIFICATION OF APPROVAL BY THE PRESIDENT OF A GRANT –
TECHNICAL ASSISTANCE – WATER SUPPLY EXPANSION AND
SEWERAGE IMPROVEMENT PROJECT - GRENADA

In accordance with the authority delegated by the Board of Directors at its Two Hundred and Seventieth Meeting (Minute 270.32), the President approved a grant of seven hundred and seven thousand and seventy Pounds Sterling (£707,070) from the Special Funds Resources of the Caribbean Development Bank (CDB), allocated from funds provided by the United Kingdom through the Department for International Development to CDB under the United Kingdom Caribbean Infrastructure Partnership Fund to assist in meeting the cost of the consultancy services to conduct a feasibility study, for the Water Supply Expansion and Sewerage Improvement Project identified, on the terms and conditions referred to in the attached Paper.

2. It is a condition of the delegated authority that each project approved by the President and the terms and conditions thereof, be reported to the Board at its first convenient scheduled Meeting after approval of the project.
3. The Board is therefore asked to note the approval by the President of the abovementioned project and the terms and conditions thereof.

TECHNICAL ASSISTANCE

WATER SUPPLY EXPANSION AND SEWERAGE IMPROVEMENT PROJECT – GRENADA

1. APPLICATION

1.01 By letter dated June 6, 2016, the Government of Grenada (GOGR) applied to the Caribbean Development Bank (CDB) for a grant to assist in financing: (a) technical assistance (TA) for the engagement of consulting services to prepare a feasibility study and detailed designs for the expansion of the St. George's Water Supply System and the provision of improvements to the sewerage system of St. George's; and (b) a capital works project to be developed from the findings of the feasibility study.

1.02 The beneficiary of this TA will be GOGR and the executing agency will be the National Water and Sewerage Authority (NAWASA). NAWASA is a statutory body, established by the National Water and Sewerage Authority Act, CAP 208, No.25 of 1990. NAWASA has the capacity to carry out the TA.

1.03 The total cost of the TA is estimated at eight hundred and thirty-four thousand, two hundred and seventy-nine Pounds Sterling (£834,279). CDB's contribution will be a TA Grant not exceeding the equivalent of seven hundred and seven thousand and seventy Pounds Sterling (£707,070) from the Special Funds Resources (SFR) of CDB, allocated from funds provided by the United Kingdom (UK) through the Department for International Development (DFID) to CDB under the United Kingdom Caribbean Infrastructure Partnership Fund (UKCIF). Counterpart funding, equivalent to one hundred and twenty-seven thousand, two hundred and nine Pounds Sterling (£127,209) will be provided by NAWASA.

2. BACKGROUND

2.01 Grenada lies at the southern end of the Windward Islands. It is a tri-island state, which includes the islands of Grenada, Carriacou and Petit Martinique with an approximate land area of 345 km², and a total population of 106,667 comprising 53,898 males and 52,769 females¹. The urban population was 39% of the total population (2010).

2.02 NAWASA is a statutory body and is responsible for the municipal water supply and wastewater management of Grenada (see Appendix 1 for the Organisational Chart). Government departments, which make policy for, regulate and/or fund the sector include the following:

- (a) the Ministry of Works, Physical Development and Public Utilities, which has jurisdiction over NAWASA as the regulatory authority responsible for the sector;
- (b) the Ministry of Health, which is responsible for monitoring water quality and health-related issues regarding wastewater disposal;
- (c) the Ministry of Finance, Planning, Economic Development, Trade, Energy and Cooperatives, which is responsible for the approval of budgets and the provision of grants, loans and investments in the sector; and
- (d) the Bureau of Standards, which is a statutory body responsible for setting standards within the country.

¹ http://www.caricomstats.org/Files/Databases/vital%20statistics/Pop_Census.pdf

Water Resources and Supply

2.03 Grenada's water resources comprise primarily surface water. However, there is groundwater potential to supply about 10% - 15% of the present potable requirement. The island of Grenada is divided into 71 watersheds, which are well defined due to the steep, hilly topography. NAWASA operates 29 water supply facilities, where water is abstracted from 23 surface and 6 groundwater potable supply sources on mainland Grenada. These water supply facilities have a maximum yield of 54,600 m³/day (12 mgd) in the rainy season (July to November) and a maximum yield of 31,800 m³/day (7 mgd) in the dry season (December to May). The maximum water demand in the rainy season is 45,500 m³/day (10 mgd) and in the dry season, 54,600 m³/day (12 mgd). These figures illustrate the high risk of insufficient water supply during the dry season and in particular during periods of drought. Future demand is projected to increase in response to economic growth, tourism development, population growth and changes in land use patterns with increased use of irrigation. NAWASA currently serves 43,031 consumers (90% service coverage).

2.04 Grenada's water sector is also highly vulnerable to the effect of climate change on the hydrological cycle and is ranked as the most vulnerable of the countries of the Organisation of Eastern Caribbean States (OECS). A recent Economic Commission for Latin America and the Caribbean (ECLAC) Report² expressed the need for additional water intake, storage and distribution infrastructure, as well as institutional strengthening, in order to meet the future needs of the Grenadian population and to build resilience to climate change in the sector.

Wastewater Management

2.05 There are presently 2 sewerage systems on the island that serve 3% of the population, those being Grand Anse and St. George's. These two systems are critical to the sustainability of the tourism sector, primarily located in the west southwest of Grenada. The St. George's Sewerage System collects wastewater from the city centre via the Carenage/Lagoon Road Wastewater Collection System and pumps it into St. George's Bay through an outfall, which extends 350 m out to sea to discharge at a depth of approximately 25 m of water.

2.06 A 1998 study³ examined the necessity for improved communal sanitation infrastructure across the Island and a number of projects were recommended, including a two-phased programme of rehabilitation and upgrading of the Greater St. George's sewer system. Subsequently, a 2003 Greater St. George's and Grenville Sewerage Project Draft Design Report (2003 Design Report)⁴ sought to combine the two phases into one. Detailed designs were completed to support an appraisal process by international financial institutions. This Report also included an environmental impact assessment of the project and preparation of tender documents. However, the findings and designs of this Report were never implemented due to inadequate funding.

2.07 It will be necessary for the 2003 Design Report to be reviewed and updated to take into account environmental, social and gender considerations, climate change variability, changes in land use, projected demand, operational cost/life-cycle cost including the integration of renewable energy options and as a means of proposing any modifications to the treatment options going forward, and the provision of a proposal(s) to develop treatment options in a phased approach considering the resource requirements.

² An assessment of the economic impact of climate change on the water sector in Grenada: October 22, 2011.

³ Grenada Wastewater Management Project (OECS) "Long Range Sewerage Plan" by Howard Humphreys and Partners Ltd. (1998).

⁴ Greater St. George's and Grenville Sewerage Project Draft Design Report. Dessau-Soprin International Inc. (November 2003).

3. PROPOSAL

3.01 It is proposed that CDB provide a TA Grant in an amount of £707,070 from its SFR allocated from UKCIF, to assist GOGP in meeting the cost of the consulting services to update the 2003 Design Report and prepare detailed designs for the upgrade of the Carenage/Lagoon Road Wastewater Collection System and complete a study to examine the most feasible option for the expansion of the Southern St. George's Water Supply and the conduct of project preparation.

3.02 The proposed TA project examines three critical areas of the water and sewerage network with a view to improving its efficiency, building climate resilience and reducing water sector risks. UKCIF will be managed under standard CDB systems, procedures and guidelines⁵. The proposed Project is consistent with:

- (a) The purpose and objectives of UKCIF.
- (b) CDB's Strategic Objective of promoting broad-based economic growth and inclusive social development within its Borrowing Member Countries.
- (c) CDB's Corporate Priority of strengthening and modernising social and economic infrastructure.
- (d) CDB's TA Policy and Operational Strategy of commitment to strengthening the synergies between TA operations and the Bank's investment lending.
- (e) CDB's Gender Equality Policy and Operational Strategy;
- (f) CDB's Climate Resilience Strategy.
- (g) GOGP's Growth and Poverty Reduction Strategy (GPRS) 2015- 2019.
- (h) GOGP's Public Sector Investment Programme (PSIP).
- (i) Sustainable Development Goals (SDGs) 6, 9 and 13⁶.

3.03 Based on the Performance Rating System which is detailed at Appendix 2, the Project has been assessed as 3.5 - highly satisfactory. This suggests that it is likely to contribute to development effectiveness.

4. OUTCOME

4.01 The expected outcome of the TA is for NAWASA to be provided with a gender-responsive, climate resilient technical solution for the upgrading and expansion of the Southern St. George's Water Supply System and the Carenage/Lagoon Road Wastewater Collection System, which maximises economic and social benefits. A Design and Monitoring Framework for the Project is presented at Appendix 3.

⁵ Memorandum of Understanding between DFID and CDB. Annex 1 - Governance Arrangements and How Funds will be disbursed. Governance Arrangements - Clause 2.

⁶ SDG 6: Ensure available and sustainable management of water and sanitation for all. SDG 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation. SDG 13: Take urgent action to combat climate change and its impacts

5. **JUSTIFICATION**

5.01 Unreliable water supply and inadequate wastewater management have important socioeconomic and gender effects. Water outages lead to decreased productivity, absenteeism from school and work and an increased burden for women who are responsible for the main water-related household tasks like cooking, cleaning or washing. According to the World Resource Institute, Grenada's overall water risk rating is high (Quantity – high; Physical Risk Quality – extremely high; Regulatory and Reputational – extremely high)⁷. Critical challenges facing the water sector in Grenada include: (a) annual and seasonal variations in supply; (b) damage to water infrastructure from floods and extreme rainfall events; (c) high dependence on treatment plants to improve quality; (d) fragility of the freshwater ecosystem; and (e) high reputational risks. These challenges are further compounded by the national water storage and distribution infrastructure and capacity being deemed as inadequate to meet current and future demand in response to developments in the urban and rural areas.

