



water for people

**INDIVIDUAL CONSULTANCY SERVICES TO UNDERTAKE  
INVESTIGATIONS, SURVEYS, AND SPECIFIC DESIGN  
ACTIVITIES REQUIRED TO SUPPORT THE DETAILED  
ENGINEERING DESIGN OF KIHUNGA MINI PIPED WATER  
SUPPLY SYSTEM**

**TERMS OF REFERENCE**

**PROCUREMENT NO: WFPUG/CONS/FY27/001**

**OCTOBER 2026**

## Table of Contents

|     |                                       |    |
|-----|---------------------------------------|----|
| 1   | Introduction .....                    | 3  |
| 2   | Objective of the Assignment.....      | 3  |
| 3   | Scope of the Assignment .....         | 4  |
| 3.1 | Description of the Project Area ..... | 4  |
| 3.2 | Activity Scope .....                  | 5  |
| 4   | Reporting and Time Frame .....        | 7  |
| 4.1 | Reporting Format .....                | 7  |
| 4.2 | Time Frame.....                       | 8  |
| 5   | Remuneration and Payment.....         | 8  |
| 5.1 | Fees and Payment Mode.....            | 8  |
| 6   | Assistance to the Consultant.....     | 9  |
| 7   | Travel and Transport .....            | 9  |
| 8   | Evaluation of proposals .....         | 9  |
| 8.1 | Technical Criteria .....              | 9  |
| 8.2 | Financial Proposal .....              | 10 |
| 9   | Proposal submission .....             | 11 |

## 1 Introduction

Water For People is a USA-based non-profit organization that aims at improving people's quality of life by supporting the development of locally sustainable drinking water resources, sanitation facilities, and health and hygiene education programs. Water For People is currently operating in 9 countries in Latin America, Africa, and Asia.

Since 2012, Water For People in Uganda Country Program (CP), in collaboration with Ministry of Water and Environment and different departments and agencies, has been implementing water, sanitation and hygiene (WASH) solutions with the “Everyone Forever” approach, in the district of Kamwenge. This is a strategy aimed at enabling everyone (household, school, healthcare facility and village in a subcounty) to have access to safe and clean water and sanitation services, forever.

In the effort to increase safe water coverage in the EF district of Kamwenge, Water For People conducted annual flow data collection to assess the progress made so far and the gaps that exist and require intervention within the EF district of Kamwenge. The outcome of the annual flow data collection pointed to Kyakarafa HCIII in Kyakarafa I village as a facility without safe water source within the facility premises and the surrounding areas, further assessment indicated that the five selected villages (Kihunga, Kyakarafa I, Kyakarafa II, Isingote and Bulembo) within the catchment area of the Health Care Facility (HCF) are served with point water sources situated more than 500 meters from most of the Households, which affects attainment of the desired level of service.

In 2025, Kamwenge District Local Government (KDLG) drilled a production well intended for motorization in Kihunga Village but due to budget constraints, the borehole is currently fitted with a handpump. During drilling, the borehole yield was estimated at 20 m<sup>3</sup>/hr while test pumping was carried out at 3 m<sup>3</sup>/hr for about 180 minutes, inquiries conducted with the District Water Office (DWO) confirmed that the rate adopted for test pumping was due a uniform pump that the contractor had mobilized on ground at the time.

It is against this background that Water For People in partnership with Kamwenge district local government proposes to construct a piped water system to serve five villages in the above-mentioned sub county, To support the development the project, Water For People seeks to engage an individual consultant to undertake specific activities that will inform the feasibility studies and detailed engineering designs of the Kihunga mini piped water supply system. The project is expected to enhance access to safe and reliable water, improve water service levels, and contribute to better sanitation and overall quality of life in the targeted communities.

**Water For People**, in partnership with the **Kamwenge District Local Government**, proposes to construct the **Kihunga Mini Piped Water Supply System** to serve five villages within the aforementioned sub-county. To support the development of the project, the partners the feasibility study and detailed engineering design of the proposed water supply system.

## 2 Objective of the Assignment

The overall objective of this assignment is to undertake the investigations, surveys, and design activities required to support the detailed engineering design of the proposed Kihunga Mini Piped Water Supply System to serve 5 villages in Busiriba Sub-county, Kamwenge District.

### 3 Scope of the Assignment

#### 3.1 Description of the Project Area

Kamwenge District, located in Western Uganda, borders Kasese District to the west, Kabarole District to the northwest and extreme north, Kyenjojo District to the north, Kyegegwa District to the northeast, Kazo District to the east, Ibanda District to the east and southeast, and Kitagwenda District to the south. Administratively, the district comprises 8 sub-counties, 8 town councils, 43 parishes and 365 villages.

