



**Republic of Uganda**

**MINISTRY OF WATER AND ENVIRONMENT**

**FARM INCOME ENHANCEMENT AND FORESTRY  
CONSERVATION PROJECT III (FIEFOC III)**

**TERMS OF REFERENCE**

**FOR**

**CONSULTANCY SERVICES FOR DESIGN REVIEW AND CONSTRUCTION  
SUPERVISION OF UNYAMA, NAMALU AND SIPI IRRIGATION SCHEMES IN  
GULU/AMURU, NAKAPIRIPIT AND BULAMBULI DISTRICTS**

**APRIL 2022**

## **1. INTRODUCTION**

### **1.1 Background**

The Government of the Republic of Uganda through the Ministry of Water and Environment with financial assistance from the Islamic Development Bank (ISDB) is undertaking the implementation of three (3) irrigation schemes under the Farm Income Enhancement and Forestry Conservation Project Phase 3. These include; Unyama in Gulu and Amuru Districts, Sipi in Bulambuli District and Namalu in Nakapiripirit District.

The project is designed to assist the Government of Uganda increase the area under irrigated agriculture. This will foster Government programme of modernizing Agriculture that aims at increasing incomes and improving the quality of life of poor farmers and their households. It will further ensure food security and provision of gainful employment through improved agricultural enterprise development and promotion of sustainable land use and management of natural resources.

### **1.2 Objective of the Assignment**

The overall objective of the assignment is to supervise construction of irrigation schemes through prudent contracts management, ensure conformity and compliance to design specifications, design modifications, quality control and assurance, adherence to the Environmental and social safeguard policies and requirements and performance monitoring for the infrastructure during defects period.

The Construction of the three Irrigation schemes will commence simultaneously and thus the Consultant has to accordingly plan to deploy adequate resources to supervise the three separate works contracts concurrently.

## **2. SCOPE OF THE ASSIGNMENT**

### **2.1 Construction Supervision**

Construction supervision activities will cover three distinct phases:

- (i) Pre-construction Appraisal Phase;
- (ii) Construction Supervision Phase; and
- (iii) Defects Liability Phase.

#### **2.2.1 Pre-Construction Appraisal Phase**

During the pre-construction phase, the consultant's task shall include, but not be limited to the following:

- i. Perform design appraisals and, where appropriate, propose modifications with working drawings in consultation with the Client.
- ii. Facilitate Sites Handover for the Works to the Contractors.

- iii. Review Contractors' Environmental and Social Management Plans (C-ESMP), taking into consideration the provisions made in the initial project ESIA, ESIA Certificate Conditions of Approval by issued by NEMA, and any associated Environmental and Social Assessments undertaken during project planning, implementation and operation. The C-ESMP shall cover all project activities to be undertaken by the Contractors, including the main project linear works, supporting facilities such as Camps, Equipment Storage Yards, Materials sites (gravel, sand, clay, stone aggregates, etc).
- iv. Ensure that insurance, performance securities and advance payments guarantees are furnished by the Contractor in time. In liaison with the Employer, shall validate these documents and ensure authenticity in order to issue the commencement notice for the construction.
- v. Review and make recommendations to the Contractor's procurement schedule.
- vi. Ensure that the Contractor conforms with the legal, health and safety standards and all safe guards' requirements.
- vii. Review Construction Supervision and Quality Assurance Plan (CSQAP), understand the requirements of CSQAP and reflect the requirements in the proposed supervision methodology.
- viii. Review the Environmental and Social Monitoring Plan (ESMP), outline and disseminate the mitigating/enhancing, monitoring, consultative and institutional measures required to prevent, minimize, mitigate or compensate for adverse environmental and social impacts or enhance the beneficial impacts.
- ix. Prepare minimum safety standards for workers. Ensure tools and guidelines for safeguard procedures specifying minimum safety procedures are available and accessible to all sites staff for consultants, contractors and workers.
- x. Develop and establish construction management systems and procedures for correspondences and notices among Employer/Consultant/Contractor ensuring effective administrative link between the owner and contractor; for site management documentation, reporting, duties and responsibilities of key consultant's staff, site approvals etc. ensuring that the construction work is carried out in accordance with the contract design and specifications, typically with a team including full-time specialists, quality control inspectors, field technicians, and quantity surveyors.
- xi. Develop and establish a Quality Control and Quality Assurance System and review and approve the contractor's Quality Assurance Plan.
- xii. Review and approve the contractor's method statements before construction as required in the technical specifications for all important elements of the project and check for any non-compliant methods, equipment, or materials to be corrected before work commencement. Handle contractor's claims in a timely manner and advise the owner accordingly.

