

# CAMS Engineering PLC Technical Specification — Irrigation Equipment Tender

Request for Proposal | April 2026 | Ref: CAMS/I493/2026/003

CAMS Engineering PLC invites qualified suppliers to submit technical and financial proposals for the supply, delivery, and commissioning support of irrigation equipment. The equipment will be operated by youth-owned Agricultural Service Provider (ASP) enterprises under CAMS franchise standards, delivering pay-per-use irrigation services to smallholder farmers.

This tender covers three equipment categories. Bidders may submit proposals for one, two, or all three categories. Each category will be evaluated independently. However, CAMS favors bidders that supply all three categories in a single consolidated submission. All quoted prices must include delivery to Addis Ababa, Ethiopia (CIF Addis Ababa). No separate freight or duty lines will be accepted.

## Lot 1 — Shallow Water Drilling Rig

One (1) unit required. The drilling rig will be used to construct shallow boreholes serving smallholder irrigation schemes across the corridor. The ASP operator must be able to deploy and operate the rig with minimal support.

### 1.1 Minimum Performance Requirements

| Parameter                 | Minimum Requirement / Specification                                      |
|---------------------------|--|
| Maximum drilling depth    | 100 metres below ground level  |
| Maximum borehole diameter | 260 mm (sufficient for 4-inch casing installation)                       |
| Drilling methods          | Must support both rotary and percussive drilling                         |
| Stratum capability        | Must be capable of drilling through hard rock and soft formations        |
| Portability               | Trailer-mounted or self-propelled; transportable on standard rural roads |
| Crew requirement          | Maximum 2-person operation for all standard drilling activities          |
| Pipe/rod system           | Automatic or semi-automatic rod change mechanism                         |

### 1.2 Power Source

Diesel engine is the preferred power source. Bidders proposing alternative power sources (e.g. electric, hybrid) must demonstrate equivalent or superior performance through documented field evidence in comparable geological conditions. Proposals with alternative power sources will not be disqualified but must include a performance equivalence statement with supporting evidence.

### 1.3 Mandatory Inclusions

- Minimum starter set of drill bits suitable for both hard and soft formations
- Minimum 3 additional drill rods/pipes beyond the standard rig configuration
- Hydraulic system spare parts kit covering seals, hoses, and connectors for the first operating year
- Operator and maintenance manual in English (Amharic version preferred where available)
- Minimum 2-day on-site commissioning and operator training at deployment location

### 1.4 Warranty

- Minimum 12-month warranty on the rig from date of commissioning
- Bidder must confirm availability of spare parts in Ethiopia or willingness to supply within 30 days of order



## Lot 3 — Solar Surface Pump System

Ten (10) complete systems required. Each system is a portable, self-contained unit operated by an ASP on a plot-by-plot, pay-per-use basis. The system must be deployable by a single operator and transportable between plots without specialist equipment. Systems must be supplied complete and ready for field deployment.

### 3.1 Minimum Performance Requirements

| Parameter            | Minimum Requirement / Specification   |
|----------------------|---|
| Power source         | Solar-direct (photovoltaic, DC) — mandatory. No battery storage or diesel backup permitted.                                     |
| Minimum flow rate    | 10 m <sup>3</sup> /hour at rated conditions   |
| Maximum total head   | Minimum 20 metres   |
| Maximum suction lift | Minimum 5 metres  |
| Impeller material    | Brass, stainless steel, or cast iron — no plastic impellers   |
| Inlet/outlet         | Minimum 1.5-inch inlet and outlet   |
| Portability          | Complete system (pump + panels + frame) must be deployable and repositioned by 1–2 persons without mechanical lifting equipment |
| Solar array          | Minimum 750 Wp per pump unit; panels included in supply   |
| Panel mounting       | Portable ground-mount frame included — must be stable on uneven terrain   |

### 3.2 Distribution Accessories (per system)

- Minimum 80 metres of lay-flat irrigation hose or equivalent flexible delivery pipe — rated for operating pressure
- Inlet strainer/filter to prevent debris ingestion
- All necessary connectors, couplings, and fittings for a complete operational unit

### 3.3 Mandatory Inclusions

- Complete pump, solar panels, portable mounting frame, delivery hose, and all fittings — supplied as a complete operational unit per system
- Operator manual in English
- 1-day group commissioning and training for up to 5 operators covering all 10 units

### 3.4 Warranty

- Minimum 12-month warranty on pump and associated equipment from date of delivery
- Minimum 10-year linear power output warranty on solar panels (manufacturer warranty)

## General Requirements — All Lots

### Delivery

- All equipment must be delivered CIF Addis Ababa, Ethiopia. Onward delivery to the final installation site will be arranged separately by CAMS.
- Delivery timeline: within 60 days of contract award — bidders must state their confirmed lead time
- Equipment must be packed in export-standard packaging suitable for onward transport on rural Ethiopian roads



## Lot 2 — Solar Submersible Pump System

Two (2) complete systems required. Each system will be installed in a shallow borehole to supply water to a communal distribution point or surface storage tank, from which surface pumps and farm-level distribution networks will draw. Systems must be supplied complete and ready for installation.