The project area is in Busiriba Sub-county which is an administrative unit in Kamwenge District comprising 7 parishes and a total of 47 villages. The planned supply area is situated in Busiriba and Kyakarafa Parishes within the sub county of Busiriba. The proposed villages to be supplied are Kyakarafa I, Kyakarafa II, Bulembo, Isingote and Kihunga. The table below summarizes the list of villages to be served.

Table 3.1: List of Villages to be designed for in Busiriba and Kyakarafa Parishes in Busiriba Sub County.

| SN | Parish    | Village      |
|----|-----------|--------------|
| 1  | Busiriba  | Kihunga      |
| 2  | Busiriba  | Isingote     |
| 3  | Kyakarafa | Bulembo      |
| 4  | Kyakarafa | Kyakarafa I  |
| 5  | Kyakarafa | Kyakarafa II |

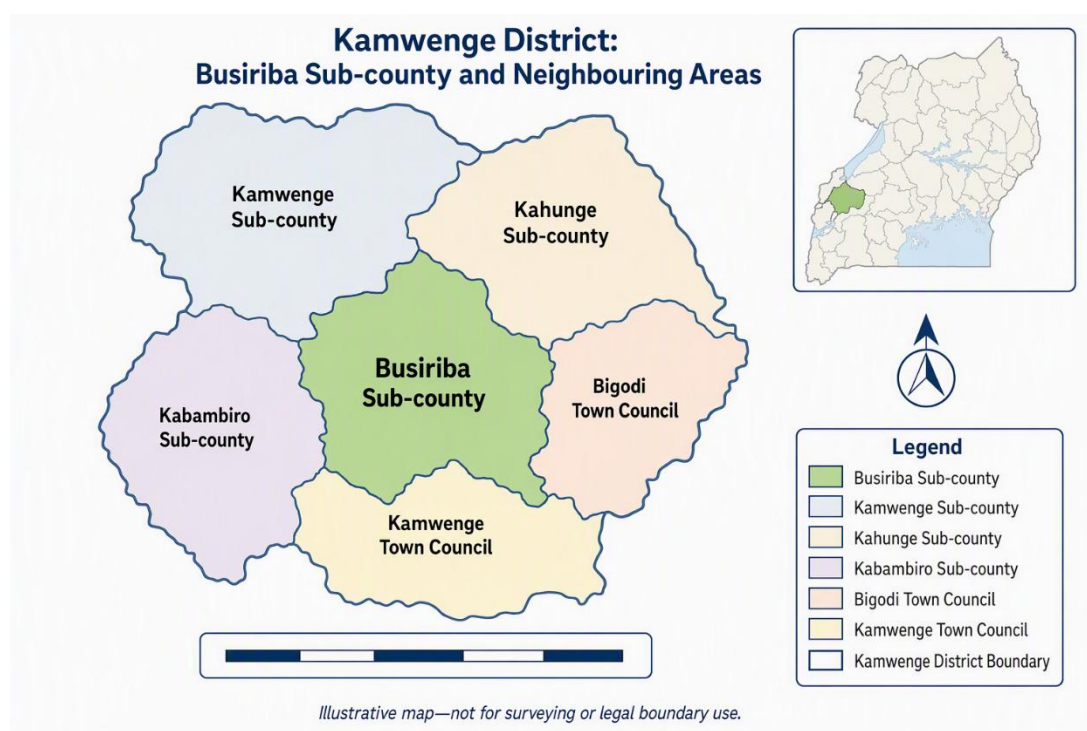


Figure 3.1: Kamwenge district Map showing Busiriba sub county and border administrative units.

### 3.2 Activity Scope

Specifically, the consultant shall:

- Conduct test pumping of the identified water source to aid in determining sustainable yield.
- Undertake water quality testing to aid in assessing the suitability of the source water for domestic consumption and identify any treatment requirements.
- Carry out topographical surveys of the proposed project area, transmission and distribution routes
- Conduct geotechnical investigations at proposed infrastructure sites to aid in the determination of ground conditions and provide design parameters for structural works.
- Design the proposed reservoir/storage tank, including all associated structural calculations and specifications.
- Prepare detailed engineering drawings and maps for the proposed water supply infrastructure.