### **2.2.2 Construction Supervision Phase**

The Consultant shall deploy a full-time supervision team on site. The team shall be responsible for supervising the entire construction process. During the entire construction process, the Consultant shall work in close cooperation with the Employer's project team.

The Consultant's tasks shall include, but not be limited to the following:

- i. Review the Contractors' work programs (in acceptable and compatible software) and method statements while highlighting areas that may pose a risk to works scope, quality and timely completion. Identify the key milestones and the critical path activities. Analyze relevance of activities and consistency with project works Programme and provide advice to eliminate unnecessary/redundant activities.
- ii. Review Contractor's proposed resources (labour/staff, equipment and materials), utilization, deployment, productivity and efficiency. Undertake a detailed works analysis and ensure the detailed works project schedule presents realistic resource utilization and deployment and productivity rates (labour & equipment) for each activity to attain the target outputs and is synchronized with the work programme and updated on a monthly basis.
- iii. Review and approve the contractor's method statements before construction as required in the technical specifications for all important elements of the project and check for any non-compliant methods, equipment, or materials to be corrected before work commencement. Handle contractor's claims in a timely manner and advise the owner accordingly.
- iv. Carryout Environmental, Social, Health and Safety due diligence during acquisition and operation of all the supporting facilities by the Contractors, including technical supervision of conduct of applicable statutory assessments. The Consultants shall review TORs for all Assessments to ensure technical adequacy of the prepared ESIA/ ESMPs reports before submission to MWE, NEMA and/or to the Bank for clearance;
- v. Ensure that the Contractor conducts the necessary environmental and social assessments, and obtains the requisite statutory approvals (such as licenses, certificates, permits, etc) for any proposed auxiliary facilities including campsites, equipment yards, borrow pits, quarry sites, dumpsites, before establishments and/or installation of equipment, etc.
- vi. Ensure that the Contractor works within the environmental and social frameworks as detailed in the project's Environmental and Social Impact assessment (ESIA)/Environmental and Social Management Plan (ESMP) and the Resettlement Action Plan (RAP), and compliance with the relevant National policies and legal Framework, and with the environment and social safeguard policies of the Bank.
- vii. Review and make recommendations to the Contractor's procurement schedule, and supervise the Contractors' procurements, ensuring that all materials are from the right source, quality and of sufficient quantities.
- viii. Inspect and assess all proposed works sites, quarry and borrow areas and materials for the project;
- ix. Ensure adequacy of implementation of the mitigation measures and strengthening of compliance to environmental and social safeguards procedures (ESAP).

- x. Ensure range and nature of safety measures at works sites and their supervision are in place and implemented.
- xi. Supervise the Contractors' actual work progress versus the planned work programme and ensure that delays are kept to a minimum and, that the Contractor at their cost takes measures to make up for time lost and pull the project back to planned schedule. In addition, the Consultant is required to keep a monthly updated work program in liaison with Contractor.
- xii. Timely issue to the Contractors all the necessary correspondences related to information, instructions, clarifications and suggestions to ensure consistency in quality, positive progress and planned costs.
- xiii. Inspect, determine and approve the part of works before, during and after construction of part and, or whole of the works to ensure all time compliance with the specifications and standards.
- xiv. Supervise the Contractors' construction activities, ensuring that all construction is undertaken as designed, or in accordance with client-approved variations to the original design, and that all quality standards are met.
- xv. Advise the Employer on variation orders.
- xvi. Undertake and prepare revised designs, improvements or modifications as necessary during construction.
- xvii. Review and approve any amendments to designs from the Contractor.
- xviii. Ensure that the Contractor has issued insurance of all personnel for accidents liabilities during construction.
- xix. Inspect and certify all completed works. Certify payment certificates for payments of completed works or parts thereof. Ad measure and certify all quantities invoiced by the Contractor. Prepare the contractor's payment statement including final certificate in accordance with General Conditions of Contract and Conditions of Particular application.
- xx. Ensure that the Contractors perform tests and provide reports from approved laboratories according to the approved and agreed upon quality standards to the client, and approve the materials procured by the contractor for the works to ensure that they comply with design assumptions and specifications.
- xxi. Undertake independent tests or inspections as considered necessary to confirm that the construction is completed in accordance with the design intent.
- xxii. Periodically review the status of the Contractors' real versus required staffing, equipment, insurance, status of performance securities, advance payment guarantees and recommend appropriate actions to the client. In addition, the Consultant will check the status of expiry of the performance bond and advance payment guarantee and recommend appropriate actions (if applicable) to the Employer.
- xxiii. State all methods and procedures that are intended to ensure robust quality control, execute all procedures accordingly, and report on all quality control undertakings and their results to the client.

