

## **DRAFT TERMS OF REFERENCE**

### **CONSTRUCTION SUPERVISION CONSULTANT**

#### **1. BACKGROUND**

1.01 The Government of Guyana (GOGY) has applied for financing from the Caribbean Development Bank (CDB), towards the cost of the Water Supply Improvement Project (WSIP) (the Project). The Project is part of an overall strategy of GOGY to (1) improve overall quality of service and to achieve 90% treated water coverage nationwide by 2025, through the construction of a number of water treatment plants (WTP); and (2) contribute towards reducing the high level of NRW to economically sustainable levels by 2030.

The Project will be implemented by the Ministry of Housing and Water (MHW) through the Guyana Water Inc. (GWI). The Chief Executive Officer (CEO) of GWI, oversees the overall planning, management, and execution of Water sector related projects. The CEO has assigned a Project Coordinator (PC) who will head a project management team (PMT) comprising two Engineers, a Social and Gender Specialist, Monitoring and Evaluation Specialist, Community Liaison Officer, and an Environmental Specialist. The GWI wishes to engage a Construction Supervision Consultant (CSC) to assist the PMT with the procurement and supervision of the Works components of the Project.

1.02 Proposed Works under this Project comprise the construction of five (5) water treatment plants along the coast (average plant size of 7.3 million Litres per Day), (ii) the Installation of approximately 42km of transmission mains and (iii) Drilling of five deep Wells.

#### **2. OBJECTIVE**

2.01 The objectives of this consultancy are to:

- a) to assist GWI in the tendering process necessary for the procurement of suitable Contractors to implement the proposed works;
- b) to conduct comprehensive construction supervision and administration the contracts for the Works;
- c) to ensure high standards of quality assurance and control are achieved, and that the Works are executed in full compliance with the engineering designs, technical specifications and the ESHS requirements.

#### **3. SCOPE OF SERVICES – WORKS SUPERVISION**

1.03 Reporting to the PMT, the Consultant shall contribute to the successful procurement and implementation of the proposed works and shall be solely responsible for effective construction supervision and contract administration. The works will be procured in lots, under separate contracts, accordingly the Consultant shall perform the duties of the “Engineer” as defined by:

- i. The Conditions of Contract for Plant & Design-Build for Electrical & Mechanical Plant & for Building & Engineering Works Designed by the Contractor (“Yellow book”) First edition 1999” published by the Federation Internationale Des Ingenieurs – Conseils (FIDIC), and the “Particular Conditions” to be used by CDB Recipients when applying

these General Conditions.

- ii. The Conditions of Contract for Construction” First Edition 1999 published by the Fédération Internationale Des Ingénieurs – Conseils (FIDIC), and “Particular Conditions”, which include amendments and additions to such General Conditions,

In each case, the Consultant shall pay particular attention to the Environmental, Social, Health and Safety (ESHS) requirements stipulated in the respective work contracts and those required to be carried out as part of its own contractual responsibilities.

1.04 The Consultant’s tasks will include, but not be limited to, the following:

### **Procurement of Works**

- (a) assisting GWI with procurement of the Works, including:
  - finalising the bid documents with appropriate design requirements, as applicable, for all the relevant infrastructure works;
  - conducting site visits with Bidders and responding, through GWI, to queries—including those related to safeguards - raised by Bidders during the bid period;
  - Assisting GWI in issuing addenda to the Bidding Documents as required;
  - evaluating submissions and presenting a comprehensive Bid Evaluation Report with recommendations to GWI (who will lead the negotiation process with contractors); and
  - assisting GWI with establishing contracts for the works;