The scope of this consultancy services is to undertake:

#### **A. Test pumping and Water quality testing**

The consultant will be required to carry out test pumping and water quality testing, and ensure the following aspects are well factored in:

- i) Carryout at least 3No. step tests with each step lasting for 90 minutes and considering the driller's yield of 20 m<sup>3</sup>/hr, implying the first step to be conducted at 1/3 of the driller's yield, the second step at 2/3 of the driller's yield and the third step at the driller's yield.
- ii) Conduct a 90-minute recovery test after the step tests
- iii) Following the outcome of the step tests conducted and informed specifically by the drawdown, recovery and upon consultation and obtaining of approval from the engineer, proceed to conduct a 72 hrs CRT test.
- iv) Conduct a 90-minute recovery test to ascertain the well recovery capacity.
- v) Upon clearance of water during test pumping, obtain water sample for water quality testing. The Sample should be safely transported to an accredited laboratory (preferably NWSC or Makerere University or UNBS or Ministry of Water & Environment Lab) for water quality testing considering all the parameters required for potable water standards.
- vi) Document the entire test pumping and water quality sampling and testing process using appropriate logs and reporting formats.

#### **B. Topographical survey**

The main objective of topographic surveying works is to acquire topographic and surveying information essential for detailed design of different components of the infrastructure and facilities. Furthermore, the purpose of the topographic surveying is to establish (i) proposed project area (ii) profiles of water routes (iii) accessibility to the sites (iv) the layout and alignment of water abstraction, conveyance and

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distribution network.

- The consultant will collect, review, analyze and undertake topographical surveys to establish suitable locations. The survey will also capture and geo-reference, existing and proposed infrastructure within the proposed project area, trees and vegetation, rock outcrops, borrow areas, trial pit locations, access roads, site camps etc.
- Survey of the conveyance pipe network and associated facilities

The Consultant will carry out surveys along the proposed pipeline routes for both the transmission and distribution networks to capture intake locations at the supply facilities, locations of pump stations, pipe alignments, storage reservoir site area and outlet locations where the distribution pipes terminate. Topographic survey along the pipeline shall include all important existing adjacent infrastructure and features such as roads, buildings, bridges, power lines, trees and vegetation among others. The Consultant will carry out surveys on raised storage reservoir site to establish the extent of the available land, elevation, locations for the inlet and outlet pipes and relevant adjacent infrastructure and vegetation.

**The consultant is required to map all households within 100m from the distribution pipeline routes.**

High resolution survey equipment should be employed for this task to obtain minimal errors of less than 5cm in elevation changes. Mark posts should be provided along the pipeline in intervals of 500m to guide the implementation process and land acquisition for the pipeline.

Regular checks on the levels during construction shall be required to ensure correct measurements of work done and for monitoring purposes. Should any discrepancy occur between the design and the actual ground situation, the Consultant shall be required to produce new drawings.

### **C. Geotechnical investigation and detailed reservoir tank foundation design.**

The Consultant will be responsible for conducting geotechnical investigation and detailed design of the reservoir tank foundation based on the output of the geotechnical investigation. Below are the sub activities to be carried out by the consultant.

- i. Following the proposed site/location for the reservoir tank from the topographical survey conducted and in consultation with the supervising engineer, the consultant will pick soil samples from at least 3 trial pits distributed across the reservoir tank area (20 meters x 20 meters) at a depth of 1 meter, 1.5 meter and 2.5 meters or any depth as it may be recommended by the supervising engineer in line with the methodology for soil sampling.
- ii. Carry out soil test to determine the soil bearing capacity in an accredited laboratory facility, preferably Ministry of Works and Transport laboratories, Makerere University Laboratory, GETLAB or any other accredited facility approved by the supervising engineer. The laboratory results should be acknowledged, stamped with appropriate recommendations.
- iii. Carry out detailed structural analysis and design of the reservoir tank foundation based on the results obtained from the geotechnical investigation. Further carry out design and analysis for the reservoir tank and tower factoring in all the loads that act on the tower and foundation.
- iv. Produce detailed CAD drawing for the reservoir tank foundation, tower and the assembled panels with all associated features and provisions for plumbing fittings. Ensure the Bar Bending Schedules (BBS) for the structural drawings are detailed and fit the reservoir tank in the reservoir tank site layout clearly showing the entrance, walkways and the fencing area.
- v. The geotechnical investigation should be documented in an appropriate report format, and the structural drawings should be signed and stamped by a registered structural engineer.

## D. Production of drawings and Maps

The consultant shall use the output from the topographical survey, EPANET model and any other studies conducted during the design with approval of the supervising engineer to produce the following drawings.