- xxiv. In addition to continuous construction supervision, schedule and organize a weekly formal inspection of activities with the Contractors' representatives and agree with the Contractors on progress made.
- xxv. Undertake regular delay surveys to facilitate acquisition of specific site production and productivity of the works (labor and equipment) or materials availability for the Contractor. Monitor and document Contractor inefficiencies, disruptions and delays and determine problems and advise on solutions to improve works progress rates.
- xxvi. Periodically prepare a risk management plan for the construction project. Carry out risk identification for potential delays, disruptions, disputes arising from compensation events, reliability of materials sources and delivery and unforeseen ground conditions and environmental hazards and their potential impacts on construction methods. Undertake analysis/assessment of potential risk identified and evaluate effects (qualitatively and quantitatively) and ranking of occurrence and classify and major, moderate or minor. Draw-up risk response to circumstances to include possibilities for risk avoidance, transfer or controllable/minimization.
- xxvii. Advise the Employer on contractual obligations and establish early warning systems to minimize occurrence from potential compensation events and subsequent claims for time extension and/or costs.
- xxviii. Develop and maintain a project progress reporting format that is both, concise and in accordance with the Employer's requirements.
- xxix. Monthly progress reporting to the client, and immediate reporting shall any issues be identified that could affect the project completion schedule. This shall include arrangement for site meetings as and when they may be required.
- xxx. Monitor the value of works executed against payments made to the Contractor and report to the Employer monthly consistency against programme of expenditure and works giving reasons and recommendations.
- xxxi. In consultation with the client, and if necessary, prepare variation orders.
- xxxii. Schedule and organize witness-testing events, including contractual tests for the completed works.
- xxxiii. Maintain daily site records on prevailing weather conditions, labour productivity, availability and operational condition of key plant, plant productivity, daily activity outputs, and disputes between employers and staff as well as between contractor and local residents, and all other observations that may be of importance in case of any arbitration or legal disputes.
- xxxiv. Ensure that the contractor meets Environment, Social, Health and Safety requirements (ESHS) as indicated in Annexes 1 and 2, and in the project ESIA/ESMP.
- xxxv. Ensure that the contractor works within the environmental and social frameworks as detailed in the project's environmental social impact assessment (ESIA) and environmental and social management plan (ESMP) and the Resettlement Action Plan (RAP). Document and verify any complaints and grievances from project affected persons/workers. Ensure adherence to the NEMA Certificate of Approval Conditions.

- xxxvi. Ensure that there is timely and coordinated response to environmental and social issues – a functional system of reporting safeguard issues in place and issues of concern by different stakeholders regularly discussed and responded to.
- xxxvii. Develop and maintain an Environmental and Social Compliance management “Tracker” to document implementation C-ESMP and instructions issued during project implementation by the Contractors;
- xxxviii. Develop and maintain an Accident Log during project implementation and undertake to report serious and severe accidents to the Employer within 24 hours of occurrence.
- xxxix. Document the responses to environmental and social issues of concern raised by different stakeholders. Ensure preparation of quality and timely environmental and social reports on regular monthly basis.
  - xl. The Consultant shall guide the Contractors on compiling Operation and Maintenance Manual and shall forward three (3) copies of the Manual to the Client as shall be provided for in the Works Contract.
  - xli. Commission and approve completed systems and facilitate hand over to Employer.
  - xlii. Prepare snag lists after substantial completion of works.
  - xliii. Prepare environmental and social audits and certification with regulatory authority.
  - xliv. Prepare the ‘substantial completion report’ prior to technical handover.
  - xlv. Facilitate technical commissioning.