### **Supervision of Works and Administration of the Works Contract**

- (b) executing the supervision services related to the construction of the proposed works. The Consultant shall be appointed as the Engineer in the Construction Contracts and shall provide the associated services;
- (c) reviewing Contractor’s design submissions to ensure compliance with design requirements;
- (d) conducting the construction supervision services, including safeguard compliance related to the WSIP;
- (e) assigning an experienced and qualified Project Manager, acceptable to GWI, together with the necessary site staff as shall be approved in writing by the Employer. The Project Manager will be responsible for reporting directly to the Project Coordinator, and coordinating with GWI;
- (f) representing the interest of GWI *vis-à-vis* the suppliers and contractors in any matter related to the goods and works contracts and the proper execution thereof;
- (g) furnishing for the use of the Contractors, all necessary ground, and topographic controls for the proper layout of the Water Treatment facilities and transmission mains installation;
- (h) reviewing and recommending for approval, the suppliers delivery schedule and contractors’ work schedule or revisions thereto including a critical path diagram for the construction of the Project and any such plans or programmes that the contractors are obliged to furnish for the Engineer’s approval. The consultant shall also prepare an initial

disbursement schedule based on the approved delivery and/or work schedules;

- (i) assessing the adequacy of all inputs such as materials and labour provided by the supplier/contractor and his/her methods of delivery/work in relation to the required rate of progress and, when required, take appropriate action to expedite progress. The Consultant shall also keep and regularly update a list of the contractors' equipment (and its condition) to ensure compliance with the list of equipment which the contractors pledged in their bids;
- (j) inspecting and evaluating all contractor works to ensure compliance with the specifications and terms and conditions of contract documents;
- (k) examining and making recommendations on all claims from the Suppliers/Contractors for time extension, extra compensations, work or expenses, or other similar matters;
- (l) negotiating new rates with the suppliers/contractors for additional work and making requisite recommendations for approval, should the rates set out in the contract not be applicable;
- (m) certifying goods supplied/work done for payment and determining the amount to be added to, or deducted from, payments to the Suppliers/Contractors for any additional work or work omitted;
- (n) computing quantities of approved and accepted goods, works and materials, and checking and certifying the Suppliers'/Contractors' payment certificates. The Consultant shall also maintain up-to-date records of remaining quantities to be incorporated in the work, and the cost estimates relating thereto, broken down into local and foreign components;
- (o) arranging the execution of works related to the provisional sums in the construction contracts and determining the value of such works within the scope of the said contracts;
- (p) reporting periodically on the progress of goods/works, the Suppliers'/Contractors' performance, quality of goods/works and the Goods/Works' financial status and forecasts. Periodic reports shall be prepared and transmitted to GWI showing quantities incorporated in the work at the end of each pay period, and showing monies earned by and due to the suppliers/contractors;
- (q) proposing and presenting for approval any changes in the plans deemed necessary for the completion of works including information or any effect the changes may have on the contract amount and the time of completion of the Works and prepare all necessary Variation Orders/Change Orders including altering plans and specifications and other details. Inform the Employer of problems or potential problems which might arise in connection with any construction contract and make recommendations for viable solutions;
- (r) maintaining an approved representative at the site during all times the contractors are working, to supervise the work and to issue instructions, as required;
- (s) furnishing timely assistance and direction to suppliers/contractors in all matters related to interpretation of the contract documents, ground survey controls, quality control testing, and other matters relating to contract and progress of the project;
- (t) organising the supervision of the works with proper allocation of responsibilities to the

individual inspectors and supervise their work to ensure that it is effectively executed;