5.02 Over the past five years, the south west sector of the island, that is the Southern St. George's water supply area, has experienced rapidly increasing growth in both non-residential (tourism and industrial) and residential development. This significant growth has resulted in increased demands on the Southern St. George's water supply system. An assessment by NAWASA of the water supply network has revealed that augmentation of the water supply system is required to meet future projected demands (see Appendix 4 – Existing Water Supply Network). The proposed completed project will result in improved supply to approximately 6,000 residents and to NAWASA's non-domestic customers in the main hotel and industrial belts in south-west St. George's parish (see Appendix 5 for the Proposed Changes to the Southern St. George's Water System Service Area).

5.03 Much of the sewerage network in St. George's dates back to the 1930s and is no longer capable of adequately transporting the present volume of wastewater in the system. Currently, the carrying capacity of the wastewater lines, of the Carenage/Lagoon Road Wastewater Collection System, is being further compromised by the infiltration of storm water into the system when it rains heavily, resulting in the over flowing of sewage through the manholes, onto the streets in the middle of heavily trafficked areas such as the Carenage and Melville Street, within St. George's, which can have negative health implications and pose serious risks to the continued success of the Tourism Industry. Further, operational costs of the wastewater management system of St. George's have escalated due to increased routine and preventative maintenance. Energy and labour are the primary drivers of the operational cost.

5.04 This TA facilitate designs for: (a) upgrading the present water supply of the Southern St. George's Water Supply System, to meet the rapidly growing demands, particularly during the dry seasons; and (b) improvements to the current sewerage network of St, George's. The TA will therefore inform more reliable water and wastewater infrastructure thereby contributing to: (a) enhanced social and economic well-being of households and businesses; and (b) improved public health in St. George's.

5.05 The Project is assessed as gender mainstreamed and has significant potential to contribute to gender equality. The Project includes Terms of Reference (TOR) for a detailed gender analysis and is expected to inform the design of a capital project proposal with explicit gender interventions which would impact economic and social outcomes for women and men. Table 5.1 presents the Gender Marker for the Project and Appendix 6 shows the Gender Marker Analysis.

⁷ World Resource Institute/AQUEDUCT Water Risk Atlas: <http://www.wri.org/applications/maps/aqueduct-atlas/#x=-56.94&y=12.16&s=ws!20!28!c&t=waterrisk&w=def&g=1&i=BWS-16!WSV-4!SV-2!HFO-4!DRO-4!STOR-8!GW-8!WRI-0!ECOS-0!MC-0!WCG-0!ECOV-0!&tr=ind-1!prj-1&l=6&b=terrain&m=group&init=y>

TABLE 5.1: GENDER MARKER SUMMARY

Gender Marker	Analysis	Design	Implementation	M&E*	Score	Code
	0	1.0	1.0	1.0	3.0	GM⁸

*M&E – Monitoring and Evaluation

6. RISK ASSESSMENT AND MITIGATION

6.01 Some risks have been identified which could have an effect on the implementation of the Project. The risks of the proposed project are presented in Table 6.1 below.

TABLE 6.1: RISK AND MITIGATION

Risk Type	Sub Risk	Description of Risk	Mitigation Measures
Financial	Market	Risk that the value of the funds programmed by CDB for the country will diminish as a result of adverse Pounds Sterling (GBP) exchange rate against the United States Dollar (USD), the primary currency for budgeting.	Sufficient contingency has been added to compensate for foreign exchange risk.
Operational	Reputation	Potential reputational risk to CDB if the funds programmed fall short, as a result of adverse movements in GBP exchange rates against the USD.	During supervision CDB staff will ensure that GOCR is aware of the risk.

7. EXECUTION

7.01 The Project will be executed by NAWASA. It will be a condition precedent to first disbursement of the Grant that a Project Coordinator (PC), whose qualifications and experience are acceptable to CDB, be assigned to the Project by NAWASA. CDB is satisfied that NAWASA has the capacity to execute this function. The PC will have the day-to-day responsibility for project coordination, arranging contacts with all Government and other personnel for project-related discussions, and supervision of the consultants. Additional counterpart staff will be assigned by NAWASA, as required, during the implementation of the Project. NAWASA will also collect and store, in a location accessible to the consultants, all existing maps, reports, drawings, studies, and any other relevant documentation required for the consultancies.

7.02 CDB will be kept informed of project progress by reports submitted by the consultants, through the PC, in accordance with the TORs set out at Appendices 7 and 8, respectively. The Project has an

⁸ Gender Mainstreamed: The project has significant potential to contribute to gender equality.

estimated duration of nine calendar months. It is expected that the first disbursement from the Grant will be made by January 31, 2017 and that the Grant will be fully disbursed by September 30, 2017, or such later date as CDB may from time to time specify in writing.

8. COST AND FINANCING

8.01 The total cost of the Project is estimated to be £834,279 and is detailed in the Budget at Appendix 9. The Summarised Financing Plan is set out Table 8.1 below.

TABLE 8.1: SUMMARISED FINANCING PLAN
(£'000)

Item	CDB (UKCIF)	NAWASA	Total
1. Professional Fees, Expenses, Surveys and Contingency	706	-	706
2. Project Management, Expenses, Workshop and Contingency	-	127	127
Total	706	127	833
Percentage	85	15	100

8.02 CDB will fund the professional fees, surveys, per diem, and travel, which account for 85% of the costs or £707,070. The cost of the assignment is reflective of current rates for similar services. GOGR will meet the remaining 15% of the costs or £127,209, in kind, which will consist of local project management, office accommodation, local transportation, and miscellaneous expenses.

8.03 CDB's contribution, of £707,070, is eligible for financing from CDB's SFR, UKCIF.

9. PROCUREMENT

9.01 The procurement of consulting services, financed from the proceeds of the CDB Grant, will be in accordance with CDB's "Guidelines for the Selection and Engagement of Consultants by Recipients of CDB Financing (October 2011)". The Procurement Plan is provided at Appendix 10. Any revisions to this Plan shall require CDB's prior approval.

10. LOANS COMMITTEE RECOMMENDATION

10.01 Loans Committee considered this proposal on November 18, 2016 and agreed to recommend it for the approval of the President.

11. RECOMMENDATION

11.01 It is recommended that the President approves a grant to GOGR of seven hundred and seven thousand and seventy Pounds Sterling (£707,070) from CDB's SFR allocated from UKCIF resources, to be used by NAWASA to finance consultancy services to update the 2003 Design Report and prepare detailed designs for the upgrade of the Careenage/Lagoon Road Wastewater Management System and to complete a study for the expansion of the Southern St. George's Water Supply (the Project) on CDB's standard terms and conditions, and on the following terms and conditions:

(1) **Disbursement**

- (a) Except as CDB may otherwise agree, and subject to paragraph (b) below, payment of the Grant shall be made after receipt by CDB of:
- (i) a request in writing from GOCR for the funds;
 - (ii) a signed copy of the contract between NAWASA and the Consultant; and
 - (iii) an account and documentation satisfactory to CDB, of the expenditures incurred by GOCR with respect to the Project.
- (b) Provided, however, that CDB shall not be under any obligation to make:
- (i) any payment, until CDB has been provided with evidence acceptable to CDB that the condition precedent to first disbursement of the Grant set out in paragraph (3) below shall have been satisfied;
 - (ii) any payment until CDB shall have received the requisite number of copies of the reports or other deliverables, in form and substance acceptable to CDB, to be furnished by the PC and the Consultant in accordance with the TOR at Appendix 7; and
 - (iii) payments exceeding six hundred and thirty-six thousand, three hundred and sixty-three Pounds Sterling (£636,363), representing ninety percent (90%) of the amount of the Grant, until CDB shall have received:
 - (aa) the requisite number of copies of the final report or other deliverables, in form and substance acceptable to CDB, to be furnished by the Consultants to CDB in accordance with the TOR at Appendix 7; and
 - (bb) a certified statement of the expenditures incurred by GOCR in respect of, and in connection with, the Project.
- (c) The first disbursement of the Grant shall be made by January 31, 2017 and the Grant shall be fully disbursed by September 30, 2017 or such later date as CDB may from time to time specify in writing.

(2) **Procurement**

Procurement shall be in accordance with the procedures set out and/or referred to in the Agreement between CDB and GOCR providing for the Grant, or such other procedures as CDB may from time to time specify in writing. The Procurement Plan approved by CDB is set out at Appendix 10. Any revisions to the Procurement Plan shall require CDB's prior approval in writing.

(3) **Condition Precedent to First Disbursement of the Grant:**

PC referred to in sub-paragraph 4(b)(ii) shall have been assigned.

(4) **Other Conditions**

(a) Except as CDB may otherwise agree, GOCR shall:

- (i) procure that NAWASA execute the Project; and
- (ii) make the Grant available to NAWASA for the purposes of the Project, and shall take all necessary steps to facilitate and ensure the performance by NAWASA of its obligations set out herein.