### **2.2.3 Defects Liability Phase**

The Consultant shall ensure and maintain three monthly/quarterly supervision and monitoring during the Defects Liability Period. During the entire period, the consultant shall work in close cooperation with relevant operational staff, as nominated by the local authorities, communities and Employer. During the Defects Liability Period, the Consultant’s tasks shall include, but not be limited to the following:

- i. Supervise and update the Contractor’s snag list, as agreed and contained in the substantial completion report.
- ii. Monitor the performance of all hydraulic works and equipment, notify both the contractor and the client on defects identified, and recommend remedial actions.
- iii. Supervise and certify the remedying of any defects that become apparent during the Defects Liability Phase.
- iv. Review and supervise the agreed upon ‘on the job’ training programme of operational staff by the Contractors.
- v. Ensure that the Contractors supply complete sets of all works manuals, drawings, models, warranties, and other relevant documentation to the Employer. The supervision Consultant shall point out all items missing and recommend actions to be taken to the Employer.
- vi. Review, approve, and certify ‘As-Built’ drawings.
- vii. Compile and document the schemes Asset Register in GIS

- viii. Review and certify the Final Statement of Accounts.
- ix. Develop and maintain a Defects Liability reporting format that is both, concise and in accordance with the Employer's requirements.
- x. Hold regular scheduled meetings with the Contractors and Employer where all defects identified are recorded and a time schedule for remedying these shall be agreed.
- xi. Prepare monthly progress reporting to the Employer on the operational status of scheme.
- xii. Prepare Final Completion Report, including the design modifications (detailed analysis).
- xiii. Assist the Employer in the final handover and acceptance process, including all associated administrative work, such as the discharge certificate (Defects Liability Certificate) for the Contractor.
- xiv. Update Asset Register.

The Consultant is expected to provide in his proposal a work breakdown and schedule, which will enable him to accomplish the above among other requirements of the assignment.

### **3. ORGANISATION OF THE ASSIGNMENT**

#### **3.1 Contractual Arrangement**

The contract signed between the Client and the Consultant shall be a Time-Based Contract.

##### **3.1.1 Preparation of Financial Proposal**

The Consultant shall prepare one financial proposal separated into three sections, as follows: (i) costs for supervision of the construction of Uunyama Irrigation Scheme in Gulu/Amuru districts, (ii) costs for supervision of the construction of Namalu Irrigation Scheme in Nakapiripit district and (iii) costs for supervision of the construction of the Sipi Irrigation Scheme in Bulambuli District.

However, for staff that will work simultaneously on all three assignments, i.e. the Team leader, Resident Engineer, Geotechnical/Structural Engineer, Hydraulic Engineer, Environmental Specialist, Social Development Specialist and Land Surveyor, their staff time should only be costed under the supervision of Uunyama Irrigation Scheme. Under the section for the supervision of the construction of Namalu and Sipi Irrigation Schemes, these staff should be given zero hours where more time can be added if necessary, for example in case the construction of Uunyama Irrigation Scheme is completed before the completion of the Namalu and Sipi Irrigation Schemes.

#### **3.2 Liaison with Client**

MWE shall nominate members to constitute a contract management team headed by a Contract Management Team leader. The Contract Management team shall carry out all contract management oversight activities, supervisory roles, and review, sign-off and approval of consultant's reports. It will be the consultant's duty to maintain close contact with the Contract Management Team leader on all aspects of work. As a matter of principle, all formal communications relating to the work will be directed to the attention of the Contract Management Team leader.

MWE shall nominate an engineer who shall be the Clients’ Resident Supervisor, responsible for the day-to-day monitoring of the project activities. As such, the engineer shall closely work with the consultant during the supervision phase as well as the pre appraisal phase to ensure that all the technical requirements of the project are fully met. In particular, the engineer, under the guidance of the Contract Management Team leader, shall review and provide the Client’s input, comments and guidance on the work plans, methodologies and reports prepared by the consultant for quality assurance and achievement of set objectives. The MWE shall also assign a resident sociologist and environment safeguard specialist responsible for supervision of EHS and social aspects on the project.