- (u) maintaining detailed site logs and compiling systematic records of the inspectors' findings and what actions have been implemented as a result thereof;
- (v) preparing and maintaining inspection and engineering reports and records to adequately document the progress and performance of the works, including the extent to which the identified/relevant design provisions and standards have been implemented (e.g., climate resilience provisions);
- (w) reviewing all contractors' submittals, working drawings, shop drawings, erection drawings, and drawings for temporary works, and act as appropriate thereon;
- (x) performing verification surveys of the contractors' surveys; performing initial, periodic, and final survey measurements of completed and accepted works or partial works to determine quantities;
- (y) ensuring the receipt of, and maintaining as permanent records, all warranties required under terms of the contract documents for materials and equipment accepted and incorporated in the Project. All local materials incorporated in the Project, and their source, are also to be recommended for approval. Ensure that as-built drawings shall be prepared for all works as the work progresses;
- (z) ensuring that all duty and tax exemption requests for materials and equipment are reviewed thoroughly and are directly related to the project
- (aa) taking the necessary steps to oversee that all test samplings conducted in the field and perform such tests as can be made in the field laboratory arranged by the contractors, to maintain quality control based on the specified standards. The Consultants shall be responsible for all testing and shall notify the suppliers/contractors of any defects in his supply/work and stop operations connected with the defective goods/works until the defects are rectified;
- (bb) inspecting the environmental, social, health and safety and protection aspects of construction works and methods to ensure that every reasonable measure has been taken to protect life, environment, and property, and ensure that traffic circulation and proper detours are provided by the contractors at all times;
- (cc) monitoring of the implementation of the Environmental and Social Management Plan (ESMP). To that end the Consultant would be required to:
  - work closely with the Contractor to ensure that the Project is implemented in a manner consistent with the ESMP;
  - manage the review process of the C-ESMP for approval including advising the PMT of the appropriateness of the C-ESMP;
  - monitor, daily, the Contractor's work for compliance with the C-ESMP and ESMP;
  - ensure that suitably qualified and experienced safeguard specialist(s) are resourced to provide regular site inspections and are available for support at other times to

respond to incidents, non-compliances, review of C-ESMP, advise regarding the ESMP update; and other tasks

- manage instances of non-compliance by the Contractor and report all instances to GWI. Escalate recurring instances of non-compliance by the Contractor to GWI
- manage and respond to all direct complaints/incidents received by their representatives as per the established Grievance Redress Mechanism and ensure that all instances are reported for inclusion into the Project database.
- working with Contractor and GWI to provide meaningful input and direction into community consultations;
- ensuring that the Contractor is fully compliant with ESHS requirements before issuing Taking-Over Certificate. Prior to project completion, the Consultant shall check that all ESHS related tasks of the Contractor are completed;

- (dd) participating in an inspection of the works, made jointly by representatives of Government of Guyana, GWI, and the contractors, upon the requisite percentage completion of the works as per the contract, and following a written request of the contractors. Should the works prove to be substantially complete, the consultant will assist in preparing the Certificate of Substantial Completion to be signed by the members of the inspection team. Should the works not be acceptable, the contractors shall be informed in writing of the items that need to be rectified;
- (ee) ensuring that the contractors sign a Certificate of Outstanding Work, before the recommendation of Substantial Completion becomes effective;
- (ff) performing all other items of works not specifically mentioned above, but which are necessary and essential to successfully supervise and control the construction activities in accordance with the plans, specifications, and terms of contract. The Consultant's responsibility for the site supervision of the works shall continue until the contractor has completed all outstanding works to the satisfaction of GWI;
- (gg) conducting the necessary inspection, specifying, and supervising any remedial works to be carried out as well as participating in the final inspection and preparing recommendation(s) of final acceptance with its effective date, to be signed by all members of the inspecting team;
- (hh) actively participate in the settlement of any dispute that may arise between GWI and the Contractors in accordance with the Conditions of Contract. If required, the Consultant will assist in preparing documents for settlement of disputes and will attend and represent the Executing Agency at any dispute resolution.
- (ii) ensuring minimum disruption of services to customers during the implementation of the project, particularly during construction activities and commissioning of works, and ensure coordination between the contractor and the Executing Agency's Operations Department/personnel;
- (jj) organizing and coordinating all meetings, including site meetings, progress meetings with other stakeholders etc.; and meeting with the contractors to clarify issues, track progress, provide feedback and instructions to the contractors and other stakeholders. Site and progress review meetings are to be done at least once monthly for each contract or as requested by the Executing Agency;

