

**REQUEST FOR EXPRESSIONS OF INTEREST
(CONSULTING SERVICES - FIRMS SELECTION)**

HASHEMITE KINGDOM OF JORDAN

JORDAN WATER SECTOR EFFICIENCY PROGRAM

IBRD Loan No. 9560-JO, CFF TF No. TF0C1892

Assignment Title: Rehabilitation of the Internal Water Networks and House Connections in AL Mearad District- Jarash.

Reference No.: JO-YWC-005-CS-CDS/2024

The Ministry of Water and Irrigation has received financing from the International Bank for Reconstruction and Development (World Bank), the Agence Française de Développement (AFD) and Global Concessional Financing Facility (GCFF) in the amount of US\$300,000,000 to be managed by the World Bank, toward the cost of the Jordan Water Sector Efficiency Project, and it intends to apply part of the proceeds to payments for consulting services to be procured under this project.

The consulting services (“the Services”) provide professional technical services to support activities that will pave the way for the Ministry of Water and Irrigation (MWI) & Yarmouk Water Company (YWC) to effectively plan and manage water networks, as public resources, and enable the provision of better-quality services alongside them, including better management and maintenance of water network. The aim of the assignment is to: to facilitate the smooth execution of a project by meticulously preparing engineering studies and tender documents, supervising works contracts, and ensuring compliance with approved designs and technical standards. The objective encompasses overseeing provisional taking-over and defects liability periods, including inspections, certifications, and reporting. Emphasizing adherence to schedules, budgets, and environmental standards, the project also prioritizes gender equality by actively promoting the inclusion of women in the workforce and fostering a safe, inclusive workplace environment.

The TOR full version can be found on the Yarmouk Water Company (YWC) website at the following link <http://www.yw.com.jo/Tenders.aspx>

The Yarmouk Water Company (YWC) now invites eligible consulting firms (“Consultants”) to indicate their interest in providing the Services. Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services. Consultant Brochures may also be included in the EOI. The shortlisting criteria are:

1-Experience and Core Competency:

The Consultant must demonstrate experience and competency in the design, rehabilitation, and supervision of water networks and house connections. The firm should present up to five (5) similar projects completed within the past fifteen (15) years in regions with comparable environmental, social, and economic conditions. Additionally, the Consultant should provide an overview of its core services, relevant certifications, and expertise in water infrastructure, highlighting technical capacity, innovative solutions, and best practices in managing assignments of similar complexity.

2-Financial Capability

The Consultant must provide financial statements for the past three (3) fiscal years, demonstrating financial stability and the capacity to undertake the assignment.

Include proof of liquidity, profitability, and sufficient working capital to manage the contract.

Net profit should be specifically highlighted as part of the financial statements to indicate the firm's financial health.

3-Local Knowledge and Capacity

The Consultant must demonstrate familiarity with local laws, regulations, and environmental standards, as well as the capacity to engage with local stakeholders and authorities.

It is preferable to limit the EOI to a maximum of 50 pages.

Key Experts will not be evaluated at the shortlisting stage.

The shortlist will contain 6 to 8 firms.

The attention of interested Consultants is drawn to Section III, paragraphs, 3.14, 3.16, and 3.17 of the World Bank's "Procurement Regulations for IPF Borrowers" November 2020 ("Procurement Regulations"), setting forth the World Bank's policy on conflict of interest.

Consultants may associate with other firms to enhance their qualifications but should indicate clearly whether the association is in the form of a joint venture and/or a sub-consultancy. In the case of a joint venture, all the partners in the joint venture shall be jointly and severally liable for the entire contract, if selected.

The Applicant's attention is drawn to the following:

- National consulting engineering firms satisfying the requirements as defined in this request for Expression of Interest and the attached ToR and classified as 1st grade –A in water and sewage and 1st grade A in the field of environment by government tender department.
- a. International consulting firms satisfying the requirements as defined in this request for Expression of Interest and the attached ToR. If awarded, the international consultant shall register with the relevant authorities such as (Ministry of Housing and Public Works, Jordanian Engineers Association, Jordanian Contractors Association, Ministry of Industrial and Trade, ...etc.);
- b. A Joint Venture of national and international consulting firms or an international consulting firm with a local Sub-Consultant, all satisfying to the requirements under points a and b. The national consulting firm, regardless of whether JV member or Sub-Consultant, shall also meet of the requirements mentioned under a) as applicable.

Shortlisted Consultants will be invited to submit their proposals, upon which a Consultant will be selected in accordance with the (QCBS) described in the "World Bank Procurement Regulations for IPF Borrowers", dated **November 2020**" and to be specifically set out in the Request for Proposals.

Further information can be obtained in writing through the email address below at the address below during office hours (8:00 am to 4:00 pm Jordan Time).

Expressions of interest must be delivered in a hard copy to the address below and by email(s) by October 31, 2024, at 12.00 noon Jordan time.

Recipient(s):