### 3.3 Firms Qualifications, Logistical Setup and Staffing

The Consultant shall demonstrate experience in carrying out at least two (2) similar assignments in the last 10 years. Similar assignments are defined as those for undertaking construction supervision for water storage dams and bulk conveyance systems and irrigation distribution networks/systems: lined canals or pipelines of a value of at least US\$ 1.35 million.

Within the technical proposal, the consultant shall elaborate on the envisaged logistical setup and deployment of appropriate skills for the execution of the assignment. The consultant shall present the staffing schedule in a manner that clearly shows the stage and duration where each of the proposed team members is planned to be involved in the project.

An organogram reflecting the responsibilities of each staff member and line management setup of the proposed team shall be part of the proposal. It is recommended that the consultant integrates local expertise into the project execution team.

In the course of implementation of the assignment, all the proposed personnel must be available for this assignment. Staff changes shall not be accepted, except in exceptional circumstances (and at the discretion of the Client).

Table 1 shows the required personnel and the estimated time inputs for the respective Assignments. As a minimum, the key personnel shall be required to undertake this assignment within the stipulated timeframe. The Consultant is free to propose additional staff beyond the minimum stipulated and also propose additional time, provided a clear justification is provided in the technical proposal.

**Table 1: Required Personnel and estimated Time input**

Expert	General experience (years)	Specific experience (years)	Estimated Time input (Man-Months)
<b>1. Key Staff</b>			
i. Project Manager	15	10	38
ii. Resident Engineer	15	10	50
iii. Geotechnical/Structural Engineer	10	5	20
iv. Hydraulic Engineer	10	5	20
v. Land Surveyor	10	5	36
vi. Environmental Specialist	10	5	36
vii. Social Development Specialist	10	5	36

<b>2. Mandatory Non-Key Staff</b>				
i.	Assistant Resident Engineers (3No.)	7	5	114
ii.	Clerk of Works – (6No.)	5	3	216
<b>Total</b>				<b>566</b>

**Table 2: Staffing Requirements**

The consultant’s team shall include, but not be limited to the following key professionals and experts. Each expert shall have a university degree in their specific discipline, corporate registrations with respective professional bodies, practicing certificates, professional indemnity insurance and excellent track records on the implementation of projects of similar nature.

<b>Key expert</b>	<b>Core role</b>	<b>Minimum Overall experience</b>	<b>Minimum Related experience</b>
Project Manager	Project management for the consultancy contract assignment, coordination and review of report documents. Review contractual claims referred by the Resident Engineer.	15 years	10 years
Hydraulic Engineer	Supervise the construction of major hydraulic structures and perform design improvements as necessary.	10 years	5 years
Geotechnical/Structural Engineer	Supervise the major geotechnical works for foundations of major earth works, hydraulic structures and building structures during construction and perform design improvements, drawings for modifications as necessary	10 years	5 years
Social Development Specialist	Ensure that Cross-cutting Safeguards issues are identified and integrated (HIV and AIDS, Gender, RAP, OHS, Environmental issues etc.) in safeguarding against social and cultural consequences of project works. Ensure that appropriate mitigation measures are implemented for vulnerable individuals (Orphans, elderly, widows, HIV affected persons etc.), households and communities integrated in environmental, Resettlement Action Plan (RAP), and other social plans.	10 years	5 years
Environmental Specialist	Ensure that all environmental and issues are adequately and professionally addressed at all stages of the works and in a timely manner. Ensure that the Contractor works within the environmental and social frameworks as detailed in the project’s Environmental and	10 years	5 years