- i. Borehole plumbing fittings and electrical works detailing.
- ii. Transmission pipeline and associated fittings.
- iii. Distribution pipeline and associated fittings.
- iv. Pipe work appurtenances (Chambers, marker posts, trench beddings, etc)
- v. General system Layout showing the intake, transmission main, reservoir tank and distribution main.
- vi. Pump station area layout showing the positioning of the borehole, pump station, transmission main, solar structure, ecosan toilet, access route, gate, fencing area (30m x 30m) and the walkways.
- vii. Solar structure including its foundation/base.
- viii. Water outlets (Public stand post and yard tap) with the fittings well labeled.
- ix. Pump house structure clearly detailing the reinforcements (provide a BBS), electrical wiring and installation points.
- x. Chlorine dosing equipment (DDE pumps), mixing tank and alarm system with clear wiring routes in a layout format.
- xi. Ecosan Toilet with details of reinforcements and the solar volt.
- xii. Map of the supply area with the topographical survey map overlayed onto it clearly showing the pipe routes.
- xiii. Any other drawing that may be required by the supervising engineer as instructed during implementation.

The consultant shall submit both the dwg and pdf format of the drawings for review and approval and the consultant shall be notified of the approval.

## 4 Reporting and Time Frame

### 4.1 Reporting Format

The consultant will prepare and submit to the Client all assignment reports required of the consultant, including soft copies. All raw data, GIS files, and maps generated during the assignment should be submitted to the client. Submission shall be in draft form and final copy upon approval of the draft reports. Prior to approval of the reports, the Consultant may be called upon to make presentations to the various stakeholders.

During the assignment, the Consultant is expected to prepare, for the Clients approval, the following (Table 4.1):

Table 4.1: Reporting Schedule

| S<br>N | Description of Report                                                                                       | Date of<br>submission          | Form of Report                      |
|--------|-------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------------|
| 1      | <ul style="list-style-type: none"><li>Realistic, well thought through and detailed work schedule.</li></ul> | 2 days after contract signing. | Work schedule and Method statement. |

|   |                                                                                                                                                                                                                                         |                                |                                                                                                                                                                                                        |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <ul style="list-style-type: none"> <li>Method statement clearly showing the methodologies to be employed by the Consultant for the different stages of the assignment designated to the consultant as per the scope of work.</li> </ul> |                                |                                                                                                                                                                                                        |
| 2 | <ul style="list-style-type: none"> <li>Test pumping and water quality testing.</li> </ul>                                                                                                                                               | 1 week after contract signing  | <ul style="list-style-type: none"> <li>Test pumping report and logs</li> <li>, water quality test certificate,</li> </ul>                                                                              |
| 2 | <ul style="list-style-type: none"> <li>Topographical survey</li> <li>Geotechnical investigation, reservoir tank foundation, tower and panel design</li> <li>Production of drawings and Maps</li> </ul>                                  | 3 weeks after contract signing | <ul style="list-style-type: none"> <li>topographical map and layout,</li> <li>geotechnical investigation report,</li> <li>tank design report,</li> <li>book of drawings and generated maps.</li> </ul> |

## 4.2 Time Frame

The Consultant is expected to complete the tasks as detailed in the scope of work for this assignment in 3 weeks after the date of contract signing.

## 5 Remuneration and Payment

### 5.1 Fees and Payment Mode

Consultancy fees shall be paid as a lump-sum amount. Currency for all payments shall be Uganda Shillings. The Consultant should note that payment mode will be as in table 5.1.

**Note:** Professional Fees attract a 6% With Holding Tax as per the law of the land unless exempted.

Table 5.1: Payment Schedule

| Description                                                                                                | Percentage |
|------------------------------------------------------------------------------------------------------------|------------|
| Upon submission and approval of testing pumping logs and report (Including water quality test certificate) | 40%        |
| Upon successful completion of all the tasks assigned to the consultant.                                    | 60%        |

## 6 Assistance to the Consultant

The Consultant shall be expected to provide capacity building to Water for People staff and District Water Officers during execution of their assignment as far as it does not necessitate additional duties than specified in this statement of requirement.

## 7 Travel and Transport

The cost of transporting documents, special equipment, and materials required for the execution of the Project shall be borne by the Consultant. The Consultant will provide or hire all the equipment, material and services required for the assignment

## 8 Evaluation of proposals

The evaluation methodology to be used for the evaluation of the proposals shall be the Quality and Cost Based Selection (QCBS) methodology. The Quality and Cost Based Selection methodology recommends the highest scoring proposal, which is eligible and substantially responsive to the technical requirements of the TORs, provided that the Bidder is determined to be qualified to perform the contract satisfactorily.