(b) NAWASA shall:

- (i) as a condition of GOCR making the proceeds of the Grant available to it, undertake to observe and perform the obligations on its part to be observed and performed as set out and referred to herein;
- (ii) assign from within NAWASA and for the duration of the Project, a PC, with qualifications and experience acceptable to CDB, who shall be responsible for the day-to-day coordination and management of the Project, and shall carry out the duties and responsibilities set out in Appendix 8. The qualifications and experience of any person subsequently assigned to the position of PC shall be acceptable to CDB;
- (iii) in accordance with the procurement procedures applicable to the Grant, select and engage a competent and experienced consultant to carry out the services outlined in the TOR at Appendix 7 and within a time frame acceptable to CDB implement such recommendations arising from the consultancy, as may be acceptable to CDB;
- (iv) assign to the Project the additional counterpart staff as may be required during implementation;
- (v) collect and store, in an accessible location, all existing maps, reports, drawings, studies, and any other relevant documentation required for the consultancy, including data created as a result of the Project;
- (vi) ensure that the contract with the Consultant provides for the acknowledgement of, and that each deliverable produced under the Project contains, a visibility statement acknowledging that the technical assistance has been provided by UKaid and the UKaid logo is utilised;
- (vii) facilitate and permit, during implementation of the Project, and up to the year 2025, any authorised representative of CDB or DFID, to conduct investigations of credible suspicion of or actual fraud, corruption or any other financial irregularity, impropriety or wrong doing and if necessary request an appropriate refund in accordance with sub-paragraph 4(d) below; and

- (viii) permit CDB, or any person appointed thereby, to audit the expenditures financed by the Grant, and to provide CDB, or the appointed person with all reasonably required assistance, documents and information.
- (c) Except as CDB may otherwise agree, NAWASA shall:
 - (i) meet or cause to be met:
 - (aa) the cost of the items designated for financing by NAWASA in the budget for the Grant set out in Appendix 9 (the Budget);
 - (bb) any amount by which the cost of the Project exceeds the amount set out in the Budget; and
 - (cc) the cost of any other items needed for the purpose of, or in connection with, the Project; and
 - (ii) provide or cause to be provided, all other inputs required for the punctual and efficient carrying out of the Project not being financed by CDB.
- (d) CDB shall be entitled to suspend, cancel or require a refund of the Grant, or any part thereof, if UKCIF or any part thereof is suspended, cancelled or required to be refunded, except that GOCR shall not be required to refund any amount of the Grant already expended in connection with the Project and not recoverable by GOCR, unless that amount already expended was misappropriated due to a proven fraudulent, unethical or other activity of wrong doing.

12. APPROVAL

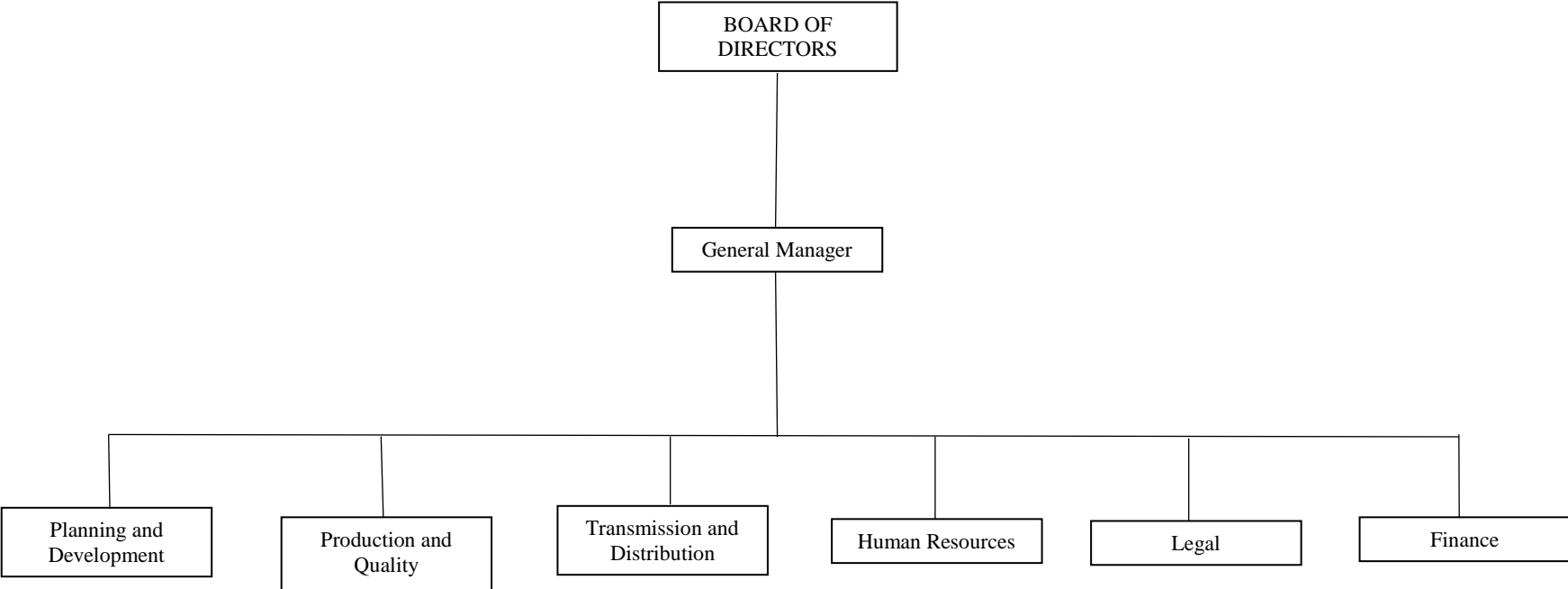
Signed: W^m Warren Smith
President
Caribbean Development Bank

November 28, 2016
Date

SUPPORTING DOCUMENTATION

- Appendix 1 - Organisational Chart
- Appendix 2: - Performance Rating System
- Appendix 3: - Design and Monitoring Framework
- Appendix 4: - Existing Southern St. George's Water Supply Services Area
- Appendix 5: - Proposed Changes to the Southern St. George's Water Supply Services
- Appendix 6: - Gender Marker Analysis
- Appendix 7: - Draft Terms of Reference – Consultancy Services, Southern St. George's Water Supply Expansion and Wastewater Improvement Project
- Annex 1 to Appendix 7: - Social Impact Assessment and Gender Analysis
- Appendix 8: - Draft Terms of Reference – Project Coordinator
- Appendix 9: - Details of Budget
- Appendix 10: - Procurement Plan

ORGANISATIONAL CHART



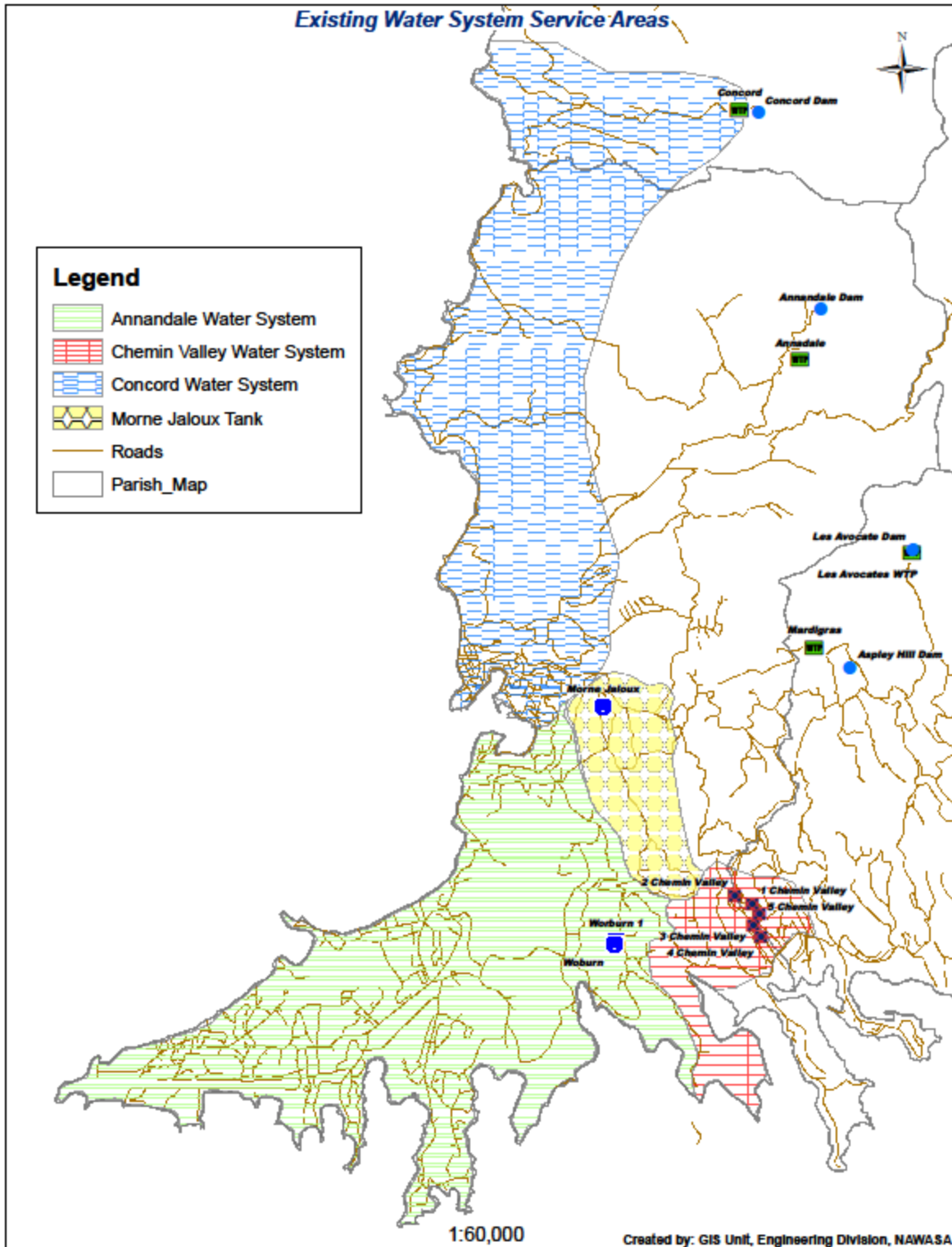
PERFORMANCE RATING SYSTEM

Criteria	Score	Justification
Relevance	4	GOGR is committed to meeting the demands of water in a sustainable manner and increasing the resiliency of the water supply network to natural hazards and climate vulnerability. The proposed consultancy examines the viability of options towards this objective. The proposed TA is consistent with CDB's Strategic Objective of supporting inclusive growth and sustainable development within its Borrowing Member Countries; CDB's Corporate Priority of strengthening and modernising social and economic infrastructure; SDF (8) Themes of: (a) Environmental Sustainability and Climate Change; (b) Inclusive and Sustainable Growth; CDB's TA Policy and Operational Strategy of commitment to strengthening the synergies between TA operations and the Bank's investment lending; and (c) CDB's Gender Policy and Operational Strategy.
Efficacy	4	The objective of this TA project is expected to be fully realised. The approach of the proposed consultancy is consistent with best practice. In addition, the TOR of the proposed study, has been informed by the lessons learned from recent experiences in preparing water and sewerage sector improvement projects of a similar nature.
Efficiency	3	The study is expected to inform decision-making on cost-effective decision-making on capital projects in the water and sewerage sector. The Consultancy will be engaged using a competitive procurement process which is expected to yield good value for money for the services to be provided.
Sustainability	3	The proposed approach provides for a high degree of stakeholder consultation to ensure ownership of the outputs.
Overall Score	3.5	Highly Satisfactory.

