

REQUEST FOR EXPRESSIONS OF INTEREST (CONSULTING SERVICES – FIRMS SELECTION)

Republic of Moldova

Moldova Water Security and Sanitation Project

Project No.: P173076

Credit No.: 7027-MD

Assignment Title: Construction Supervision services of the civil works contract for Improvement of Water Supply Services in Cahul and Vulcanesti Districts

Reference No. (as per Procurement Plan): MD-PIU-NORLD-346186-CS-QCBS

Date: April 22, 2025

The Government of the Republic of Moldova has received financing from the World Bank toward the cost of the Moldova Water Security and Sanitation Project (MWSSP), and intends to apply part of the proceeds for consulting services.

The consulting services (“the Services”) include supervision/administration of the implementation of civil and related works within the Works Contract that consist of:

- the construction of the water transmission line in Cahul and Vulcanesti districts;
- the construction of the water distribution systems in Pelinei (including Satuc village) and Gavanoasa (including Nicolaevca and Vladimirovca villages) communes (Cahul district) as well as Vulcanesti railway station (Vulcanesti district).

The total length of the water transmission main consisting of HDPE pipes with the diameters of up to DN400 is about 97 200,00 meters.

The design documentation also foresees the supply and installation on the water transmission main of the three (3) Containerised Pumping Stations and six (6) Containerised Chlorination Stations, as well as other equipment and materials, including SCADA.

The Project also foresees the construction of drinking water transmission main consisting of HDPE pipes in the communities of Pelinei, Gavanoasa, Vulcanesti Station, with the diameters of up to DN110 of the total length of about 67 000,00 meters. The Project also foresees supply and installation of the pumping station, water towers, water reservoirs, connection of consumers to the water distribution networks, and other works and materials.

The Consultant will be required to undertake the role of the “Engineer” as defined in the FIDIC (“Red book”). The Services to be provided by the Consultant will last about 39 months, divided in 2 Phases:

- **The first Phase** will include 1 month for pre-Commencement activities and 24 months of works supervision.
- **The second Phase** will include 12 months covering Defects Notification Period and 2 months for the Performance Certificate issue and other closing activities, final account and contract close-out. The second Phase will be subject to the successful performance of the Consultant in Phase 1 and provided the credit closing date is extended or other source of financing is secured.

The Consultant shall prepare technical and financial proposals for Phases 1 and 2 and will be evaluated for the aggregate price.

The detailed Terms of Reference (ToR) for the assignment can be found at the following link: <https://ondrl.gov.md/categorie/proiectul-saasm/anunturi-saasm/> or can be obtained at the email address given below.

The P.I. National Office for Regional and Local Development (NORLD) 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.

The shortlisting criteria are:

The Consultant must be a registered firm or association/joint venture of firms having experience, technical and organisational capabilities and qualified personnel to complete the assignment.

Core business and years in business: at least 10 years of experience in engineering and consulting services. As a proof of compliance, the consultant shall provide the following documents in the Technical Proposal (in case of JV must be provided for each partner): copy of the registration certificate; copy of articles of incorporation; list of completed projects as firm, incl. contacts for reference check – covering at least the whole period of the last 10 years.

Qualifications in the field of the assignment: at least 2 construction supervision assignments in construction of water supply, sewerage or thermal networks, irrigation or hydrotechnical installations (completion certificate issued) either alone or as a member of a JV with a minimum participation of 50% input during the last 10 years starting 1st of January 2014 and the deadline for submission of proposal; and at least 1 completed contract during the last 10 years in supervision of works under FIDIC conditions of Contract or other internationally recognized conditions of Contract.

As a proof of compliance with the above requirements, the Consultant shall provide list for related contract, incl. amounts, brief description of the assignment, contacts for reference check, copy of the main contract pages and Taking Over, letter of acceptance or reference letter from the Client.

Availability of human resources for the successful execution of the proposed assignment. Key Experts will not be evaluated at the shortlisting stage.

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” dated 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.

A Consultant will be selected in accordance with the **Quality and Cost-based Selection** method set out in the Procurement Regulations.

Further information can be obtained at the address below during office hours 09.00 to 17.00 local time in the Republic of Moldova.

Expressions of interest must be delivered in a written form to the address below (in person, or by mail, or by e-mail) by **May 12, 2025, 17:00 local time in Moldova**.