To Bassam Jarboo, Procurement Manager

Email: bassam_jarboo@yw.com.jo

To Mr. Abdelhadi Bataineh, Procurement Officer

Email: abdelhadi_bataineh@yw.com.jo

with a copy (cc) to Eng. Dalal Eliwah, PMD Director

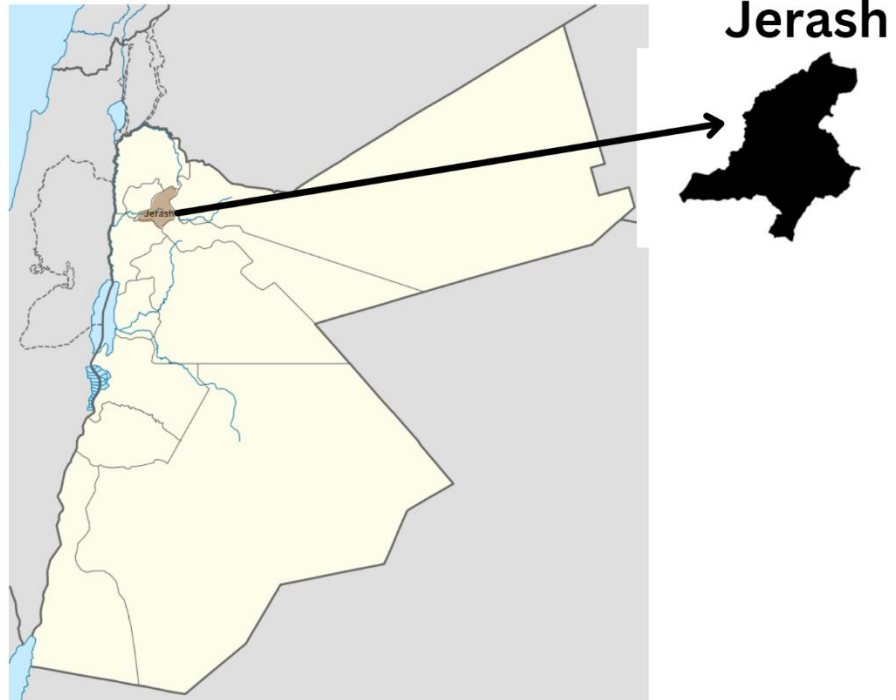
Email: dalal_eliwah@yw.com.jo

Address: **Tenders and Procurements Department EOI Title – Bidder Name**
Yarmouk Water Company Irbid, Baghdad St. P.O. Box 3798 Irbid 21110 Jordan

YW General Manager
Eng. Mohammad Amirah

HASHEMITE KINGDOM OF JORDAN
Ministry of Water and Irrigation
WATER AUTHORITY OF Jordan
Yarmouk Water Company (YWC)

JORDAN WATER SECTOR EFFICIENCY PROGRAM
Loan No. 9560-JO



JO-YWC-005-CS-CDS-
Terms of reference

CONSULTANCY SERVICES

FOR THE PREPARATION OF DETAILED DESIGN AND CONSTRUCTION SUPERVISION

For Rehabilitation of the Internal Water Networks and House Connections in AL Mearad District- Jarash.

JORDAN- JARASH
AL MEARAD District
October 2024

A. BACKGROUND

The Ministry of Water and Irrigation has received financing from the International Bank for Reconstruction and Development (World Bank), the Agence Française de Développement (AFD) and Global Concessional Financing Facility (GCFF) in the amount of US\$300,000,000 to be managed by the World Bank, toward the cost of the Jordan Water Sector Efficiency Project, and it intends to apply part of the proceeds to payments for consulting services to be procured under this project.

The World Bank funded project will have the following components:

- **Component 1: Sustainable Non-Revenue Water (NRW) Reduction**
- **Component 2:** Increased energy efficiency and reduced energy supply costs
- **Component 3:** Water security measures to underpin efficiency improvements
- **Component 4:** Institutional strengthening for water sector Efficiency
- **Component 5:** Contingency Emergency Response

- Component 1 of the project “Sustainable Non-Revenue Water (NRW) Reduction - Aims at (i) rehabilitation or replacement of the water supply network including reconfiguring the network into hydraulically isolated District Metered Areas (DMAs), replacement of household connections, installation of customer and bulk meters, regulation and maintenance of water pressure within the network, and systematic leakage identification and repairs, and (ii) support to preparatory studies and activities for NRW sub-projects.

- The works consist of the following parts:
 - a) Sustainable non-revenue water reduction
 - b) Modernized systems for sustaining NRW reduction
 - c.) Community engagement to improve financial sustainability, collections efficiency, and demand control

A Project Management Unit (PMU) is established at the (Jordanian water companies / YWC) over the implementation period of five years. The PMU shall be responsible for the management of project activities including the fiduciary operations, contract management and the administration of the projects funds as well as implementation and monitoring of the environmental and social requirements and instruments.

The current Terms of Reference (ToR) are proposed under Component 1 of the project –NRW and will describe the assignment’s requirements and objectives.

B. PROJECT LOCATION AND DESCRIPTION

The project is located in Jerash Governorate in northern Jordan, approximately 45 km from Amman, the capital city. This location is about an hour's drive from Amman.

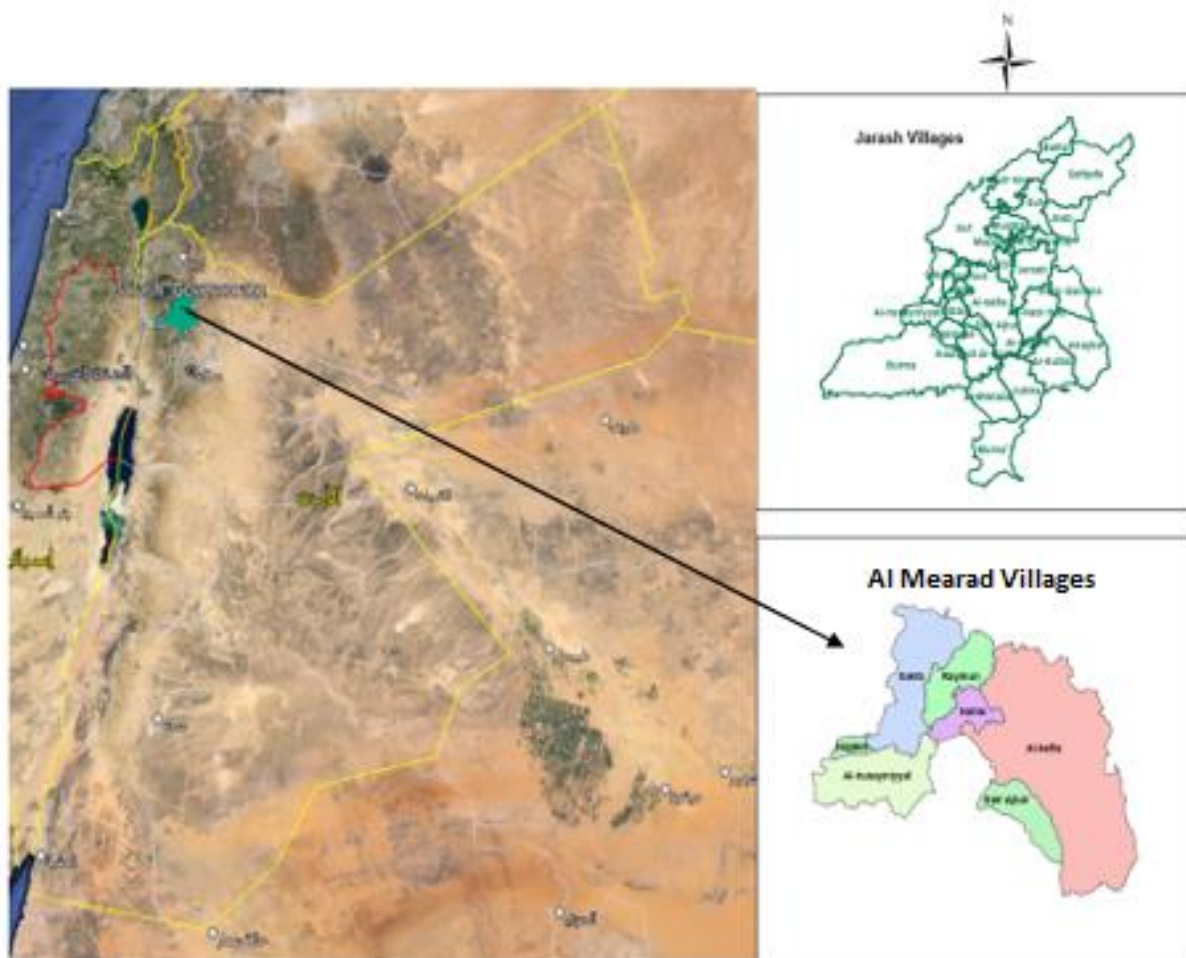
The Al Mearad District is a cluster of villages west of Jarash, including the larger villages of Sakib, Raymun, Al Kettah, and Nahla, as well as smaller villages such as Najda and Al Husayniyyat, these villages are roughly 15