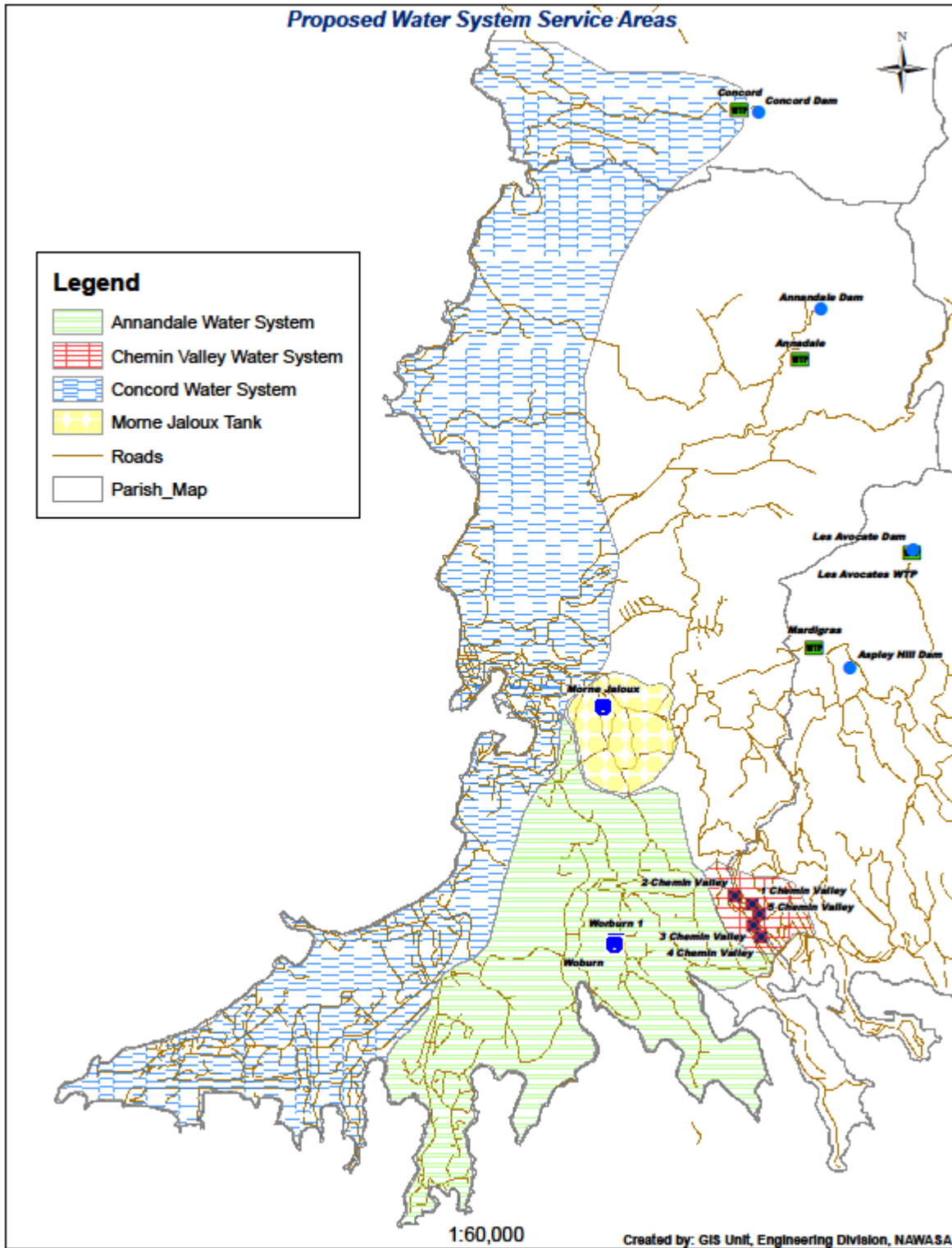
DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Indicators/Targets			Data Sources/Reporting Mechanisms	Critical Assumptions
1. IMPACT: Optimal investments made towards improving the efficiency, gender-responsiveness and climate resilience of the Southern St. George's Water Supply and the Carenage/Lagoon Road Wastewater Collection System.	Project designs are utilised by GOCR to inform the successful implementation of capital works by September 30, 2017.			Project Appraisal Reports.	Financing for the capital project is available.
2. OUTCOME: NAWASA has gender-responsive and climate resilient designs for water network and wastewater management project.	1. Recommendations of the studies which were informed by gender-responsive engagement of stakeholders and beneficiaries accepted and used by NAWASA to inform decisions related to improvements to Southern St. George's Water Supply and the Carenage/Lagoon Road Wastewater Collection System. 2. Target – September 30, 2017.			1. NAWASA's Board of Directors decision documents. 2. Cabinet decision documents.	1. Adequate resources available to NAWASA 2. NAWASA priorities remain the same.
3. OUTPUTS: 1. Recommendations for the upgrade of Southern St. George's Water Supply and the Carenage/Lagoon Road Wastewater Collection System. 2. Recommendations for enhancing gender equality.	1a. Feasibility study, final designs and tender documents for Southern St. George's Water Supply and the Carenage/Lagoon Road Wastewater Collection System Completed by September 2017. 1b. Climate Vulnerability Assessment, Environmental, Social Impact Assessment. 2. Gender Analysis completed by September 30, 2017.			1. Monthly project reports from the PC. 2. Bi-monthly consultants' Reports.	Adequate gender-responsive stakeholder engagement in consultations.
4. ACTIVITIES/INPUTS	£				
Item	CDB (UKCIF)	NAWASA	Total		
1. Professional Fees and Contingency 2. Project Management 3. Administrative Support 4. Workshop Venue and Consultation 5. Contingency	707,070	-	707,070		
		127,209	127,209	1. Consultant selected and engaged. 2. CDB supervision reports. 3. CDB disbursement records.	GOCR counterpart contribution available in a timely manner.
Total	707,070	127,209	834,279		

EXISTING SOUTHERN ST. GEORGE'S WATER SUPPLY SERVICES AREA



**PROPOSED CHANGES TO
THE SOUTHERN ST. GEORGE'S WATER SUPPLY SERVICES**



APPENDIX 6

GENDER MARKER ANALYSIS

Project Cycle Stage	Criteria	Score
Analysis: Introduction/ Background/ Preparation	Consultations with women/girls/men/boys and relevant gender-related or sector-related public or private organisations have taken place.	0
	Social analysis identifies gender issues and priorities.	0.25
	Macroeconomic analysis identifies gender issues and priorities.	0.25
Design: Project Proposal/ Definition/ Objective/ Description	To address the needs of women/girls and men/boys concrete interventions to reduce existing gender disparities have been designed. Effect on project outcome is direct.	0
	Project objective / outcome includes gender equality.	0.5
Implementation: Execution	Implementation arrangements (gender mainstreaming capacity building or gender expertise in implementing agency) to enhance the gender capacity of the implementing agency. Effect on project outcome is indirect.	0.5
	TOR of project coordinating unit / project management unit include responsibilities of gender mainstreaming, especially at the levels of the project coordinator/director and the Monitoring and Evaluation (M&E) Officer.	0.5
M&E: Results-Monitoring-Framework (RMF)	Sex-disaggregated data included in the baselines, indicators and targets of the RMF.	0.5
	At least one gender-specific indicator at the outcome and/or output level in the RMF.	0.5
Score:		3.0

Scoring Code
Gender Mainstreamed: if 3 to 4 points.

Gender Mainstreamed (GM): the project has the potential to contribute significantly to gender equality.

The Project is assessed as gender mainstreamed and has significant potential to contribute to gender equality. The Project includes TOR for a detailed gender analysis and is expected to inform the design of a capital project proposal with explicit gender interventions which would impact economic and social outcomes for women and men.

DRAFT TERMS OF REFERENCE

**CONSULTANCY SERVICES - SOUTHERN ST. GEORGE'S WATER SUPPLY EXPANSION
AND WASTEWATER IMPROVEMENT PROJECT**

1. BACKGROUND

1.01 Grenada lies at the southern end of the Windward Islands. It is a tri-island state, which includes the islands of Grenada, Carriacou and Petit Martinique with an approximate land area of 345 km², and total population of 106,667 comprising 53,898 males and 52,769 females¹. The urban population was 39% of the total population (2010) with a rate of urbanisation 1.6% the annual rate of change.

1.02 The National Water and Sewerage Authority (NAWASA) is a statutory body and is responsible for the municipal water supply and wastewater management on the island of Grenada. Government agencies which make policy for, regulate and/or fund the sector include the following:

- (a) the Ministry of Works, Physical Development and Public Utilities, which has jurisdiction over NAWASA, the regulatory Authority responsible for the sector;
- (b) the Ministry of Health, which is responsible for monitoring water quality and health-related issues regarding wastewater disposal;
- (c) the Ministry of Finance, Planning, Economic Development, Trade, Energy and Cooperatives, which is responsible for approval of budgets and provision of grants, loans and investments in the sector; and
- (d) the Bureau of Standards, which is a Statutory Body responsible for setting standards within the country.