Contract address:

P.I. National Office for Regional and Local Development,
Moldova Water Security and Sanitation Project (PIU)

50, Capriana Street, 3rd floor, off. 325-327
Building of the Academy of Economic Studies, Block “C”
MD-2005, mun. Chisinau, Republic of Moldova
Tel.: +373 69131817
E-mail: tender@ondrl.gov.md
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Terms of Reference

for Construction Supervision services of the civil works contract for Improvement of Water Supply Services in Cahul and Vulcanesti Districts

1. INTRODUCTION

These Terms of Reference (ToR) describe the construction supervision (hereinafter referred to as the “Construction Supervision” or “CS”) services to be provided under the civil works contract for Improvement of Water Supply Services in Cahul and Vulcanesti Districts within the Moldova Water Security and Sanitation Project (MWSSP).

The Consultant will assume the role of the “Engineer” as defined in the FIDIC for the Works Contract and assist the Employer (Regional Development Agency South – RDA South) and the Client (MWSSP Project Implementation Unit at the National Office of the Regional and Local Development) with all aspects concerning contract administration, payments, and compliance with the environmental and social (E&S) requirements.

2. PROJECT BACKGROUND

2.1 Description of the Moldova Water Security and Sanitation Project

The Government of Moldova (GoM) is currently implementing a project supported by the World Bank (IDA) financing the **Moldova Water Security and Sanitation Project (MWSSP)**. The Moldova Water Security and Sanitation Project directly supports the Government’s commitment to Sustainable Development Goal No.6: to achieve universal and equitable access to safe and affordable drinking water, sanitation, and hygiene by 2030 through its Action Program and the National Water Supply and Sanitation Strategy 2014-2028.

The World Bank’s Water Security Diagnostic and Future Outlook¹ showed that there are several pressing challenges to Moldova’s water security, such as (i) inequalities in access, inadequate quality of water supply in small towns and weak performance of service providers; (ii) poor environmental health and environmental pollution due to lack of sanitation and wastewater collection and treatment; (iii) weak institutions, fragmented financing streams and unresolved reform areas which hinder programmatic delivery of services.

Access in water supply and sanitation (WSS) is constrained by large coverage gaps in rural areas, compounded by income status. Compared to other countries in the Danube region, the share of population with access to basic water and sanitation services in Moldova is low. The gap between urban and rural remains one of the largest in Europe and is one of the key water security issues the country is facing.

Household Budget Survey (HBS) (2022) data provide the picture on national access to a public piped water supply being 74 percent, with urban access at 95.7 percent and rural access at 60.9 percent². However, the water quality of rural piped system is often compromised and below drinking water quality standard. Those not served by public centralized systems rely on so-called self-supply, through private shallow wells. Around one in three people rely on self-supply for their drinking water with 80 percent of wells not compliant with drinking water norms (e.g. nitrates, e-coli).

¹ <https://openknowledge.worldbank.org/handle/10986/34809>

² NBS

In response to these challenges, the Project Development Objective (PDO) of the MWSSP is **to increase access to safely managed water supply and sanitation services in selected rural areas and towns, and to strengthen institutional capacities for water supply and sanitation service delivery.** Strengthening institutional capacities for water supply and sanitation service delivery refers to both national level planning and sector development capacities, as well as to improved operational efficiency and delivery at utility level.

The Project has four components:

Component 1: Increasing access to safely managed WSS services in selected rural areas and towns This component will develop new and rehabilitate existing WSS infrastructure and WASH facilities in rural areas and towns, thus expanding access and quality of services for households, businesses, and public institutions and supporting resilience. Component 1 supports climate adaption through (a) providing reliable centralized water supply protecting vulnerable households from drought and poor water quality; (b) improving wastewater systems, sanitation, and WASH facilities, reducing environmental exposure to pathogens exacerbated by flooding, particularly in towns facing frequent flooding; and (c) ensuring climate-resilient design of all infrastructure for robust functioning under extreme weather events. It consists of two subcomponents:

Subcomponent 1.1: Expanding access and quality of WSS services. This subcomponent will finance climate-resilient investments in towns and rural areas. This includes the following:

(a) **Water supply investments:** Expansion and rehabilitation of the regional water systems for water supply production and distribution, and service connections for local public administrations (LPAs) in selected districts, including the preparation of relevant technical studies and management documents; technical supervision; and citizen engagement activities. This refers to water supply infrastructure in two preliminarily identified subprojects, that is, regional water system expansion for LPAs in Cahul District and the ATU of Gagauzia (**the subject of this ToR**) and a regional water supply system with a surface water treatment plant in Riscani District. Many LPAs, particularly in the south (Cahul) as well as in the northern part along the Prut (Riscani), face shortages of water in the summer, with shallow wells/springs posing a challenge such as in the Prut cluster villages, in the Vulcanesti town, and other villages in Cahul District.