km from the Jarash city center, a 15-minutes' drive by car.

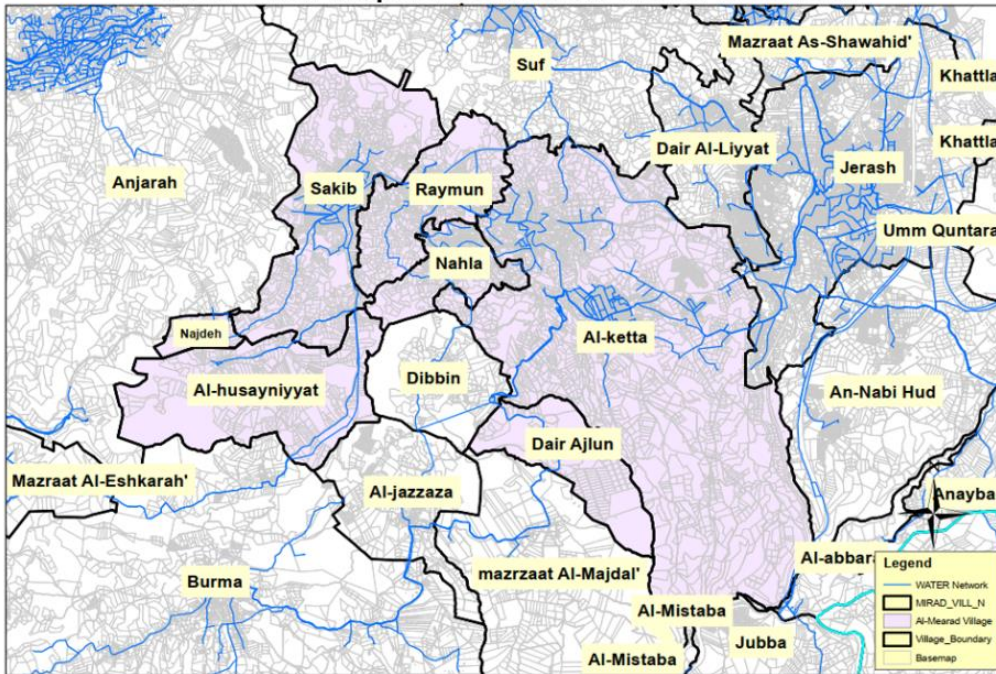
With a population of around 45,000, Al Mearad district is characterized by a predominantly mountainous terrain with significant variations in elevation, sloped areas, and challenging topography, including mountains and valleys. Requires careful planning and design to ensure efficient and reliable water supply. The district enjoys a moderate climate characterized by distinct seasonal variations. The existing water networks in these villages are outdated, necessitating comprehensive rehabilitation to improve the water supply system's efficiency and reliability.

The project of Rehabilitation of Internal Water Networks and House Connections in Al Mearad Villages," aims to enhance the water supply system Al Mearad villages. A critical objective of this project is to reduce Non-Revenue Water (NRW)

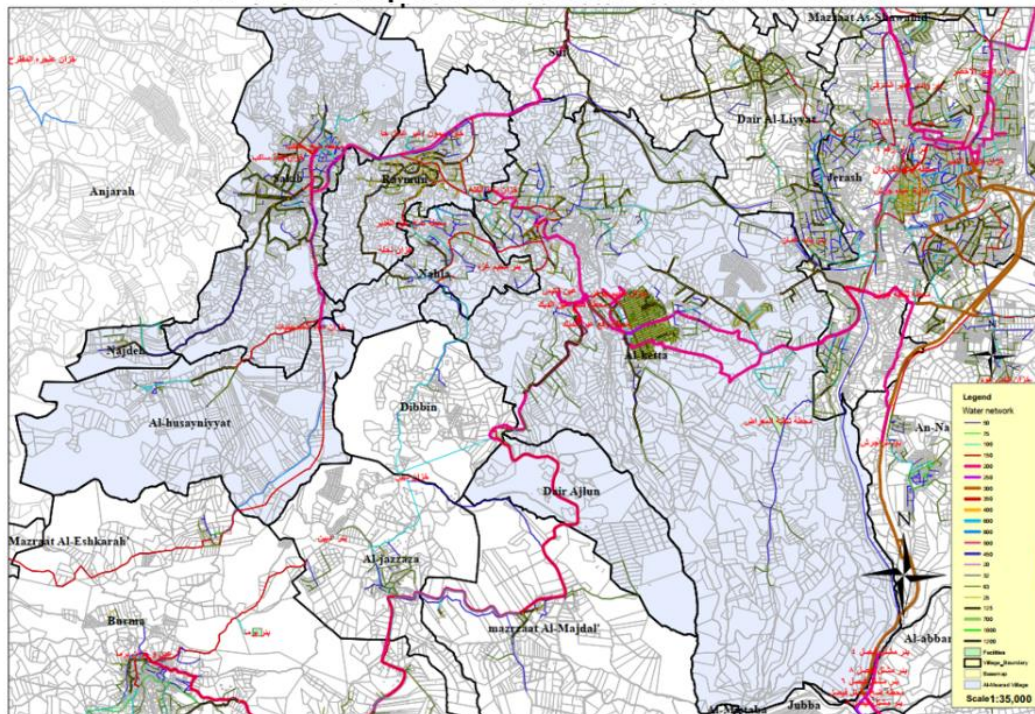
B.1: - Project overview Layout



Over View Map for Almearad Water Network



Over View Map for Almearad Water Network





C. OBJECTIVE OF CONSULTANCY SERVICES

The general scope of the consultancy includes, but not limited to, the following items :-