Key expert	Core role	Minimum Overall experience	Minimum Related experience
	Social Impact assessment (ESIA)/Environmental and Social Management Plan (ESMP) and the Resettlement Action Plan (RAP), and compliance with the relevant National policies and legal Framework.		
Resident Engineer	<p>Act as primary point of contact for supervision of the construction contract, establish communications protocol for those involved with the works contract, on-site supervision, management and administration of construction, enforce compliance with all contracts assigned, monitor contractor's quality control activities and take appropriate action with the contractor to assure compliance with the quality control clauses of the contract, prepare and implement a quality assurance plan to assure compliance with contract plans and specifications in accordance with regulations, supervise project progress and timely completion, ensure that all materials and equipment installed by the contractor meet the contract requirements, recommend improvements in work which will result in total quality management and life cycle savings, issue modifications within the monetary limits, process contractor payment estimates promptly after verifying their accuracy, increase skills and capabilities of assigned personnel through appropriate training.</p> <p>Managing contractual claims due to delays and disruptions.</p>	15 years	10 years
Assistant Resident Engineers (3No.)	Act as an assistant to the Resident Engineer's supervision duties in relation to the works contract	7 years	5 years
Land Surveyor	Topographical survey verification for hydraulic structures, the targeted irrigation command area, profile of the rivers and conveyance canals and drains	10 years	5 years
Clerk of Works (6No.)	Confer with the Engineer and assist in interpretation of specifications and drawings; inspect all materials on site; responsible for	5 years	3 years

Key expert	Core role	Minimum Overall experience	Minimum Related experience
	the inspection of the workmanship, materials, methods and practices of contractors and/or crews engaged in construction; assist in the review of plans, specifications, and designs submitted by contractors; ensure that construction work schedules are maintained; responsible for continuous inspection during construction and to ensure adherence to all specification and drawings and site instructions; monitor and review the work of contractor's personnel; inspect the daily site records and ensure their completeness and adequacy; assist with verification of works executed and measurement of completed works.		

#### 4. DURATION OF THE ASSIGNMENT

The duration of the Consultancy Services shall be fifty (50) Calendar months disaggregated as follows: (i) pre-construction appraisal phase (2 calendar months); (ii) construction supervision phase (36 calendar months) and (iii) defects liability phase (12 calendar months)

It is the responsibility of the Consultant to establish a detailed work program within the above time estimates. The staff time inputs shall accordingly be provided in accordance with the Consultant's professional judgment and knowledge of the local conditions and needs.

#### 5. REPORTING AND MEETING REQUIREMENTS

##### 5.1 The Consultant Shall Report to the Following

The Component Coordinator – Agricultural Infrastructure Development (FIECOC 3)

Ministry of Water and Environment

Water for Production Department

Plot 3-7, Kabalega Crescent, Luzira, Kampala, Uganda

##### Reporting Requirements – General

The Consultant shall hand over all data collected during the course of the assignment to the Client in formats approved by the client. Furthermore, all calculation sheets must be made available to the Client at the end of the project and, on request, at any stage of the project.

### **5.1.1 Reporting Requirements – Pre-Construction Appraisal Report**

During the course of each of the assignments, the Consultant shall submit the following reports whose minimum requirements under each are also elaborated.

This report shall present:

- i) **Work Program Analysis** – include the adequacy of the detailed work program to ensure consistent, realistic and timely completion of the defined scope and desired quality through Critical Path Analysis.
- ii) **Resource Assessment** – include resource procurement scheduling, utilization and reliability, optimisation of productivity and efficiency to achieve target outputs and milestones of detailed works program.
- iii) **Construction Risk Management Plan** – this shall elaborate the identification, analysis/assessment, response and mitigation/minimization of potential risks to the construction project works including unforeseen conditions and environmental hazards.
- iv) **Construction Management System** – elaborate the construction management protocols, obligations, responsibilities, procedures for notices, communications, site documentation, reporting and approvals (on-site and off-site).
- v) **Safeguards Review** – including the status of compliance with legal, health, safety and all safeguards and a review of the Contractors ESMPs and ESAP stipulating procedures, tools and methods to be followed for the construction works.
- vi) **Quality Control and Quality Assurance System** – shall elaborate the specific quality control mechanism and quality assurance system to be established.