Water Resources and Supply

1.03 Grenada's water resources comprise primarily of surface water. However, there is groundwater potential to supply about 10%-15% of the present potable requirement. The island of Grenada is divided into 71 watersheds, which are well defined due to the steep, hilly topography. NAWASA operates 29 water supply facilities, where water is abstracted from 23 surface and 6 groundwater potable supply sources on mainland Grenada. These water supply facilities have a maximum yield of 54,600 m³/day (12 mgd) in the rainy season (July to November) and a maximum yield of 31,800 m³/day (7 mgd) in the dry season (December to May). The maximum water demand in the rainy season is 45,500 m³/day (10 mgd) and in the dry season, 54,600 m³/day (12 mgd). These figures illustrate the high risk of insufficient water supply during the dry season and in particular, during periods of drought. Future demand is projected to increase in response to economic growth, tourism development, population growth and changes in land use patterns with increased use of irrigation.

1.04 According to the World Resource Institute, Grenada's overall water risk rating is high (Quantity – high, Physical Risk Quality – extremely high, Regulatory and Reputational – extremely high)². Critical challenges facing the water sector in Grenada include: (a) annual and seasonal variations in supply; (b) damage from floods and extreme rainfall events; (c) high dependence on treatment plants to improve

¹ http://www.caricomstats.org/Files/Databases/vital%20statistics/Pop_Census.pdf

² World Resource Institute/AQUEDUCT Water Risk Atlas: <http://www.wri.org/applications/maps/aqueduct-atlas/#x=-56,94&y=12.16&s=ws!20!28!c&t=waterrisk&w=def&g=1&i=BWS-16!WSV-4!SV-2!HFO-4!DRO-4!STOR-8!GW-8!WRI-0!ECOS-0!MC-0!WCG-0!ECOV-0!&tr=ind-1!prj-1&l=6&b=terrain&m=group&init=y>

quality; (d) fragility of freshwater ecosystem; and (e) high reputational risks. These challenges are further compounded by the national water storage and distribution infrastructure and capacity being deemed as inadequate to meet current and future demand in response to developments in the urban and rural areas. Effects are of social and economic nature impacting households, in particular women, and businesses negatively.

1.05 Grenada's water sector is also highly vulnerable to the effects of climate change on the hydrological cycle and is ranked as the most vulnerable of the countries of the Organisation of Eastern Caribbean States (OECS). A recent Economic Commission for Latin America and the Caribbean (ECLAC) Report³ expressed the need for additional water catchment, storage and distribution infrastructure, as well as institutional strengthening, in order to meet the future needs of the Grenadian population and to build resilience to climate change in the sector.

1.06 Over the past five years, the south-west sector of the island, that is the Southern St. George's water supply area, has experienced rapidly increasing growth in both non-residential (tourism and industrial) and residential development. This sector of the island is currently supplied by the following systems:

- (a) Annandale Water Treatment Plant.
- (b) Les Avocats Water Treatment Plant.
- (c) Chemin Boreholes.
- (d) Concord Water Treatment Plant.

1.07 This significant growth has resulted in increased demands on the supply system of Annandale. In 1996, NAWASA augmented this demand with an increased water supply via the Concord water supply system. This augmentation has been facilitated through the upgrade of transmission lines to St. Georges, in keeping with NAWASA's overall development plan for the enhancement of the national water supply system. An assessment by NAWASA of the water supply network has revealed that further augmentation of the south west sector of the traditional Annandale demand zone, is required to meet future projected demands. The proposed completed project will result in improved supply to approximately 6,000 residents and NAWASA's non-domestic customers in the main hotel and industrial belts in South West St. George parish.

Wastewater Management

1.08 There are presently 2 wastewater management systems on the island that serve 3% of the population, those being the Grand Anse and St. George's Systems. These two systems are critical to the sustainability of the tourism sector, primarily located in the west southwest of Grenada. Much of the sewerage network in St. George's dates back to the 1930s and is no longer capable of adequately transporting the present volume of wastewater in the system. The network collects sewage from the city centre. The untreated sewage is collected and pumped into St. George's Bay through an outfall, which extends 350 m out to sea to discharge at a depth of approximately 25 m of water. NAWASA estimates that 591 m³ (0.13 mn imperial gallons) of untreated sewage is pumped into the marine environment daily, a major threat to human and environmental health. Such inefficient wastewater management leads to hygiene and health challenges which also reduce productivity and increase the burden of care placed on women.

³ An assessment of the economic impact of climate change on the water sector in Grenada: 22 October 2011

1.09 Currently, the carrying capacity of the wastewater lines, is being further compromised by the infiltration of storm water into the system when it rains heavily, resulting in the overflowing of sewage through the manholes, onto the streets in the middle of heavily trafficked areas such as the Carenage and Melville Street which can have negative health implications and pose serious risks to the continued success of the Tourism Industry. Further, operational costs of the wastewater management system of St. George's have escalated due to increased routine and preventative maintenance. Energy and labour are the primary drivers of the operational cost.

1.10 The 1998 Howard Humphreys and Partners Ltd. Study⁴ (HHP Study) examined the necessity for improved communal sanitation infrastructure across the Island and a number of projects were recommended in their Report. A two-phased programme of rehabilitation and upgrading of the Greater St. George's sewer system was recommended⁵. The subsequent 2003 Greater St. George's and Grenville Sewerage Project Draft Design Report (Dessau Soprin Design Report - DSDR), sought to combine the two phases into one. Detailed designs were completed to support an appraisal process by international financial institutions. This Report also included an environmental impact assessment of the project and preparation of tender documents. The findings and designs of this Report were however never implemented due to inadequate funding.

1.11 It will be necessary for the DSDR to be reviewed and updated to take into account environmental, social and gender considerations, climate change variability, changes in land use, projected demands, operational cost/lifecycle cost including the integration of renewable energy options and as a means of proposing any modifications to the treatment options going forward, and the provision of a proposal(s) to develop treatment options in a phased approach considering the resource requirements.

1.12 To address the immediate need at Lagoon Road and the Carenage as aforementioned, it is recommended that this section of proposed works, Lagoon Road and the Carenage gravity and force mains, be prepared for tender using the data provided by the HHP Study and DSDR and the additional data of the review process. This would facilitate the effective and timely completion of this component of the work to coincide with the laying of water mains under the water component as both services (water and wastewater) would be installed in the same roadway in the aforementioned areas.

1.13 This project is a component of NAWASA's overall development plan for the national water supply and wastewater management system. The company has recently completed the construction and commissioning of two water storage tanks at Observatory in St. George's (1591 m³) and Old Westerhall in St. David (1137 m³), with a combined capacity of 2,728 m³. Currently two additional treatment plants are under construction at Pomme Rose, St. David and Spring Garden.

2. OBJECTIVE

2.01 The outcome of the technical assistance is a gender-responsive, climate resilient, economically and technically sound solution for the upgrading and expansion of the Southern St. George's Water Supply Network and the St. George's Wastewater Disposal infrastructure project. The consultants are expected to: (a) prepare a development plan for upgrading and expanding the Southern St. George's Water Supply Network; and (b) improving wastewater management systems in St. George's.

⁴ Grenada Wastewater Management Project (OECS) "Long Range Sewerage Plan" by Howard Humphreys and Partners Ltd. (1998).

⁵ Greater St. George's and Grenville Sewerage Project Draft Design Report. Dessau-Soprin International Inc. (November 2003).

3. SCOPE OF SERVICES

Phase I – Feasibility Study

3.01 The Consultant(s) will work with NAWASA to achieve the stated project objectives. The Consultant(s) shall be solely responsible for the analysis and interpretation of all data received and collected, the timely completion of the reports, and for the accuracy and completeness of the findings and recommendations. All-important data and calculations shall be presented in sufficient detail to permit verification and later updating.

Component I: Upgrade and Expansion of the Concord Water Supply Network

Project Facility: Preparation of Development Plan

3.02 The Consultant(s) will work with NAWASA to analyse the existing Southern St. George's Water Supply System, identify deficiencies, and develop the least-cost, technically feasible option for its improvement. Specifically, the adequacy of the proposed Concord water source, treatment, storage, transmission and distribution should be addressed.

3.03 The Consultant(s) will be specifically required to:

Demand Projections, Network Analysis and Development of Network Options

- (a) Develop technical alternatives for Southern St. George's Supply Network (SSGSN) improvement which would optimise customer service delivery, and operational efficiencies (including energy efficiency) through:
 - (i) conduct a review of all relevant previous studies in the water sector in Grenada;
 - (ii) conduct a survey of the existing Concord Water Supply Network (CWSN), and prepare an inventory of existing facilities and equipment;
 - (iii) review and update existing distribution network maps, as required;
 - (iv) liaise with the relevant agencies (including the Ministries of Planning, Housing, Tourism and the Fire Department) to determine the existing and future demand requirements by user group or industrial category;
 - (v) if deemed necessary, assess the potential additional water sources. Specific attention should be paid to adequacy of quantity and quality;
 - (vi) evaluate Southern St. George's Supply Network, more specifically CWSN, for efficiency in terms of:
 - (aa) water losses, and energy usage; and
 - (bb) its capacity to meet current and projected demands, including fire-fighting needs.

Evaluation of Development Options

- (b) evaluate technical alternatives for SSGSN improvement which would optimise customer service delivery (for different categories of customers as appropriate), and operational efficiencies (including energy efficiency). The analysis presented should evaluate options for water source development, water treatment, water storage, transmission and distribution improvements and strategies to control non-revenue water;
- (c) conduct appropriate cost-benefit analyses of the proposed option;
- (d) conduct an economic analysis of the preferred option identifying the net benefit to the economy taking into account indicative capital and operational costs;
- (e) following consultation with NAWASA and other principal stakeholders, recommend a programme of works that would address issues related to improvements in the existing SSGSN, and set the framework for future network development;
- (f) conduct an initial assessment of potential significant environmental impacts (cumulative or synergistic) and the associated mitigation measures required for its successful implementation. It should include an assessment of baseline environmental conditions as they relate to proposed locations of major works, as well as relevant policies, legislation and regulation which have implications for successful implementation of the proposed works; and
- (g) conduct an initial assessment of the significant social and gender impacts (potential benefits and risks) and the associated measures required to mitigate risks and negative impacts and to facilitate or maximise potential benefits.