The consultant will use the master plan for Al Mearad villages developed by Orient Consultancy which is conducting a comprehensive survey and hydraulic analysis for current and future networks. The consultant must design Al Mearad District's water supply system. This comprehensive design must consider all aspects of the district's infrastructure, including internal networks and house connections. In the supervision phase, the consultant must prioritize the implementation of the most critical areas, ensuring these are addressed first within the allocated budget. Utilizing data from (YWC), the Consultant will design the rehabilitation of water networks and house connections in Al Mearad District. This includes conducting the ES assessment and prepare, consult, and finalize the environmental and social instruments as per the Environmental and Social Framework (ESF) and the national requirement, preparing bidding documents, and supervising implementation for compliance with design and quality standards. The project aims to upgrade water infrastructure, reduce Non-Revenue Water (NRW), and improve water resource management. Coordination with local authorities and stakeholders will ensure smooth execution and community engagement.

The consultant is expected to use this information as a reference to establish the new network design and to prepare a feasibility study and detailed design process. However, it is the consultant's responsibility to verify the accuracy of this data through field surveys and assessments as necessary.

- Down here you can find the existing network lengths: -

Mearad water network		
DIAMETER	Material	Sum_LENGTH/m
25	Ductile Iron or steel or Galvanized Iron	32813
32	PE (Polyethylene)	8352
50	Ductile Iron or steel or Galvanized Iron	45413
63	PE (Polyethylene)	95577
75	Ductile Iron or steel or Galvanized Iron	1275
100	Ductile Iron or steel or Galvanized Iron	34497
125	PE (Polyethylene)	34624
150	Ductile Iron or steel or Galvanized Iron	25518
180	PE (Polyethylene)	3422
200	Ductile Iron or steel or Galvanized Iron	51244
250	PE (Polyethylene)	1661
300	Ductile Iron	1184

THE CONSULTANT SHALL PROVIDE HIS SERVICE FOR THE FOLLOWING THREE TASKS:

- 1. DESIGN SERVICES**
- 2. PRE-CONSTRUCTION SERVICES**
- 3. SUPERVISION SERVICES**

Task 1: Engineering Studies and the preparation of Tender Documents.

Task 1 include the following sub-Tasks:

- Task 1.1- Data collection, topographic survey.
- Task 1.2- Engineering Design: Detailed designs of additional networks and house connections,
- Task 1.3 Environmental and Social Assessment
- Task 1.4 Preparation of Tender Documents

Task 1.1 Data collection and Topographic Survey

a- Data Collection

The Consultant shall review all existing studies and reports to assess the current condition of the infrastructural networks, public facilities, and services within Al Mearad District. This evaluation will include a detailed assessment of the internal water networks and house connections in Al Mearad villages. The Consultant will conduct necessary surveys to ensure that the routing of new water lines does not interfere with natural resources, agricultural areas, or other critical areas. Additionally, the Consultant will become familiar with ongoing or proposed studies and programs supported by the Government or bilateral cooperation agencies to ensure effective coordination.

The Consultant shall define and evaluate all necessary complementary site investigations, including topographical surveys and network analysis, and secure the Client's agreement before initiating these activities. This process will ensure that all relevant data is accurately collected and integrated into the feasibility study, design plans, and subsequent project phases, enhancing the efficiency and reliability of the water supply system while reducing Non-Revenue Water (NRW).

b- Topographic Survey

A comprehensive topographic survey will be carried out for the designated areas within the Al Mearad District to generate essential mapping for the project. This mapping will be produced at a scale of 1:2,000, including both plan views and longitudinal profiles, with a horizontal scale of 1:2,000 and a vertical scale of 1:200. The survey will include:

- **Control Network Establishment:** Setting up a network of inter-visible reference markers (traverse). Each marker will be precisely surveyed, leveled, and aligned with the national grid and datum to ensure accuracy.
- **Digital Mapping Production:** Creating digital maps and standard sheets at a scale of 1:2000. These maps will serve as the foundational base maps for the design and planning phases of the rehabilitation of the internal water networks and house connections, ensuring precise and reliable

data for subsequent project activities.

Task 1.2 Environmental and Social Assessment

1. Subproject was initially screened against the Project Exclusion list and the available information (please see Annex 3 the initial environmental and social screening for the subproject), the consultant shall conduct and finalize the initial environmental and social screening of the subproject as per the ES screening template in the ESMF for client and Bank review and clearance. The screening will identify the E&S instruments per each Environmental and Social Standards (ESS) and the consultant will draft those required instruments in accordance with the ESS's and the national regulations.
2. The consultant will submit the screening report for the ESSD and the Water Company for review, prior to submitting for the World Bank guidance. This process is further detailed here and in the ESMF:
 - a. For ESS1, based on the findings of the screening, the consultant shall prepare the more stringent requirement among the World Bank and the Ministry of Environment (MoEnv.) requirements (i.e. preliminary ESIA/ESMP full-fledged ESIA/ESMP, IEE/ESMP, detailed ESMP or ESMP checklist) , and identify the ES instruments in accordance with the ESF requirements; in accordance with ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS8, and ESS10, assessing each standard while applying the ESF mitigation hierarchy. This process is described in detail in the ESMF (The instruments' outline should also include all World Bank requirements in addition to the national ones according to the MoEv.) and will be completed in close coordination with the ESSD, the water company and upon guidance from the World Bank.
 - b. The consultant will draft E&S instruments per each ESS and the national guidelines and procedures and submit to the World Bank and where applicable to the Ministry of Environment for their clearances according to the ESMF.
 - c. The IA with the support of the consultant shall submit to the MoEv the approval application regarding the project activities, by which the MoEv will classify the risks according to Environmental Classification and Licensing regulation and its amendments No. 69 of 2020 and define the required ES instrument for high risk: comprehensive ESIA is required, for substantial (medium) risk a preliminary ESIA is required. Then the consultant shall furnish to the MoEv the requirements for the Environmental License (MOEV Clearance) and Environmental Permit before project operation. Considering the ES instruments drafts will be reviewed by the World Bank, the feedback from the Bank should be incorporated prior submitting the draft for the MoEnv approval.
 - d. Upon the completion of the E&S screening report, the consultant will identify what ES measures and plans that the contractor will prepare as part of its MSIP prior to commencing the works including but not limited to: Archaeological Chance Find Procedure (ACFP), Occupational, Health and Safety (OHS) Plan, Traffic management Plan (TMP) - Conceptual layouts, Waste Management Plan (WMP).
3. The ESIA/ESMP or IEE/ESMP or ESMP draft will be submitted for the World Bank review and clearance. The final draft will be cleared upon the satisfaction of the World Bank and the Ministry of Environment (if applicable).