### 8.1 Technical Criteria

The proposals shall be evaluated on the basis of the tenderer's responsiveness to the Terms of Reference, applying the evaluation criteria and point system specified. Each responsive proposal will be given a technical score (St). A proposal shall be rejected at this stage if it does not achieve the **minimum technical score of 75 points**.

The number of points to be awarded to each of the evaluation criteria for the Technical Proposals are as follows:

- i) **Understanding of the Terms of Reference [15 points]:**
  - The Consultant should demonstrate a clear and comprehensive understanding of the project objectives, scope, and deliverables.
- ii) **Methodology and Approach [25 points]:**
  - The consultant should propose a clear, logical, well-structured methodology and practical methodology for undertaking the assignment.
  - Methodology should include clear approaches for test pumping, data collection, and field surveys
  - Provide a detailed work plan with clear milestones and deliverables aligned with the project duration. The timeline should be realistic given the scope of work and resource requirements [5].
- iii) **Relevant Experience [30 points]:**
  - Consultant should have proven experience of at least 5 years in feasibility studies and designing of water supply systems [10]
  - 3 related assignments undertaken in the last 3years [10]

- The Consultant should provide evidence of successful completion of similar projects [5]
- Consultant should provide at least two references [5]

**iv) Team Qualifications [30 points]:**

The individual consultant is required to mobilize professional individuals that are coherent, dynamic, and organized with demonstrated expertise in areas of the assignment highlighted within this TOR. The minimum required personnel are;

- Team Leader: A Civil/Water Resources/Environmental Engineer with at least 8 years demonstrated work experience in planning, design, implementation, construction management and operation and maintenance of piped water supply and sanitation systems. He/she should have executed design of at least 5 previous water supply systems with proven record of supervising test pumping of at least 5 production boreholes. He/she should have a bachelor's degree in civil/water/environmental engineering,.
- Land Surveyor with at least 5 years demonstrated work experience in similar assignments undertaking surveys of piped water supply and sanitation systems. He/she should have carried out surveys of at least 5 previous water supply systems. He/she should have a bachelor's degree in surveying from a recognized University.

The Consultant shall provide the qualifications and experience of each individual to be assigned for the activities in the areas of the assignment. Required academic documentation and certificates should be provided.

## 8.2 Financial Proposal

The financial proposal in Uganda Shillings should include a detailed budget breakdown (itemized) showing the consultancy fees and administrative costs. The proposed price, clearly outlined in the Budget section. This should include:

- a breakdown of man-days and standard daily fees (professional fees).
- budget for reimbursable costs

**Table 8.1: Professional Fees (man-days)**

| Activity | Notes | Responsible party for cost | No. of units | Unit cost | Total cost (UGX) |
|----------|-------|----------------------------|--------------|-----------|------------------|
|          |       |                            |              |           |                  |
|          |       |                            |              |           |                  |
|          |       | <b>TOTAL</b>               |              |           | <b>UGX</b>       |

**Table 8.2: Reimbursable costs**

| Item | Unit         | No. of units | Unit cost | Total cost (UGX) |
|------|--------------|--------------|-----------|------------------|
|      |              |              |           |                  |
|      |              |              |           |                  |
|      |              |              |           |                  |
|      | <b>TOTAL</b> |              |           | <b>UGX</b>       |

## 9 Proposal submission

The individual consultant is required to submit a technical proposal detailing the methodology and approach to this assignment outlining timelines and a suitable roadmap for the assignment in addition to the requirements in the evaluation criteria.

The consultant is also required to submit a detailed financial proposal for the successful accomplishment of this assignment. This should include professional fees (which will be subjected to a 6% withholding tax) and reimbursable costs that are not taxable but are only payable upon submission of acceptable receipts or invoices.

Competent candidate is expected to submit by **Friday 30<sup>th</sup> October 2026**, Technical and Financial proposal should be submitted through [Uganda@waterforpeople.org](mailto:Uganda@waterforpeople.org)

The planned procurement schedule (subject to changes) is as below.

| Activity                         | Date                                                       |
|----------------------------------|------------------------------------------------------------|
| Issue Terms of Reference         | Monday 26 <sup>th</sup> October 2026                       |
| Proposal Submission closing date | Friday 30 <sup>th</sup> October 2026 12:00pm EAT           |
| Evaluation process and Feedback  | 2 <sup>nd</sup> November – 13 <sup>th</sup> November 2026. |
| Contract Award and Signing       | 4 <sup>th</sup> – 13 <sup>th</sup> November 2026           |