(b) **Wastewater investments:** Expansion and rehabilitation of wastewater systems in selected towns, including the construction and rehabilitation of sewer networks and service connections, and the construction of new wastewater treatment plants, including the preparation of relevant technical studies and management documents; technical supervision; and citizen engagement activities. This refers to two preliminarily identified subprojects in Soroca and Comrat towns. There are areas in the Comrat town that face frequent flooding, and the Soroca town is also vulnerable directly on the right bank of the Dniester. The project will support the assessment of flood risk and impact at the household level and, in addition to ensuring resilient design of infrastructure, provide measures to reduce the impact of floods where possible.

(c) **Pilot for on-site household sanitation:** selected rural or peri-urban villages, will benefit from the improvement of on-site household sanitation following a demand-led approach through the provision of technical assistance, the implementation of information campaigns, and the carrying out of civil works. The pilot will be co-financed through the Austrian Development Agency (ADA) grant. This pilot will demonstrate the use of climate-resilient low-cost technologies for rural sanitation.

Subcomponent 1.2: Improving resilient WASH facilities in public social institutions. This subcomponent will finance works, goods, consulting services, non-consulting services and training/workshops to realize climate-resilient WASH facilities in HCFs and education institutions and implement hygiene education and behavior change communication program.

Component 2: Strengthening institutional capacity at national and local levels for WSS service delivery. This component focusses on institutional capacities of national and subnational entities and WSS operators for management, planning, regulation and reform implementation, and performance improvement of service providers for green, resilience, and inclusive service delivery. At the national level, development of plans, policies, and regulatory documents will support climate adaptation through climate-resilient planning, and at the local level, performance improvements will deliver climate benefits through reduction of NRW and improvement of energy efficiency. It consists of two subcomponents:

Subcomponent 2.1: Building national institutional capacity for WSS. This subcomponent aims to strengthen critical functions of facilitating and implementing WSS sector reform, investment planning and monitoring, and sector modernization and build capacities to this end of the assigned lead unit/entity within MIRD's structure. It finances goods, non-consulting services, consulting services, and training/workshops for activities that strengthen institutional capacities for planning, financing, economic regulation, performance monitoring, professional development, and the revision and development of new policies and normative documents.

Subcomponent 2.2: Improving performance of WSS service providers. Subcomponent 2.2 will finance works, goods, consulting services, non-consulting services, and training to support the implementation of a prioritized rolling multiyear PIP of selected WSS operators involved under Subcomponent 1.1. WSS operators will carry out annual assessments on PIP implementation and KPIs, including publication of results and feedback rounds with customers. The financing for selected WSS operators will be allocated based on results. Investments and TA activities identified in the PIPs are based on utility diagnostics and include, but are not limited to, the following: improving technical and commercial operations, improving financial management (FM), HR management, and organization and strategy aspects, including improving asset management systems and inventories, energy efficiency, NRW reduction programs, water metering practices and equipment to improve climate resilience, water safety, and business continuity, and enhancing responsiveness to customers.

Component 3: Project management and coordination. This component will finance operational costs, consulting services, non-consulting services, goods, and training to finance the overall project management cost, including the project team at the Project Implementation Unit (PIU), implementation support consultants at the regional level within MIRD's RDAs for environmental and social standards implementation, and, at the national level, MIRD as the project implementing entity (PIE). It will finance training costs, including for capacity building in procurement, environmental, and social standards, specialized short-term implementation support consultants, financial audits, project communication and citizen consultations, and monitoring and evaluation (M&E).

Component 4: Contingent emergency response component (CERC). A provisional zero-amount component is included, which will allow for rapid reallocation of credit/loan proceeds from other components during an emergency under streamlined procurement and disbursement procedures. This component allows the Government to request the World Bank to recategorize and reallocate financing from other project components to cover emergency response and recovery costs.

3. OBJECTIVES OF THE ASSIGNMENT

The overall objective of the assignment is to supervise the implementation of civil and related works and to administer the Works Contract (detailed below).