- (kk) ensuring that the contractors develop a comprehensive transition plan outlining the steps to be taken and the timelines required to transfer the existing water supply system in the various project areas to the new treatment plants inclusive of transferring the system to the new storage tanks, booster stations, transmission mains, etc.—this should take into consideration the inputs from the Executing Agency’s Program Management team, Operations Team and the personnel from the respective Divisional Office and should ensure that disruption to water supply is kept to a minimum; and
- (ll) establishing hotline numbers for each of the project areas to receive, process and forward complaints from customers to the contractor to be addressed in a timely manner. The entire process from receiving complaints to addressing issues will be managed by the Consultant with assistance from GWI.

Should the contractor require GWI’s assistance in locating pipelines, shutdown of pump stations or closing of valves etc. the request should be provided at least 72 hours before relevant actions can be taken by GWI, and it must be done via the Consultant only.

#### 4. CAPACITY BUILDING PROGRAMME

There is no requirement for capacity building.

#### 5. REPORTING REQUIREMENTS AND DELIVERABLES

The Consultant(s) shall provide the following documents and reports to GWI:

- (a) **Inception Report:** Within four weeks of engagement, the Consultant shall submit an Inception Report which should describe the approaches proposed to be taken to prepare and deliver the scope of works outlined.

##### Works Supervision

- (b) **Bid Evaluation Report(s):** Within three weeks of receipt of the bids for the Water Treatment Plants, the Consultant shall present a Bid Evaluation Report, to include but not be limited to, an assessment of the bidder’s compliance with the instructions to bidders, their bid sums, any corrections to the bid sums, individual rates, and proposed timeframes. A recommendation for award shall be given;
- (c) **Works Pre-construction Report(s):** Within four weeks of award, the Consultant shall present a Works Pre-construction Report, to include but not be limited to, the minutes of the pre-construction meeting, the contract price, proposed start date, proposed completion date, the contractor’s work schedule and the construction drawings and specifications to include any alterations to the scheme arising out of the bid process;
- (d) **Works Monthly Progress Reports:** Within one week after the due date of the Contractor’s Monthly Progress Report, but no later than the 10th day of each month, submit a Works Monthly Progress Report, briefly and concisely summarising construction activities and progress for the previous month, and reporting on the implementation of Environmental and Social Management Plan (ESMP).The reporting on the ESMP should be done as a dedicated section in the report. Problems encountered, and/or problems anticipated, shall be clearly stated, together with steps taken or recommendations for their

correction/mitigation. These reports shall also list the contractors' equipment and work force (disaggregated by age, nationality, sex, disability). It will also indicate the work to be performed during the coming month, expenditure record, and current estimates of final cost and completion date. A copy of the Contractor's Monthly Progress Report shall form an Appendix to the Consultant's report;

- (e) **Works Completion Report:** Within one month of the issue of the Taking-Over Certificate, provide a Works Completion Report for each Works Contract, summarising the construction activities, contract changes, claims or disputes or any other substantive matters having an effect on the amount, cost and progress of the work, the current status of the works and contract, reporting on expected outcomes at the end of the Defects Notification Period and including as-built drawings. The as-built drawings shall be provided in electronic dwg and pdf format as well as in full size (A1) hardcopy sets. All data, records, field books, manuals, and warranties, properly indexed and catalogued, shall also be provided. Manuals and warranties shall also be provided in electronic (pdf) format;
- (f) **Works Contract Completion Report:** Within two months of the issue of the Performance Certificate, prepare a Works Contract Completion Report for each Works Contract, **summarising** the construction activities, contract changes, claims, or disputes or any other substantive matters which had an effect on the quality, cost, and progress of the work.