Component II: Wastewater Management Systems in St. George's

3.04 The Consultant(s) will be required to conduct a thorough review of previous studies, and update and fill-in information gaps where necessary to facilitate the preparation of capital works project. The core issues to be examined in the following tasks are design, operations and economics of the wastewater treatment, reuse options (if feasible), optimisation of existing facilities, sludge management and upgrading to meet international effluent requirements tasks should therefore include:

- (a) reviewing all the relevant reports, and identifying any gaps in the information required for the preparation of the capital works project;
- (b) ascertaining land-use plans and relevant zoning information, regulations related to siting of waste disposal and treatment facilities through consultation with relevant officials at the relevant government institutions, including: (i) the Ministry of Finance, Planning, Economic Development, Trade, Energy and Cooperatives; (ii) the Ministry of the Health and Social Security; (iii) the Ministry of Communications, Works, Physical Development, Public Utilities, ICT and Community Development; (iv) NAWASA; and (v) the Ministry of Agriculture, Lands, Forestry, Fisheries and Environment;

- (c) following the review of the relevant Report, and as merited, conduct a detailed evaluation of the condition and capacity of the existing sewerage infrastructure, and make recommendations for priority rehabilitation/upgrade works;
- (d) establishing, in consultation with the relevant Government departments and external agencies, such as the Caribbean Environmental Health Institute, appropriate discharge standards for the proposed alternative treatment and disposal methods;
- (e) conducting an assessment of the existing environmental (physical and biological) conditions and issues in the St. George's Basin. The assessment should include an evaluation of the adequacy of existing institutional capability and planning and environmental regulations to address those issues, point and non-point sources of contamination and propose measures for mitigation;
- (f) conducting an initial assessment of social conditions within St. George's, paying particular attention to demographic and relevant socio-cultural and gender characteristics and practices of the resident population in the catchment area;
- (g) estimate present and future wastewater generation in the defined area. This should take into account population growth trends, planned institutional and commercial developments in the area, and any other future sources of wastewater, including liquid waste from cruise ships;
- (h) assessing the current institutional arrangements and capacity for wastewater management in Grenada, with a view to making appropriate recommendation for upgrading of skills, and management structures;
- (i) conduct an initial assessment of wastewater treatment and disposal options. This assessment should include options for sighting, treatment technological and life cycle cost estimates;
- (j) giving consideration to initial estimates of lifecycle costs, social, environmental and technical efficacy, undertaking cost-benefit analyses of the development options for upgrading the St. George's wastewater management systems;
- (k) based on the outcome of the analyses in (a)-(i), prepare a Draft Report outlining the findings with recommendations for any updates to previous development plans to meet international standards in the area of wastewater treatment. The Report should address the required physical works, policy, legislative, and institutional improvements. The Plan should clearly identify required resources, responsible agencies, and an implementation schedule;
- (l) conduct of a climate vulnerability assessment as at 3.06 (b);
- (m) undertake early and ongoing consultations with key stakeholders. Stakeholders consulted should include private and public sector institutions, Non-Governmental and Community-Based Organisations, and individual residents and businesses in the catchment area; and
- (n) take into account the feedback from the stakeholder consultations for inclusion in the Final Report.

Project Preparation

3.05 The Consultant's will be required to design and prepare an investment project for the Caribbean Development Bank (CDB) United Kingdom Caribbean Infrastructure Partnership Fund (UKCIF) which would address urgent activities identified in Components I and II and which would seek to deliver an Economic Rate of Return of at least 12% or similar qualitative benefits. The Project should also ensure that adequate environmental, climate variability, social and gender safeguards, in accordance with the appropriate CDB policies/guidelines, are incorporated into project design. It should address those issues considered critical to improving network efficiencies, for both the CWSN and Southern St. George's wastewater system, and should specifically include measures to address the discharge of untreated sewage into the marine environment. Tasks should include:

Component I - Southern St. George's Water Supply Network:

- (a) design and prepare an investment project for the proposed capital works, which include the design of a water treatment plant at Concord and the design upgrade of sections of Concord and Annandale transmission systems. It should address those issues considered critical to improving network efficiencies, and should specifically include:
 - (i) priority rehabilitation and upgrading works to the network, addressing production, storage, transmission and distribution;
 - (ii) systems to improve network operational efficiencies; and
 - (iii) equipment and supplies for improving water quality monitoring.

Component II - St. George's Wastewater System:

- (b) A review of the existing designs completed under the Greater St. George's and Grenville Sewerage Project Draft Design Report (Dessau Soprin, 2003), should be undertaken as follows:
 - (i) verifying all available data collected as regards to field surveys, such as, soil, geotechnical, topographical, condition inspections, underground and surface utilities and traffic which would have been used to inform the present designs;
 - (ii) assessing the validity of the recommended design alternative, cost estimates and ensuring that the least-cost alternative has been recommended, ensuring that the life-cycle costs are considered;
 - (iii) identifying the climate vulnerability of the recommended design option. Factors to be considered should include: increases in the frequency and/or intensity of extreme precipitation leading to more frequent flooding events; and sea level rise. Based on this analysis, the consultants should identify adaptation/resilience building options;
 - (iv) completing community consultations in collaboration with NAWASA, with regard to environmental and social impacts, thus ensuring that the existing designs have taken into account the requisite mitigating measures;

- (v) reviewing the findings of the Environmental Impact Assessment completed under the DSDP, as well as the Social Impact Assessment, completed;
 - (vi) revising designs taking into account findings of the climate vulnerability, environmental impact and social impact assessments, and in keeping with international best practices, guidelines and standards. Energy efficiency options should be integrated into the revised design elements, as appropriate; and
 - (vii) preparing an implementation schedule and estimate of resources needed, including base costs, life cycle costs, physical and price contingencies, for the development of the proposed works.
- (c) undertaking consultations with key stakeholders to present the revised design of the preferred option; and
 - (d) taking into account the feedback from the stakeholder consultations, revising the proposed option.

Environmental and Social Impact Assessment and Climate Vulnerability Assessment

3.06 The consultancy will be required to:

Environmental Impacts

- (a) conduct an environmental and social impact assessment (ESIA) of the proposed works. This will include: collect baseline data on the physical, biological and socio-economic characteristics of the project area; describing the pertinent regulations and standards to which the project must comply; describe the significant environmental impacts of the proposed expansion of the St. George's Water Supply System and improvements to the Carenage/Lagoon Road Waste Water Disposal System. The key issues to be explored include but not limited to: traffic disruption; dust and noise nuisance; sedimentation of stream channels and near-shore coastal waters; management of construction waste; occupational hazards to construction workers; community health and safety, including creation of water bodies which may act as habitats for disease vectors. Impacts identified should be prioritised and differentiated between short, medium and long term; and cumulative during construction and operation. Consultants will be required to provide specific feasible and cost effective mitigation measures for all the negative environmental impacts identified for both the construction and operational phases of the project;

Climate Vulnerability Assessment

- (b) The consultant will conduct vulnerability on proposed project components (Upgrade of Southern St. George's Water Supply Network and Upgrade of St. George's Wastewater System) to consider the potential effects of prevailing natural hazards and projected climate change impacts for Grenada. The assessment should focus primarily on the following:
 - (i) identification of key climate/natural hazard variable increases s, inter-alia: (aa) flooding; (bb) sea-level rise; (cc) intense rainfall; (dd) atmospheric temperature; and (ee) intensity of tropical cyclones. The potential for increased rainfall to trigger landslides along the project's right of way should also be explored;

- (ii) examination of the most recent climate change projections and local historical climate data for Grenada;
- (iii) making recommendations for hard and/or soft measures, where necessary, that need to be included in design and operation of the project to ensure its proper functioning throughout its lifetime taking into account pervasive and extreme climate/natural hazards impacts; and
- (iv) undertaking a cost estimation of the adaptation/resilience building measures proposed.

Social Impacts

- (c) conduct a Social Impact Assessment (SIA) of the preferred options for both components using a highly participatory approach engaging communities and in particular representatives of the different interests of women and men as well as disabled persons. Particular attention should be paid to the following [special reference should be made to Annex 1 of the Terms of Reference (TOR)]
 - (i) demographic and socio-cultural characteristics of the resident population in the project areas;
 - (ii) impact of works and project completion on stakeholders (positive and negative), recommended mitigation measures, recommended measures to facilitate or maximise benefits, and monitoring indicators;
 - (iii) impact of any land acquisition and redevelopment on local residents and businesses;
 - (iv) socio-economic benefits of the project to stakeholders; and
 - (v) disaggregating the information by sex and paying particular attention to the gender impacts of the project using the results of the gender analysis undertaken as part of the social assessment.

Environmental and Social Management Plan

- (d) Prepare a draft Environmental and Social Management Plan (ESMP) for inclusion in the tender documents. The ESMP will include a summary of potential impacts (positive and negative), recommended mitigation measures to prevent or reduce adverse effects of the Project and recommended measures to support or maximise potential benefits of the Project during construction and operations and completion; allocation of resources and responsibilities for plan implementation; and institutional arrangements proposed for effective implementation of environmental and social measures proposed in the EIA and SIA. The institutional arrangements of the draft ESMP should identify an appropriate community participation mechanism (CPM), which will facilitate the reporting of matters of concern to residents to the GWI and keep the communities adequately informed of potential disruptions and inconveniences during construction activities, will mitigate associated environmental, social and gender risks that could otherwise emerge. The CPM will ensure that both women and men and other affected population groups are

participating and will get heard. The draft ESMP should specifically address, but not necessarily be limited to, the following: traffic management; waste disposal; management of construction materials (transport, storage, and waste disposal); mitigation of dust and noise nuisance; and community relations, ensuring that the Project does not exacerbate the vulnerability of local communities to natural hazard impacts. Identify the critical issues requiring monitoring to ensure compliance to mitigation measures, and implementation of any benefit facilitation/maximisation measures. This should include the technical aspects of monitoring the effectiveness of the proposed mitigation measures and benefit/maximisation measures (including measurement methodologies, data analysis, reporting schedules, emergency procedures, and detailed budget).