### 5.1.2 Reporting Requirements – Construction Supervision phase

- i. **Monthly construction progress reports:** The monthly progress reports shall state the status of project implementation (i.e., actual vs. planned physical progress; actual vs. planned expenditures), financial information, all agreed and all new variation and compensation events, all issues requiring client attention, environmental and social safeguards, health and safety information, and other information that may have an impact on project progress. The report shall include the Engineer's opinion of the current physical progress, quality of works and future prospects on timely completion and costs. The report shall include a Gantt chart, a detailed works schedule with resources inputs, productivity rates and outputs for each works activity. It shall also include photographic evidence of progress. In addition, the report shall project cash flows and work progress over the next three months.
- ii. **Substantial works completion report:** The substantial completion report shall state the project scope, principal activities by the consultant and the contractor (including deployment of resources during project implementation), the contractor's performance, all project relevant observations of the consultant, major issues that were encountered during project implementation and how these were solved, the project schedule citing all delays if any, and financial information. Most important, the substantial completion report shall include a list with all snags to be addressed during the Defects Liability Period, if any, and propose a time schedule for addressing the issues that have been identified.
- iii. **Operational manuals:** The consultant shall ensure that suppliers/manufacturers / the contractor submit all operational manuals to the client in the formats and numbers of copies specified agreed at substantial completion. In addition, all equipment supplied including those from abroad shall be accompanied by warranties and guarantees for at least ten (10) years.
- iv. **As-built drawings:** The supervision consultant shall submit all 'as-built drawings to the client in the format and numbers of copies specified at substantial completion.
- v. **Asset register update:** The supervision consultant shall collect data on all rehabilitated and new assets for updating the client's asset register for each of the schemes. The software used for this purpose shall be agreed with the client. Data on the location of all civil structures shall be handed to the client as in ArcView GIS, or a format agreeable to the client.

- vi. *Hydraulic models and associated design modification reports:*** If found necessary and if agreed by the Client, the Consultant shall build a hydraulic model of the irrigation scheme infrastructure. A model shall be built as part of the project. The Consultant shall submit a ‘model build and verification report’, all calculations sheets, and all hydraulic models (verified model, needs model, and options models). The hydraulic models shall be in software that is to be agreed with the client.
- vii. *Safeguards Reports:*** Shall state the periodic compliance to all legal, health, safety and all safeguards requirements. The evaluation of the ESMP shall be presented indicating the potential impacts and measures undertaken to mitigate or minimize their effects on a monthly basis and for the entire construction period.
- viii. *Incident Reports:*** The consultant shall be required to be part of the reporting of incidents to the client as per the classification guidance provided in Annex 4

### ***5.1.3 Reporting Requirements – Defects Liability Phase***

During the Defects Liability Phase, the consultant shall submit reports as stated in Table 4. The reports shall, as a minimum, meet the following requirements:

#### ***i. Quarterly Monitoring Reports***

The interim progress report shall state the progress of the contractor on addressing items on the snag list, all observations on the performance of the project installations, system weaknesses and defects, and warranty issues. In addition, the report shall report the consultant’s and/or the contractor’s progress on the undertaking of staff training. The reports shall also include progress on safeguard management including provisions in abstraction and discharge permits and grievance management.

#### ***ii. Completion of Training Report***

The completion of the training report shall state the training obligations of the Consultant and the contractor, as agreed with the client, the type and duration of training activities undertaken, the number of participants in each training and their professional background, training outputs and achievements, as well as recommendations for further / continued training if any.

#### ***iii. Final Completion Report***

The final completion report shall include the same type of information as outlined for the ‘substantial completion report’. In addition, it shall show the status of all outstanding actions that were to be completed during the Defects Liability Period.

## Summary of Reporting Requirements

As indicated in **Tables 3 below**, the Consultant will be required to produce and submit the following principal reports and documents in the quantities and timing indicated. At each reporting stage, the Consultant shall also be required to submit to the Client an electronic copy, using the software specified in **Table 3 below**:

**Table 3: Summary of reporting requirements**

Description	Timeline for submission from contract effectiveness	No. of hard copies	Electronic copies to MWE contact
<b>Construction Supervision</b>			
Pre-Construction Appraisal Report	By the end of month 2	4	Word; Excel (all tables), MS Project (time schedules)
Monthly construction progress reports	Monthly from the commencement of works	4	Word; Excel (all tables), MS Project (time schedules)
Substantial construction works completion report, including the following; i. Operations Manuals ii. Assets register iii. Hydraulic Models iv. As-built drawings	By End of month 36	4	Word; Excel (all tables); Epanet (Hydraulic models); CAD (all drawings); ArcViewGIS (location of all new & rehabilitated assets)
Defects Liability Monitoring report (quarterly)	Quarterly starting from the commencement of Defects Liability period	4	Word; Excel (all tables)
Final completion report and completion of training report	One month after completion of Defects Liability period	4	Word; Excel (all tables)

## 5.2 Stakeholders Engagement and Involvement

For ensuring organizational and stakeholder wide appreciation and ownership of the project outputs, the consultant shall be required to organize monthly site meetings for the presentation of reports and review of the progress of works to key stakeholders comprising of Central and Local Government officials and farmers' representatives to be held at the Contractor's site camp.