4. The consultant is required to conduct stakeholder consultations as needed during the preparation of the different E&S instruments. The feedback received will be reflected in the different instruments before finalization. If a Resettlement Action Plan (RAP) or a Livelihood Restoration Plan (LRP) is required, it will be coordinated closely with the ESSD and the Water company, and in accordance with the requirements of the project's Resettlement Framework (RF). Necessary consultations with project affected people (PAPs) will be conducted as required.

Compliance and Considerations:

- **Environmental and Social Compliance:** Ensure that all submitted designs fully adhere to environmental, social, health, and safety (ESHS) considerations as specified in the Environmental and Social (E&S) management instruments. The Company must secure all required licenses promptly to ensure compliance with regulatory requirements.

Task 1.3 - Engineering Design: Detailed designs of additional networks and house connections,

Baseline Survey and NRW Measures:

- **Method Statement:**
Preparation and Submission: The consultant shall develop a detailed method statement outlining the approach for establishing a baseline for Non-Revenue Water (NRW) measures concerning distribution water networks and house connections.
Approval Process: Submit the method statement to the employer for review and approval. Ensure that the proposed methodology aligns with project objectives and regulatory requirements.
- **Execution and Installation:**
Implementation: Upon receiving approval, the consultant will supervise the approved method statement that will be implemented by contractor,
- **Design Outcomes:**
The contractor must define and quantify the expected reduction in Non-Revenue Water (NRW) from rehabilitating water networks and house connections, including projections and performance indicators.

a. Structural Design:

- **Structural Drawings:** The consultant shall prepare comprehensive structural drawings for all systems involved. These drawings must include complete structural designs and construction details for the internal water networks and house connections. Ensure that all aspects of the structures are accurately represented to facilitate effective implementation and compliance.

b. Water Supply Design:

- **Plan and Profile Drawings:** The design shall incorporate detailed plan and profile drawings of the water supply structures. These should be supported by standard details and include longitudinal profiles of all water lines. The drawings must adhere to the following scales:
Horizontal Scale: 1:2,000
Vertical Scale: 1:200

Task 1.4 Preparation of Tender Documents.

a- Final Engineering Report

The Consultant shall prepare a comprehensive Final Engineering Report that includes a detailed description of the project, outlining its scope and objectives. The report must present the results of the reconnaissance study, and all other relevant studies conducted during the project. It should provide a thorough summary of the design criteria that were adopted for the various components of the project, ensuring that all aspects of the design are clearly documented. Additionally, the report must include a detailed description of the recommended design, with specific technical details and justifications for the proposed solutions.

In addition to the general project description and design details, the Consultant will assist in integrating Environmental and Social Framework (ESF) requirements into the bidding documents. This involves drafting the ESF sections of the Standard Procurement Documents, ensuring that the Environmental and Social Management Plan (ESMP) is effectively incorporated, and integrating ESF requirements into the identified contracts under the Management and Supervision of Infrastructure Projects (MSIP). The Consultant will also identify the necessary expertise and qualifications for ESF personnel to ensure compliance with all relevant standards and regulations.

The integration of ESF requirements into the bidding documents and project plans is crucial to maintaining adherence to environmental and social standards throughout the project lifecycle. The Consultant's role will include providing any additional support needed to ensure that these requirements are thoroughly addressed and incorporated into all stages of procurement and implementation.

b- Design Calculation Notes

All design calculation notes shall be compiled in a specific volume.

c- Quantities Calculation Notes

All quantities calculation notes of the various trades of the Project shall be compiled in a specific volume.

d- Confidential Fair Price Estimate

Fair price estimate shall be prepared and presented in a separate confidential document. In the preparation of the fair price estimate, the Consultant shall conduct a study of current unit prices of various work items from the contracts currently under construction and current market prices of materials and labor. The breakdown of the unit prices shall be presented on MS Excel spreadsheets,

e- Tender Documents

The Consultant shall prepare tender and contract-documents for each section of the project according to the WB's SBD. The documents shall include the following:

Volume 1: Conditions of contract

This document shall include:

- a. Invitations to Bid
- b. Instructions to Bidders
- c. Qualification and Evaluation Criteria
- c. Forms of Bid
- d. Forms of Bid Bond and Performance Bond
- e. Form of Advance Payment Guarantee
- f. Schedule of Day Work Rates
- g. Schedule of Basic Rates
- h. Form of Contract
- i. General and Special Conditions of Contract
- j. Environmental, Social, Health and Safety (ESHS)
- k. Identifies Plans under the MSIP (Traffic Management plans typical details and layout using international standards, OHS plans, Archaeological findings, and other plans identified per ESS's
- L. ESMP

The consultant is required to prepare any further documents asked by the employer if needed. The Conditions of Contract shall be based on World Bank Standard Bidding Document. At such time, the Consultant shall coordinate with the Employer to finalize the conditions of the contract.

Volume 2: Specifications

The Consultant shall prepare all specifications required as requested by the Employer,

Volume 3: Bill of Quantities

The bill of quantities shall be prepared as requested by the Employer. Clearly notifying the costs of implementing the E&S plans and measures shall be embedded in each unit cost as set out in the SPD.

Volume 4: Contract Drawings

The drawings shall comprise the following:

- Plans and profiles of the selected areas at 1/2,000 horizontal and 1/200 vertical scale. The drawings shall include all design data for the construction of the water lines and house connections.
- Contract Drawings listed above shall be presented in this order:
- **COVER SHEET**

- LIST OF DRAWINGS & ABBREVIATIONS
 - **GENERAL DRAWINGS:**
 - GENERAL LOCATION PLAN
 - LAYOUT PLAN
 - TOPOGRAPHICAL
 - SURVEY PLAN
 - **HOUSE CONNECTIONS:**
 - HOUSE CONNECTION'S LOCATION PLANS
 - HOUSE CONNECTIONS DETAILS
- Structural details for rehabilitation of the internal networks where it is needed.