Cost-Benefit Analysis

- (e) conducting an assessment of the economic benefits (qualitative and quantitative) of the recommended options;
- (f) conducting an assessment of the financial and economic feasibility of the proposed wastewater management programme, including recommendations on options for full cost recovery, taking into account all operating expenses, including depreciation, maintenance and insurance of facilities; and
- (g) preparing a project implementation schedule.

Operational Requirements

3.07 Conduct an evaluation of and make recommendations for the institutional requirements for managing and operating the proposed options:

- (a) prepare the requisite operational manuals for the upgrade to the CWSN and the St. George's wastewater treatment plant/option; and
- (b) complete a training programme for the operating staff.

Detailed Designs and Bid Documents

3.08 Contingent upon the Government of Grenada (GOGR) and CDB's prior review and approval of the proposed preferred options, develop a capital project, for the completion of works for both components inclusive of:

- (a) preparing detailed designs and specifications as necessary for immediate upgrading, rehabilitation installations, items of equipment to be procured and costs of any land acquisition and measures to mitigate environmental and social impacts. The detailed specifications will be produced in accordance with accepted international standards;
- (b) preparing bills of quantities and detailed cost estimates for the proposed works, based on the designs and specifications above. Current costs for similar works in Grenada will be used as a basis for all unit rates and detailed costings; and
- (c) preparing standard bidding documents for the contract to allow GOGR to solicit bids from prequalified international, regional and local contractors or joint ventures of local/regional/international contractors. In this regard, the Consultant(s) are referred to

CDB's Standard Bidding Documents for Procurement of Works. The bid documentation will contain the following:

- (i) Instructions to Bidders.
- (ii) General and Special Conditions of Contract with particular reference to FIDIC clause on HIV/AIDS and gender-based violence awareness trainings.
- (iii) Bid Drawings.
- (iv) Technical Specifications (general and specifications peculiar to local conditions).
- (vi) Bills of Quantities.
- (vii) Form of Contract.
- (viii) Forms of Securities.

Phase II – Construction Supervision and Contract Administration

3.09 On the successful completion of Phase I of the scope of services and in keeping with CDB's Guidelines for the Selection and Engagement of Consultants (October 2011) paragraph 3.10, the Consultant(s) may be requested to extend their scope of services to Phase II – Construction Supervision and Contract Administration. Should this extension be requested of the Consultant(s), the requisite scope of services will be issued. The Consultant's capacity and capabilities to execute the construction supervision and contract administration should be demonstrated in this submission.

4. IMPLEMENTATION ARRANGEMENTS

4.01 NAWASA will be responsible for supervising the consultancy services. The Consultant(s) will work under the guidance of a Project Coordinator (PC) from within NAWASA. NAWASA will make available all studies, reports and data relevant to completion of the exercise. The PC will act as liaison between CDB, the Consultant(s), and other stakeholders.

5. QUALIFICATIONS AND EXPERIENCE OF THE CONSULTANT

(a) Key Expert 1: Team Leader/Project Manager/Civil Engineer/Environmental Engineer

- (i) Education: MSc. in Civil/Environmental Engineering/Project Management (or other equivalent)
- (ii) Experience: At least ten (10) years' of experience in Civil/Environmental Engineering/Project Management with knowledge and experience in the design of water supply and distribution, sewage collection and treatment with at least five (5) years' experience within the Region. The candidate must have performed this function on at least two (2) similar projects within the past five (5) years.

(b) Key Expert 2: Water Resource Engineer

- (i) Education: MSc. in Water Resource Engineering (or equivalent)
- (ii) Experience: At least ten (10) years' of experience in water resource engineering with knowledge of water supply and distribution, sewage collection and treatment and the necessary skill sets to complete the requisite hydrologic and hydraulic analysis with at least five (5) years' experience within the Region. The candidate must have performed this function on at least two (2) similar projects within the past five (5) years.

(c) Key Expert 3: Renewable Energy/EE Specialist

- (i) Education: BSc. in Electrical Engineering (or equivalent)
- (ii) Experience: At least ten (10) years' of experience and knowledge in the integration of renewable energy alternatives in the design and efficient operation of water supply and distribution, sewage collection and treatment and the necessary skill sets to complete the requisite analysis, taking into account climate change impacts with at least five (5) years' experience within the Region. The candidate must have performed this function on at least two (2) similar projects within the past five (5) years.

(d) Key Expert 4: Environmental Specialist

- (i) Education: An advanced degree in environmental science or a related discipline.
- (ii) Knowledge and Experience: At least ten years relevant professional experience Policy and planning; environmental impact assessment; disaster risk management; and the climate vulnerability and climate change mitigation and adaptation in the water and sector.

(e) Key Expert No. 5: Social and Gender Specialist

- (i) Education: At least a Master's Degree in social and gender analysis, social and gender development planning or similar. Excellent command of English and relevant computer skills are also required.
- (ii) The Specialist will be responsible for assessing the social and gender conditions and the main factors affecting sustainable social development outcomes. Living standards, access to services and the level of service provided will be assessed. The candidate must have at least ten (10) years' experience in development projects using participatory qualitative and quantitative research methods from both primary and secondary data. Experience in the water sector will be a distinct advantage.

(f) Key Expert 6: Economist

- (i) Education: An advanced degree in development economics or equivalent.

- (ii) Experience: At least ten years relevant professional experience in the economic analysis of development projects and water sector strategies based on economic analyses. Experience with incorporating climate change concerns into economic analysis as well as multi criteria analysis will also be required.

6. CONSULTANTS REQUIRMENTS

6.01 The Consultant(s) must have relevant qualifications and experience in the water and sewerage sector, hydrology, network planning, environment and social analysis and should have experience in the Caribbean or a developing country with similar conditions.

7. REPORTING REQUIREMENTS AND DELIVERABLES

7.01 The Consultant(s) shall commence work within two weeks of the effective date of the contract and shall work closely with NAWASA and other stakeholders.

Phase I – Component I and Component II

- (a) **Inception Report:** The Consultant(s) shall present an inception report not later than two weeks after commencement of works. The Report shall set out a detailed Work Plan and outline the methodology for undertaking the consultancy. Two and one copies of the Inception Report shall be submitted to NAWASA and CDB, respectively. NAWASA and CDB will provide comments on this Report within an acceptable time of receipt of the Report, and the Consultant(s) will adjust the on-going work to take account of the comments received.
- (b) **Draft Feasibility Report:** In accordance with the Scope of Services the Report will be presented not later than ten weeks after the receipt of comments from CDB and NAWASA. Two copies of this Report shall be submitted to NAWASA and one copy to CDB.
- (c) **Workshop:** The Consultants shall hold a one-day workshop to present and discuss their findings with representatives of NAWASA, CDB and other relevant stakeholders with a view to eliciting comments. The CDB would be funding the workshop.
- (d) **Final Feasibility Report:** Within one week of receiving written comments from NAWASA and CDB on the Draft Final Report, the Consultant(s) shall submit a Final Report, taking into account written comments and inputs from the consultation.
- (e) **Draft Design Report and Draft Bidding Documents:** Within six weeks of the written acceptance from NAWASA and CDB of the Final Report, the Consultant(s) shall submit the Draft Design Report and Draft Bidding Documents. The Report should present:
 - (i) detailed designs, cost estimates, and implementation schedule; and
 - (ii) bidding documents.
- (f) **Final Design Report and Final Bidding Documents:** Within 14 days of receipt of comments from GOCR and CDB on the Draft Design Report and Draft Bidding Documents the Consultant(s) shall present the Final Design Report and Final Bidding.

8. DURATION

8.01 The Consultancy is to be implemented over a period of 9 months.

9. LABOUR, SCHEDULING AND COSTS

9.01 In estimating person-month requirements and cost of the services, the Consultant(s) should ensure that the proposal takes full account of all fees and direct expenses required to fulfil the above requirements and the following items:

- (a) consultant's remuneration;
- (b) consultant's out-of-pocket expenses;
- (c) support staff services;
- (d) equipment hire;
- (e) communication costs;
- (f) report production costs;
- (g) contract documentation production costs;
- (h) supervision costs; and
- (i) survey costs.

SOCIAL IMPACT ASSESSMENT AND GENDER ANALYSIS

1. The Social Impact Assessment and Gender Analysis will investigate developmental opportunities and risks related to the execution of a water project; and inform possible mitigating measures to safeguard against any risks identified. It will be conducted in a highly participatory, gender-inclusive manner engaging the communities, particularly with representatives of women and men. The issues to be examined and reported upon in the social impact assessment and gender analysis should include, but not necessarily be limited to the following:

- (a) Provide a description of the project area including demographic, economic, topographical and socio-cultural data, disaggregated by sex.
- (b) Review secondary data including reports, studies, Country Gender Assessment, Grenada's Gender Equality Policy and Action Plan, and relevant policy and legal documents including poverty assessments, census reports, labour force surveys, and episodic hazard reports. Sub-national secondary data will include population by sex and name of community, population density by community, school population by sex and name of school, livelihood opportunities by sex, water access by source and disaggregated by sex, usage of pit latrines, and critical economic linkages in project areas.
- (c) Collect primary data through participatory consultations with all categories of stakeholders in order to introduce the project, facilitate feedback, and gauge perception of the project in order to gain and/or strengthen buy-in. Interviews, focus groups and other appropriate differential participatory methodologies may be employed for state and non-state stakeholders directly impacted by the works such as Community-Based Organisations, Non-Governmental Organisations, vulnerable groups, school personnel, private sector entities and relevant public agencies. Where applicable focus groups may be convened for males and females respectively.
- (d) Conduct site visit exercises to verify, update and fill gaps using community maps, transect walks, snowballing, as well as photographic documentation, and other appropriate participatory approaches.
- (e) Assess the different economic and social as well as household activities of men and women, in particular those related to water usage.
- (f) Identify baseline access to and usage of water and customer satisfaction (if applicable) for both women and men due to their different reproductive and productive tasks/activities in the household and the socio-economy.
- (g) Identify the potential effects of the project on time use in the household disaggregated by sex; in case time is freed up by the Project, how men and women would potentially use the time differently.
- (h) Identify any health impacts of the current and future infrastructure (upgrading and expanding the Southern St. George's Water Supply Network; and improving wastewater management systems) and assess the burden of care of women in the household.