During Construction Phase, monthly site meetings will be conducted. The site meetings will be held at the consultant's project site office. Relevant stakeholders invited to the site meetings will

include District representatives, community leaders, and the Client's representative. The meetings will entail field visits to the project construction sites conducted and coordinated by the consultant and a sit-down discussion session chaired by the client, following COVID 19 SOPs and guidelines. The number of people participating in the site visit and meetings may be limited to observing COVID-19 SOPs as well. The consultant will be responsible for arranging meeting venues.

## **6 DATA TO BE PROVIDED BY THE CLIENT**

The Client will provide free of charge the following existing information, data, reports and maps in the custody of the Client and will assist the Consultant in obtaining some of the relevant information and materials from governmental institutions and state authorities as far as possible.

The data shall include;

- i) Engineering studies, feasibility study and detailed design reports and tender documents;
- ii) NEMA Approval Certificates

The information, data, reports, etc., will be available for the consultant's unlimited use during execution of the proposed services.

## **7 CAPACITY BUILDING**

For purposes of capacity building and ensuring adequate direct involvement of the client in delivering the final project objectives, the client will assign staff that shall be agreed upon with the consultant prior to commencement of the consultancy services.

The Consultant shall work with and train designated staff with the aim of developing capacity and knowledge transfer. Training will include key areas related to the assignment such as field investigations, training in software and tools used in project management, training in the application of FIDIC contracts for construction projects and operation and management of farm irrigation systems etc. The training measures are aimed at improving the performance of the designated technical staff. The Consultant shall propose training topics in the technical proposal which will be further defined during consultative meetings with respective entities. For tendering purposes, the tentative number of individuals to be trained is 10No. Engineers.

The proposal shall include the proposed approach and methodology for the knowledge transfer throughout the assignment, the proposed training obligations of the consultant, the type and duration of training activities to be undertaken, the optimum number of participants in each training, methodology for monitoring and evaluation of trainees, and any post-training support and resources.

The consultant in consultation with the Client will organize site visits, inspections and witness testing.

## **8 SERVICES AND FACILITIES TO BE PROVIDED BY THE CONTRACTOR**

Upon commencement of the works contract, the Contractor will provide the following services to the supervision consultant:

1. A fully furnished site office.
2. Survey equipment.
3. In-situ soil testing laboratory equipment
4. Transportation vehicles as specified for official work of the Consultant.

The Consultant will meet the cost of the provision of transport during the pre-construction appraisal stage (up to nine months) and should cost for them if deemed necessary by the consultant.

## **9 ACTIONS REQUIRING CLIENT CLEARANCE DURING CONSTRUCTION SUPERVISION**

The Consultant shall note that taking any action under the civil works contracts designating the Consultant as “Engineer” for which action pursuant to such civil works contracts to the written approval of the Client as “Employer” is required for the following actions:

1. Use of provisional sums
2. Variations to works that result in a cost greater than 0%
3. Location/ siting of Workers’ Campsites
4. Stone Quarries
5. Construction ESMPs developed by the Contractors

## **10 ENVIRONMENTAL AND SOCIAL POLICY**

The client has an Environmental and Social Policy that will be adhered to during the implementation of the project. The policy shall be provided to the Consultant.

## **11 CODE OF CONDUCT**

The Consultant shall develop a code of conduct for their staff to adhere to. The code of conduct shall be acceptable to the Client. The Code of Conduct shall be signed by each Consultant’s personnel including key experts, non-key experts and support staff to indicate that they have:

1. received a copy of the code;
2. had the code explained to them;
3. acknowledged that adherence to this Code of Conduct is a condition of employment; and,
4. Understood that violations of the Code can result in serious consequences, up to and shall