Task 2: pre-construction services

1) **Bids Review and Award:** Upon receipt of bids for the implementation of the works, the Consultant shall support the client throughout the bid evaluation process. This includes assisting with technical discussions during pre-bid meetings with bidders to clarify any aspects of the scope of the work. If the scope of the design requires any clarifications or amendments, the Consultant will prepare these details and ensure they are promptly communicated to the client. During the bid opening, the Consultant will be present to assist with the process and will document the proceedings by recording the minutes of the bid opening. After the bid opening, the Consultant will prepare a comprehensive bid evaluation report. This report will follow the format specified in the bidding documents and provide detailed information necessary to assess the responsiveness of the bids, including an evaluation and comparison of the submitted proposals.

Task 3: Supervision of works.

The Consultant shall develop a comprehensive Project Management Plan to guide the project through the construction stage, and the defects liability period.

The services to be provided by the Consultant shall include, but shall not be limited to:

- **Initial Site Handover:** Prepare the initial site-handing over certificate in accordance with the contract provisions, while YWC will be responsible for issuing it.
- **Construction Supervision:** Supervising the construction work to ensure full compliance with the contract requirements. This involves confirming that the contractor executes project activities with the highest level of care. The consultant must ensure that the contractor's work plan includes the necessary machinery, materials, skilled labor, and measures to complete the project within the specified timeframe and standards
- **Cost and Schedule Management:** supervise, monitor, and maintain cost estimates and planning schedules throughout the project.

- **Daily Supervision and Compliance:** Conduct daily supervision of work activities to ensure adherence to Environmental and Social (E&S) measures outlined in the Environmental and Social Management Plan (ESMP), referencing the Environmental and Social Management Framework (ESMF) and Labor Management Procedures (LMP). Perform monthly on-site audits covering environmental, social, health, and safety aspects.
- **Labor and Working Conditions:** Supervise the contractor's daily performance with respect to labor practices and working conditions.
- **Reporting:** Prepare a monthly report on environmental, social, health, and safety performance. Monitor and report on progress, including compliance with social and environmental requirements as specified in the ESMPs. Report and monitor incidents as per the Environmental and Social Commitment Plan (ESCP) requirements.
- **Complaints Management:** Administer a complaint log to register all received complaints, report them to the project owner, and provide details on how each complaint was addressed.
- **Contractor Coordination:** Coordinate contractor activities and manage claims and variations in consultation with the Employer.
- **Payment Certification:** Certify contractors' monthly and progress payment certificates.
- **Documentation:** Ensure that as-built drawings are prepared, and operation and maintenance manuals are reviewed and updated.
- **Contract Administration:** Administer the construction contract effectively and supervise the rectification of defects during the defect's liability period.
- **Final Certification:** Certify the final completion certificate in accordance with contract provisions.

2.1 PLANNING AND CO-ORDINATION:

a- Preparation of Detailed Program

The Consultant shall review the contractor's submitted detailed work plan, including his methodology for ensuring the quality of the works, and computerized program of all activities and resources for the execution of the work included in this contract. The Consultant's plan and program shall include all activities that interface or otherwise relate to the work being done by the different contractors or other involved parties, including required dates of receipt of data and construction drawings, submittal dates for the various documents, appropriate periods for review etc.

The program shall be prepared using project management software such as "Primavera" or similar compatible software approved by the Consultant and shall be constantly updated throughout the period of the contract.

b- Progress Monitoring-During Construction

To fulfill the above objectives, the Consultant shall for all contracts, inter alia: At all times take necessary measures and provide appropriate advice to the Client to enable the construction contract to be completed in a timely and cost-effective manner, in conformity with contract conditions and specifications.

The Consultant shall monitor the Contractor's works to determine progress on a monthly basis and ensure that the construction program is maintained and costs minimized by means of, but not limited to, the following activities:

- Review and, if in agreement, consent to the Contractor's proposed program of work to meet key dates established in the various tasks.
- Prepare and maintain progress programs for use in monitoring and reporting progress;
- Prepare consolidated monthly reports on physical and financial status, site meetings and contractual matters with particular reference to variation orders and contractors claims. The monthly reports shall deal specifically with monitoring and follow-up of agreed environmental and social mitigation measures and with the contractor's adherence to safety, health standards and anti-corruption measures as applicable under contract. Each monthly report should include recommendations if any, for action by the Client and the Contractor.
- Prepare control charts of the main activities and a project master schedule, indicating both past performance and forecasts for completion including time involved in each case.
- Analyze the variations of construction progress from the Contractor's program; and advise client in a timely manner.
- If and when progress falls behind program, develop in consultation with the Contractor, for approval by the Employer, appropriate modifications to programs and/or work methods to recover the original program.
- Ensure that the Contractor's reporting requirements identified in the management procedures developed by the Consultant are fulfilled.

c- Co-ordination

The Consultant shall organize co-ordination and site meetings with the Contractor and suppliers on a regular basis and as necessary. The Consultant shall conduct these meetings on behalf of the Client, take minutes and report to all concerned parties.

d- Identify and Protect Antiquities

The Consultant shall examine the "Archaeological and Historical Sites Survey" report prepared during the design phase to ascertain the probable location of antiquities which may be disturbed by construction of the works. If any antiquities are revealed during investigations of construction works he shall instruct the Contractor to take necessary measures to protect the antiquities and shall notify the Employer without delay.

e- Environmental and Social Management Plan.

Prior to construction stage, the Consultant shall review, provide feedback on, and approve site-specific ES documents developed by the contractor, including the CESMP. The CESMP should include all necessary plans such as method statements, HSE plan, WMP, TMP, and any other relevant plans as per the requirements of the ESF pertinent documents for the project.

During construction, the Consultant shall:

- Perform monitoring on ES specific indicators with reference to the project ESMF, and the metrics specified in the works bidding document.