### 2.1 Minimum Performance Requirements

| Parameter           | Minimum Requirement / Specification   |
|---------------------|---|
| Power source        | Solar-direct (photovoltaic, DC or AC) — mandatory. No battery storage or diesel backup permitted. |
| Rated output power  | Minimum 5 kW at standard test conditions  |
| Minimum flow rate   | 20 m <sup>3</sup> /hour at rated head   |
| Maximum total head  | Minimum 100 metres (pump must maintain rated flow to this head)                                   |
| Borehole fit        | Compatible with 6-inch (150 mm) or larger borehole casing   |
| Pump outlet         | Minimum 2-inch outlet   |
| Solar array voltage | Compatible with array configuration per bidder specification                                      |
| MPPT controller     | Integrated Maximum Power Point Tracking controller required                                       |
| Cable               | Minimum 30 metres submersible-rated power cable included per system                               |

### 2.2 Solar Panel Array (per system)

- Panel type: monocrystalline silicon — minimum 20% module efficiency
- Minimum total array capacity: 7,000 Wp per system
- Panels must carry a minimum 10-year linear power output warranty from the manufacturer
- Mounting structure for ground installation must be included — hot-dip galvanised steel or equivalent corrosion-resistant material
- DC combiner box and all inter-panel cabling must be included

### 2.3 Mandatory Inclusions

- Complete pump, motor, controller, solar array, mounting, and all interconnecting cables — supplied as a complete integrated system
- Non-return (check) valve rated for the operating head
- Minimum 30 metres of rising main pipe rated for operating pressure
- Operator and maintenance manual in English
- Minimum 1-day on-site commissioning and performance verification at installation point

### 2.4 Warranty

- Minimum 12-month warranty on pump and motor from date of commissioning
- Minimum 10-year linear power output warranty on solar panels (manufacturer warranty)
- Bidder must confirm in-country or regional technical support availability



## Quality and Certification

- Third-party testing certification or equivalent quality assurance documentation is preferred — bidders are encouraged to include this in their submission
- Evidence that equipment has been supplied or field-tested in comparable operating environments (climate, terrain, water quality) is preferred
- All equipment must comply with applicable IEC or equivalent international electrical safety standards

## Proposal Requirements

Each proposal must include:

- Completed technical compliance sheet — item by item against this specification
- Detailed technical datasheet for each item offered
- Itemised financial quotation (unit price and total, inclusive of delivery CIF Addis Ababa)
- Delivery schedule and confirmed lead time
- Warranty terms and in-country or regional service/support arrangements
- Evidence of prior supply of comparable equipment (references or project summaries)

## Evaluation Criteria

| Criterion   | Weight |
|---|--------|
| Technical compliance — performance specifications met | 40%    |
| Price — total delivered cost (CIF Addis Ababa)        | 35%    |
| Delivery timeline                                     | 10%    |
| Warranty and after-sales support                      | 10%    |
| Quality documentation and certification               | 5%     |

## Proposal Submission

Proposals must be submitted electronically in password-protected format. The password must be provided in a separate communication. Both technical and financial proposals must be submitted simultaneously.

|                                   |   |
|-----------------------------------|---|
| Submission deadline               | 22/04/2026 up to 12 :00 A.M EAT   |
| Submission method                 | Electronic — email <a href="mailto:camsengineeringplc@gmail.com">camsengineeringplc@gmail.com</a> |
| Reference number                  | CAMS/493/2026/003   |
| Clarification deadline            | 17704/2026  |
| Evaluation and Award Notification | 23/04/2026  |

## Compliance Requirements

- Suppliers must not appear to the UN Sanctions List or the World Bank Debarred Firms list.
- CAMS Engineering PLC reserves the right to reject any or all proposals, to award contracts for individual lots separately, and to cancel this tender at any stage without incurring liability. This tender does not constitute a commitment to contract.

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