#### Project Reports

- (g) **Quarterly Report Inputs** – within two weeks of the end of a quarter, or as otherwise required, provide a summary report on all activities undertaken, in line with the PC's reporting requirements. These reports will outline progress and plans in areas of responsibility and against the ESMP; and present and analyse relevant monitoring data (including results).
- (h) **Project Completion Report Input** - Within two weeks of the PC's notification of Project Completion, provide inputs to assist in the compilation of relevant sections of the Project Completion Report.

Reports and drawings should be submitted in three hard copies and electronically in the original editable formats where requested.

## **6. IMPLEMENTATION ARRANGEMENTS**

GWI has assigned a Project Coordinator (PC). The PC will facilitate the work of the Consultant and make available all relevant studies, reports, and data, relevant to the completion of the exercise and will function as liaison between the consultant, GOGY officials, and stakeholders.

## **7. QUALIFICATIONS AND EXPERIENCE**

The consulting team should consist of persons having the appropriate professional and academic qualifications and a minimum of 10 years' relevant experience in the areas of project management, water and sanitation engineering, environmental specialisation, social specialisation, and construction supervision, demonstrated ability to work within a multi-disciplinary team environment, while demonstrating initiative and self-motivation. Post Graduate qualifications in the required fields as well as specific experience in the Caribbean will be considered an asset.

All members of the Consultant's team must be fluent in English, and specific experienced in the

Caribbean will be an asset. It is imperative that key members of the Consultant's team be experienced in administering the conditions of contract outlined in these terms of reference.

(i) **Project Manager**

**Qualifications:** Masters' Degree in Civil Engineering, Environmental Engineering, Mechanical Engineering, Water Resource Management, Electrical Engineering, or Project Management. A candidate possessing a BSc. in any of the mentioned fields may be considered if he/she possesses substantial experience as a Project Manager on projects of similar scope.

**Experience:** At least fifteen (15) years' experience in construction supervision and project management including experience in developing countries on donor financed public infrastructure projects. The candidate must have functioned as a Project Manager on at least two (2) projects of similar scope and complexity.

*This individual shall be assigned full time during the construction phase and will be required to reside in Guyana over that phase of the project.*

(ii) **Civil Engineer**

**Qualifications:** Master's Degree in Civil Engineering OR a Bachelor's Degree or equivalent in Civil Engineering, Construction Management or Project Management

**Experience:** a minimum of **8- and 12-years'** experience (for a master's degree and Bachelor's Degree respectively) in the management and implementation of donor financed infrastructure projects. Experience in multi-sectoral projects will be an asset.

*This individual shall be assigned to the project over a period of 12 months.*

(iii) **Mechanical Engineer**

**Qualifications:** Master's Degree in Mechanical Engineering or a bachelor's degree or equivalent in mechanical Engineering

**Experience:** a minimum of **8- and 12-years'** experience (for a Master's Degree and Bachelor's Degree respectively) in the management and implementation of donor financed infrastructure projects. Experience in multi-sectoral projects will be an asset.

*This individual shall be assigned to the project over a period of 12 months.*

(iv) **Electrical Engineer**

**Qualifications:** Master's Degree in Electrical Engineering or a bachelor's degree or equivalent in Electrical Engineering

**Experience:** a minimum of **8- and 12-years'** experience (for a master's degree and Bachelor's Degree respectively) in the management and implementation of donor financed infrastructure projects. Experience in multi-sectoral projects will be an asset.



*This individual shall be assigned to the project over a period of 12 months.*

(v) **Process Engineer**

**Qualifications:** Master's Degree in Process/Chemical Engineering or a bachelor's degree or equivalent in Process/Chemical Engineering

**Experience:** a minimum of **8- and 12-years'** experience (for a Master's Degree and Bachelor's Degree respectively) in the management and implementation of donor financed infrastructure projects. Experience in multi-sectoral projects will be an asset.  
*This individual shall be assigned to the project over a period of 12 months.*