- Conduct weekly site visits to monitor and evaluate the contractor's adherence to ES mitigation measures as outlined in the ESF documents, including but not limited to the ESMP, OHS plan, TMP, WMP, and ACF with reference to the ESMF and LMP. Upon identifying non-compliance, assess the associated risks and recommend corrective measures. Record these measures along with their implementation timeframe in the report. Follow up to ensure the implementation of corrective measures and report compliance.
- Ensure that the grievance mechanism of the project is implemented properly. This through ensuring if there is any complaint is submitted from any party and to whom is submitted and how it will be handled and closed. This is to be reflected in the monthly reports submitted to the employer (the WC/ESSD) and submit upon request to the World Bank.
- Assess any new impacts that emerge during the construction stage and propose mitigation measures based on the mitigation hierarchy in accordance with the ESSs. Provide feasible measures for their elimination, and if elimination is not feasible, propose mitigation measures to minimize risks and impacts, which should be implemented by the contractor.

2.2 COST CONTROL

a- Monitoring Contract Costs

The Consultant shall be responsible for monitoring of contract costs relative to budget. The consultant shall utilize a computerized Budget and Cost Forecast (BCF) system and shall prepare, with the Contractor, an estimate of the cost of the various contracts, and incorporate updated quantities, variation orders, dayworks, potential costs of claims, and projected expenditure from provisional sums. The estimated cash flow up to completion of the contracts shall be prepared, updated based on the revised contract costs, and submitted each month in line with the management procedures.

b- Claims Management and Variation Orders

The Consultant shall anticipate potential claims and shall take steps to mitigate their effect. The Consultant shall assess the need for variations to the Contract and any claims submitted by the Contractor, review their merit and, where appropriate, prepare variation approval requests and submit them to the Employer for approval prior to preparing variation orders and issuing them to the Contractor.

c- Certify Contractors' Monthly Statements

The Consultant shall process in a timely manner and, as appropriate, certify for payment the Contractor's monthly interim statements to ensure that such statements reflect work completed.

The statements shall be based on measurements on site. The measurements on site shall be made jointly by the Contractor and the Consultant. The consultant shall prepare and submit to the Client the final cost for the measured completed works.

2.3 RECORD KEEPING

a- Preparation of Reports

The Consultant shall prepare all necessary reports for progress and record purposes. The preparation of these reports shall include, but not be limited to, the following activities:

- Prepare and agree with the Employer appropriate formats and review and approval of these formats, if required, as work proceeds;
- Collect and check daily and shift reports from the Contractor for labor (disaggregated by type of job, gender, location and nationality of worker) and equipment in anticipation of preparing weekly and monthly summary reports;
- Keep records of all measurements and agreements and incorporate measurement data in monthly progress reports and cost monitoring systems;
- Undertake the correct and timely distribution of all reports;
- Minutes of site and co-ordination meetings shall be distributed within the three days following the meeting;
- Monthly progress reports will be standardized as per the developed management procedure. The Consultant shall follow these standardized formats;
- The Consultant shall prepare and/or supervise the preparation of cost reports, progress reports, construction schedules, estimates of monthly cash requirements, Contractor's estimates for payments, and such other reports and data as may be desirable or as may be directed by the Employer. Monthly construction progress reporting will use the "Earned Value" technique requiring the provision of an activity completion report for each contract with an "S" curve, and a tabular cash flow report.

b- As-Built Drawings and Completion Report

The Consultant shall be responsible for ensuring that the Contractor maintains at the site a complete set of "as-built" drawings for the Contract as the work proceeds. To this end the Contractor shall:

- On a set of working drawings maintain a continuous reproducible "as-built" record of the actual alignments, levels, dimensions etc. to which the works have been constructed;
- On completion of the construction of each structure/section, transfer all recorded changes to a CAD file (original CAD files to be supplied by designer), or prepare new CAD drawings as required;
- Prepare completion reports for all major structures or elements of the contract works, incorporating as-built records and drawings, within 60 days of issue of any taking over certificate. Completion reports shall also include details of construction methodology, test results, O&M recommendations etc.
- The Consultant shall audit on a monthly basis, and maintain audit records for review by the Client, the Contractor's performance in producing as-built details and completion reports.

c- Operating and Maintenance Manuals

The Consultant shall review detailed Operation and Maintenance Manuals prepared by the Contractor, finalize as appropriate and submit to the Employer.

The O&M manual shall include at least:

- Reference to all relevant design and other reports, specifications etc. in order to provide a complete bibliography on the structures and plant such that the operation and maintenance staff can understand the basis of their functions;
- Details of any problems encountered during construction which may have a bearing on the future safe operation and decommissioning of the facilities;
- Full operating instructions for all systems; drawings, diagrams, charts, notices etc. to facilitate understanding of safe operation and maintenance;
- A maintenance schedule and consumables required to give reliable operation of the facilities.

2.4 SUPERVISION OF CONTRACT WORKS

a- Project Manager Function

The Conditions of Contract for the construction contracts are based on WB Conditions of Contract and special conditions. The Consultant will be required to obtain specific approval of the Employer before taking certain actions.

b- Construction Works and Materials Inspections and Approvals

The Consultant shall supervise and inspect the construction works including, but not limited to, the following activities:

- Supervising and inspecting the works of the contractors and suppliers for completion of the contracts in accordance with plans and specifications;
- Monitoring environmental, social, and health and safety requirements, whether specified or not, and ensuring that requirements are fulfilled;
- Taking photographs during construction and installation and keeping a daily diary of construction activities;
- Supervising and approve all tests to be carried out by the Contractor and suppliers;
- Supervising and approve final evaluation of all measurements made by the Contractor including the provision of all necessary measurement instruments;
- Supervising the assembly, installation, preliminary tests, initial operation and preparation for commissioning of all machinery and equipment on site;
- Supervising through qualified inspectors jointly with the Employer the execution of the acceptance tests prior to convening the taking over committee and issuing the Taking Over Certificate;
- Preparing and submitting to the Employer inspection and test reports and certificates of acceptance;
- Supervising the commissioning of all structures and plant. The Consultant shall assist in the involvement of concerned operating staff, co-ordinate testing and commissioning programs and prepare taking over certificates;
- Administer dayworks as required;

- Follow up on the manufacturing of all equipment to ensure compliance with the specifications, including monitoring of certificates of origin, and supervise their delivery to ensure compliance with contractual time schedules;
- Follow up on packing, transportation and delivery, as well as temporary storage, and supervise the storage at site of all equipment, materials and supplies, together with ensuring that Letters of Credit are opened by the Contractor where appropriate;
- Promote a good working environment and monitor labour relations, living and community relations to be able to identify potential problems and solve them promptly as set forth in the various contracts.
- Enforce the maintenance and protection of traffic procedures and schemes as detailed in the drawings
- Enforce the Contract's Safety, Health and Environmental Regulations.
- Ensure that the Contractor complies with the contract in respect of insurance.