- (i) Identify any health, sanitation and hygiene behaviours at the household level in the project communities; if possible differentiate between practices of females and males.
- (j) Assess whether any intervention in this area may be necessary to realise expected health benefits.
- (k) Assess accessibility of the project areas, determine the accessible universal design standards required for use by persons with disabilities, and any other requirements to include the needs of persons with disabilities, i.e: service delivery.
- (l) Identify expected performance/service levels for water, and the potential needs of the population in beneficiary communities of the project areas – disaggregated by sex and vulnerable groups like the elderly, indigenous people, disabled and children – during works and after works are completed, and provide recommendations on incorporating these into the project design.
- (m) Analyse the local labour force and the potential of engaging communities, in particular women, in the construction and maintenance and resilience building phases of the Project. Give recommendations on training needs and legal requirements from a procurement perspective.
- (n) Identify any activity related to transactional and commercial sex in the project area and the possible effect of the construction work.
- (o) Assess whether resettlement/replacement is necessary as an effect of the project and identify possible gender effects taking into account the distribution of male- and female-headed households in the area and the distribution of land titles by sex. Identify possible gender-responsive resettlement and mitigation mechanisms.
- (p) Identify outstanding social issues and concerns in the project area, including current deficiencies in the water supply and sewage disposal system.
- (q) Provide a description of the potential impacts of the project at its various stages (preparation, construction, and operation) on the social context in the immediate surrounding communities. Identify any issues pertaining to the design of the Project which may have social impacts (gender, livelihood or other dimensions).
- (r) Assess the effects of water outages on households and businesses disaggregated by sex of household head or business owner.
- (s) Identify who pays the water bill in the household disaggregated by sex.
- (t) Investigate whether rainwater harvesting as alternative source of water can be part of the project to increase the reliability of the water system. Identify potential communities, get feedback from women and men on the possibility of rainwater harvesting and propose gender-appropriate technologies and respective costings.
- (u) Identify needs for safe public toilets in the project communities.

- (v) Identify measures required to mitigate any significant negative impacts and measures to enhance social and economic development and gender equality in the project area:
 - (i) discuss the adequacy of proposed mitigation measures and measures to enhance social and economic development and gender equality and/or proposed alternative designs for the project;
 - (ii) estimate the cost of these measures and justify their suitability; and
 - (iii) consider measures such as public education in the area of health, training opportunities for vulnerable people to take part in project activities, tariff adjustments, workers code of conduct and grievance mechanisms, measures to compensate for water outages; reform of workplace, HR and customer policies and processes in NAWASA; etc.
- (w) Identify interventions for the Capital Project to enhance gender equality.
- (x) prepare a detailed monitoring and evaluation plan for monitoring the implementation and evaluating the mitigating measures. Identify gender-responsive outputs and outcomes of the project activities to facilitate gender-responsive results monitoring and evaluation.
- (y) enhance public participation by identifying appropriate gender-sensitive public education communication strategies for providing information on project activities and progress to stakeholders and for receiving timely feedback (pre-project, during implementation and post-implementation). Consider awareness raising about rainwater harvesting and behaviour change with regards to water usage and treatment and accessibility of the project area;
 - (i) Define CPM by identifying:
 - (aa) Appropriate mechanisms to engage women and men in the decision-making of the project in a gender-balanced way; and
 - (bb) Appropriate gender-sensitive public education communication strategies or ways to provide information on project activities and progress to stakeholders and for receiving timely feedback (pre-project, during implementation and post-implementation).
 - (ii) convene a stakeholders' validation workshop, including community groups, representatives of vulnerable population groups (women, elderly, youth, persons with disabilities), NAWASA and government agencies, to discuss the findings of the consultancy and to seek consensus and clarification on issues from participants for incorporation of measures in the Draft Final and Final Reports – as part of the stakeholders' validation workshop conduct a gender sensitisation training reporting on the findings of the gender analysis.

DRAFT TERMS OF REFERENCE

PROJECT COORDINATOR

1.01 The Project Coordinator (PC) will report to the head of the Special Project Unit. He/she will be responsible for coordinating and monitoring all aspects of the implementation of the Project. PC will be supported by administrative staff of NAWASA. PC's duties will include, but will not be limited to:

- (a) Project monitoring, specifically:
 - (i) finalising the Results Monitoring Framework, including collecting sex-disaggregated baseline data;
 - (aa) developing a detailed results monitoring plan which clearly outlines the methods, sources, responsibilities and timelines for data collection;
 - (bb) ensuring the incorporation of gender results; and
 - (cc) collecting, analysing and reporting the results data as required by the monitoring framework.
- (b) managing the selection and engagement of technical assistance consultants and supervising these consultancies;
- (c) evaluation of bids and recommendation of the awards for the consultants;
- (d) overseeing the consultancies and ensuring that the reports and designs adequately reflect the findings and analyses, re: economic, social (including gender), environmental and climate resilience issues;
- (e) cost control;
- (f) expedition of the submission to Caribbean Development Bank (CDB) of claims for disbursement/reimbursement;
- (g) liaison with CDB on all technical and administrative aspects of the Project;
- (h) preparation and submission to CDB of a monthly report on the Investment Cost of the Project in the form specified by CDB, within two weeks after the end of each month, commencing with the second month following the commencement of the assignment;
- (i) preparation and updating of procurement plan as necessary, but at least annually;
- (j) keeping separate accounts for project-related expenditures and disbursement activities;
- (k) submission to CDB, within two weeks after the end of every other month, the bi-monthly reports prepared by the Consultant(s);
- (l) submission to CDB the Contract Completion Report within one month after the date of issue by the Consultants of a certificate of practical completion of each contract; and

- (m) preparation and submission to CDB a Project Completion Report, within two months after practical completion of the works. This report will focus on the project's performance on desired results as outlined in the results monitoring framework and lessons learned.

1.02 The assigned PC should have a minimum of the following qualifications:

- (a) a Master's Degree or equivalent in Civil Engineering, Construction Management or Project Management with a minimum of 10 years' experience in the management and implementation of civil engineering projects; or
- (b) a Bachelor's Degree or equivalent in Civil Engineering, Construction Management or Project Management with a minimum of 12 years' experience in the management and implementation of civil engineering projects.

DETAILS OF BUDGET
(£)

Item	CDB (UKCIF)	NAWASA	Total
3. Professional Fees, Expenses, Surveys and Contingency	706	-	706
4. Project Management, Expenses, Workshop and Contingency	-	127	127
Total	706	127	833
Percentage	85	15	100

PROCUREMENT PLAN

I. General

1. Project Information:

Country: Grenada

Borrower: GOCR

Project Name: Water Supply Expansion and Sewerage Improvement Project Assessment

Project Executing Agency: NAWASA

2. Bank's Approval Date of the Procurement Plan: November 18, 2016

3. Period Covered by this Procurement Plan: January 2017 – September 2017

II. Goods and Works and Non-Consulting Services:

N/A

III. Consulting Services:

1. Reference to (if any) Project Operational/Procurement Manual: For consulting services, CDB's Guidelines for the Selection and Engagement of Consultants (October 2011)

2. Any Other Special Procurement Arrangements: To comply with the requirements of UKCIF Finance Agreement, ensure that the contracts with the Consultants provide for the acknowledgement of, and that each deliverable produced by the Consultants under the Project contains, a visibility statement acknowledging that the TA has been provided by UKaid and the UKaid logo must be utilised.

3. Procurement Packages with Methods and Time Schedule:

1	2	3	4	5	6	7
Ref No.	Assignment (Description)	Estimated Cost (£)	Selection Method	Review by Bank (Prior/Post)	Expected Proposal Submission Date	Comments
1.	Water Supply Expansion and Sewerage Improvement Project Assessment		QCBS	Prior	December 2016	EOI and RFP subject to prior review. EOI issued August 2016 and received by NAWASA for evaluation

IV. Implementing Agency Capacity Building

The provision of online procurement e-learning by the CDB.

V. Summary of Proposed Procurement Arrangement

Project Component	CDB (UKCIF) (£)										NBF		Total Cost
	Primary		Secondary		Other						Country	Institution	
	ICB	NCB	RCB	LIB	Shopping	DC	FA	QCBS	CQS	SSS			
1. Professional Fees	-	-	-	-	-	-	-	-	-	-	-	-	-
2. Project Management	-	-	-	-	-	-	-	-	-	-	-	-	-
3. Administrative Support	-	-	-	-	-	-	-	-	-	-	-	-	-
4. Workshop Venue and Refreshments	-	-	-	-	-	-	-	-	-	-	-	-	-
5. Contingency	-	-	-	-	-	-	-	-	-	-	-	-	-
Total Project Costs	-	-	-	-	-	-	-	-	-	-	-	-	-

CQS	Consultant Quality Selection	NCB	National Competitive Bidding
DC	Direct Contracting	QCBS	Quality and Cost-Based Selection
EOI	Expression of Interest	RCB	Regional Competitive Bidding
FA	Force Account	RFP	Request for Proposal
ICB	International Competitive Bidding	RFQ	Request for Quotation
IDC	Interest During Construction	SSS	Single-Source Selection
LIB	Limited International Bidding		
NBF	Non-Bank Financed		

This information is withheld in accordance with one or more of the exceptions to disclosure under the Bank's Information Disclosure Policy.