(vi) **Site Engineers (5no.)**

**Qualifications:** BSc. in Civil Engineering or Construction Management

**Experience:** at least ten (10) years' construction supervision experience functioning in a similar capacity on at least two (2) major water treatment plant projects.  
*These individuals shall be assigned full time.*

(vii) **Structural Engineer**

**Qualifications:** MSc. Structural Engineering or a Bachelor's Degree

**Experience:** a minimum of 8- and 12-years' experience, for a Master's Degree and Bachelor's Degree respectively, in designing water related infrastructure.  
*This individual shall be assigned to the project over a period of 12 months.*

(viii) **Geotechnical Engineer**

**Qualifications:** MSc. Geotechnical Engineering or a bachelor's degree

**Experience:** a minimum of 8- and 12-years' experience, for a Master's Degree and Bachelor's Degree respectively, in designing foundations for water related structures  
*This individual shall be assigned to the project over a period of 12 months.*

(ix) **Water Well drilling Superintendent**

**Qualifications:** Higher Technical Diploma in any engineering discipline

**Experience:** Ten years' experience in supervising the drilling Water Wells on the coastal plain of Guyana  
*This individual shall be assigned to the project over a period of 12 months.*

(x) **Social and Gender Specialist**

**Qualifications:** Master's Degree in, social policy, gender studies, sociology, international development, anthropology, or another related field.

**Experience:**

1. Minimum of eight (7) years' relevant experience encompassing stakeholder engagement practice, stakeholder engagement, community development, livelihoods programming, and social/gender research using participatory approaches, including qualitative research techniques (surveys, focus groups, workshops, mediation, facilitation, etc.).
2. A minimum of five (5) years of relevant practical experience. This individual must have functioned in a similar position on at least two (2) construction projects
3. Previous experience in developing and/or implementing social safeguard strategies or plans in projects.
4. Knowledge of MDB social safeguards policies and international good practice.
5. Exceptional ability in communication and networking must possess excellent inter-personal skills
6. Minimum of five (5) years' experience working and leading projects or programmes that address gender equality, disability, youth, labour, indigenous peoples' rights and cultures, and other social inclusion issues.
7. Minimum of five (5) years' experience developing and delivering gender sensitisation training.
8. Excellent written and verbal communication skills in English and a proven capacity to work as part of a team are necessary.
9. Experience working in Guyana, or the Caribbean will be an asset.

*This individual shall be assigned full time.*

**(xi) Environmental Safeguard Specialist (ESS)**

**Qualifications:** A Master's degree or equivalent qualification in Biology, Ecology, Natural Resource/Environmental Management or Environmental Science and Environmental Engineering. The ESS must have certification in Occupational Health and Safety (OHS). EPA Guyana requires that the personnel responsible for enforcing the OHS requirements has certification in that area.

**Experience and Other Requirements:**

1. A minimum of eight (7) years relevant practical experience. This individual must have functioned in a similar position on at least two (2) major Water Treatment Plant projects
2. Previous experience in developing and/or implementing environmental safeguard strategies for organizations or project in participatory approaches and community development
3. Knowledge of CDB Environmental Safeguards policies and international best practices.

4. Previous experience in developing and/or implementing environmental safeguard strategies for water projects.
5. Exceptional ability in communication and networking, must possess strong analytical skills, excellent inter-personal skills and demonstrate ability to engage and collaborate with local communities.

*This individual shall be assigned full time.*

(xii) **Field Inspectors (3no.)**

**Qualifications:** At least an Ordinary Technical Diploma in Building and Civil Engineering OR Equivalent

**Experience:** At least ten (10) years' experience supervising civil works projects

*These individuals shall be assigned full time.*

**8. DURATION**

The total duration of the consultancy service is expected to be 26 months distributed over the phases of the works procurement as shown in the table below:

Phases	Expected duration of service (months)
Tender support up to award of work contract(s)	4
Construction Phase	18
Support during 12-month defects notification period	4
<b>Total estimate duration</b>	<b>26</b>