2.5 DEFECTS LIABILITY PERIOD

The objective of the services during the defects liability period is to oversee the maintenance activities during one year, by drawing the attention of the contractor on any defect and by inspection the remedial works. For purposes of carrying out these services the Consultant shall assign his Resident Engineer to make two visits (one Man Month input for both visits) to carry out the following;

- Inspections of Outstanding works and Remedying Defects
- Prepare and recommend to Client the issuance of Defects Liability Certificate
- Review and certify Final Payment Certificate
- Prepare Final Completion Report

REPORTING REQUIREMENTS FOR DELIVERABLES

The Consultant shall carry out all required inspections and studies for the successful implementation of the project and shall therefore submit a complete package of Plans, Specifications and Estimates (PS&E). The reporting language should be English.

The Consultant reporting requirements shall include but not limited to the following:

For Task 1: Engineering Studies and the preparation of Tender Documents.

- **Task 1.1- Data collection, topographic survey:**
 - Preliminary Assessment Report

- **Task 1.2- Engineering Design: Detailed designs of additional networks and house**

connections:

The Consultant shall carry out all required studies and designs for the successful implementation of the assignment and shall therefore submit a complete package of plans, specifications and estimates (PS&E).

➤ **Task 1.3- Environmental and Social Assessment:**

- Environmental & Social Safeguard instrument reports

➤ **Task 1.4 Preparation of Tender Documents:**

- Final Engineering Report (4 copies)
- Design Calculation Notes
- Quantities Calculation Notes
- Confidential Fair Price Estimate
- Final Tender Documents (10 copies): using the World Bank Standard Procurement Regulations.
- Volume 1: Conditions of Contract
- Volume 2: Specifications
- Volume 3: Bill of Quantities
- Volume 4: Contract Drawings
- All E&S instruments reports as defined under Task 1 (approved by the Client and cleared by the World Bank).

The Client shall first review and approve draft final documents submitted. Once these documents are approved, the Consultant shall submit the required number of copies of together with two soft copies on computer CD-ROM. The drawings shall be in AutoCAD version 2017 format or later and all text reports in MS Word and excel. Tender documents shall be submitted in editable format and in Adobe Acrobat PDF format.

For Task 2: Pre-construction services

After completion of the bid opening, the consultant shall prepare his bid evaluation report following the outline stated in the bidding document with sufficient details to determine the responsiveness of the bids and to evaluate and compare the financial bids of the responsive bids and provide price analysis of the lowest responsive bid. The consultant bid evaluation report shall be submitted in non-editable format and two (2) hard copies to the client.

For Task 3 : Supervision of works.

Reporting for Construction Period Services

INCEPTION REPORT

The Consultant shall submit the Inception Report within six weeks of commencement of the works contract. This report shall include results of the review of the contractor's work program, contractors E&S submittals and any modifications thereto, status of the contractor's mobilization, advance payment, Bank guarantees and any matter requiring the Employer's attention and action. This report shall be also being submitted in 5 copies.

MONTHLY REPORTS

The Consultant shall prepare monthly progress reports for the duration of the contract. These are to be submitted in 5 copies and should reach the Client not later than 10 days after the end of the month being reported on. Another (1) copy of the monthly progress reports will be sent directly to the financier (WB).

The format of the monthly progress reports shall be agreed with the Client. The report will include but not be limited to the following:

- useful information regarding the implementation of the contract allowing a technical and financial follow up of the project;
- recording of any agreed changes on the original envisaged technical solutions;
- major changes of quantities compared to contractual Bill of Quantities;
- suggestions for resolution of any technical and other problems (a separate section will be given to cover issues, problems and solutions) which occur and those affecting the progress of the work such as variation orders and claims of the contractors;
- financial status of both the construction and the supervision of the civil works;
- progress charts including percentages of completion of individual main work items and overall project/contract;
- weather information and charts; and,
- construction and supervision data.

Monitoring of E&S requirements which include, but are not limited to, assessment of the degree of compliance of the contractor to all Environmental and Social instruments but not limited to the Contractors' Environmental and Social Monitoring Plan (CESMP), Occupational Health and Safety (OHS), Traffic Management Plans (TMP), requirements of the archeological & Historical chance find procedure, The reporting shall cover implementation status of mitigation measures, results of environmental and social monitoring and evaluation, compliance with the environmental and social requirements including the Health and Safety measures, immediate reporting on any related incident/accidents. corrective actions implemented, records of any archeological & Historical artifacts found during construction, etc. A section on the Consultant progressing of the activities, including schedule at the site to conduct monitoring and evaluating of the ES work, and the planned activities.

QUARTERLY PROGRESS REPORTS

The Consultant shall prepare quarterly monthly progress reports for the duration of the contract following the same format of the monthly progress report and summarizing the past 3 monthly progress reports. These are to be submitted in 5 hard copies and 1 electronic editable version by email and should reach the Client not later than 10 days after the end of the month being reported on.

FINAL REPORT

The Final Report in five (5) copies to the Client and one (1) copy to the financier(s) shall be submitted no later than one month after the substantial completion of construction works. The report should enable the Client to know the type, quality and quantity of materials used and all the information which together with the as-built drawings (original and 6 copies) and specifications will help in the maintenance of the roads.

The report shall also include a summary of the principal difficulties encountered during construction and the means employed to overcome them, changes (if any) made in the original designs, modifications to specifications and conditions of contract, all variation orders, assessment of claims by the contractor, utilization of provisional and price variation and physical contingency sums, cumulative monthly payments to the Contractor, by date and number of payment certificate and break down into foreign and local currencies and including a similar payment schedule for supervision services. The details of the overall project costs (construction and supervision) with justification for any significant differences with the original shall be given in the final report.

Reporting for Defect Liability Period Services

Final Completion Report: Upon issuance of the defects liability and the final payment certificates, the Consultant shall prepare within 30 days the Project Final Completion Report in ten (5) copies to the Client and two (2) copies to the financiers (WB). The report shall include a separate section on proposed future maintenance activities and related arrangements for the road sections supervised.