The Works Contract is:

- the construction of the water transmission line in Cahul and Vulcanesti districts;

- the construction of the water distribution systems in Pelinei (including Satuc village) and Gavanoasa (including Nicolaevca and Vladimirovca villages) communes (Cahul district) as well as Vulcanesti railway station (Vulcanesti district).

The expected outcome of the project is safely managed water supply services in selected rural areas and towns. The timely issuance of the Taking-Over Certificates, elimination of defects and issuance of Performance Certificates and Final Payment Certificates will be essential to achieving this outcome.

The Consultant will be required to undertake the role of the “Engineer” as defined in the FIDIC³. The Services to be provided by the Consultant will last about 39 months, divided in 2 Phases:

- **The first Phase** will include 1 month for pre-Commencement activities and 24 months of works supervision.
- **The second Phase** will include 12 months covering Defects Notification Period and 2 months for the Performance Certificate issue and other closing activities, final account and contract close-out. The second Phase will be subject to the successful performance of the Consultant in Phase 1 and provided the credit closing date is extended or other source of financing is secured.

The Consultant shall prepare technical and financial proposals for Phases 1 and 2 and will be evaluated for the aggregate price.

The consulting services shall include, but not be limited to: (a) establishment of systems for contract administration and site supervision for civil Works Contract, (b) the administration of Contract, (c) control of works quantities and Contract costs; (d) monitoring and reporting the progress of the Works and maintaining technical records; (e) verification and certification of Contractor’s interim and final payment certificates; (f) the acceptance and/or approval of Contractor’s key staff, insurances, guarantees, licenses, programs, method statements, traffic management plans, safety measures, suppliers and materials for incorporation in the works, the quality assurance and control plans, laboratory provisions and execution of the testing program, subcontractors, plant, equipment and environmental protection; (g) direct supervision of the works and monitoring of progress including weekly analysis of the work implemented against planned works and reporting outcomes to the Employer and the Client; (h) preparation of progress, technical and contractual reports, (i) monitor execution of the control tests of all materials intended for incorporation into permanent works and the all executed works; (j) holding weekly progress meeting with the Contractor, recording and submitted signed copies of minutes to the Employer/Client.

4. GENERAL SCOPE OF SERVICES AND TASKS (COMPONENTS)

The Consultant shall perform the following main tasks for each Phase:

PHASE I. MANAGEMENT AND SUPERVISION OF WORKS CONTRACT

4.1 Management of the Works Contract

The Consultant shall act as the Engineer supervising the works, according to FIDIC. The Consultant shall perform the duties and authority of the Engineer as specified or necessarily

³ FIDIC refers to the “General Conditions” which form part of the “Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer (“Red book”) Second edition 2017, reprinted 2022 with amendments” published by the Federation Internationale Des Ingenieurs – Conseils (FIDIC) and the “Particular Conditions” which comprise the World Bank’s COPA and the amendments and additions to such General Conditions.

implied from the Works Contract as well as administer the Works Contract. The Consultant shall perform his duties and act proactively, where the initiative lies with the Engineer in administering the Contract.

In addition, the Consultant shall provide all necessary warning and reminders to the Contractor, the Employer and the Client, to ensure timely and smooth implementation of the project, and to avoid circumstances that would lead to claims by the Contractor, by timely responding to the Contractor's or the Employer's and the Client's requests; while observing the requirements of the Contract.

The Consultant shall perform the Services in accordance with the laws and any other instruments having force of law in the Republic of Moldova, as may be issued and in force during the timespan of the project.

4.2 Supervision of the Works Contract

The Consultant shall be responsible for the comprehensive day-to-day supervision of the Works Contract. This includes ensuring that all civil works and related activities are executed and completed in strict accordance with the Contract terms, technical specifications, and relevant documentation.

The Consultant will apply international best practices to monitor progress, quality, and compliance, ensuring adherence to safety standards, environmental regulations, and timelines. The Consultant's role encompasses overseeing Contractor's performance, verifying material quality, inspecting construction methodologies, managing project records, and facilitating effective communication among stakeholders to ensure successful project delivery.

The Consultant shall exercise all reasonable care to protect the interests of the Employer and the Client, where this does not conflict with the duties of the Engineer as defined in the Works Contract, to ensure the timely supervision and control of the Works and to ensure that the works are constructed in accordance with the Works Contract in orderly manner, by respecting all relevant Social, Health, Safety and Environmental requirements.

5. DETAILED SCOPE OF SERVICES

The detailed scope of services is as following:

5.1 Support to the Employer and the Client

The Consultant shall support the Employer and the Client with the following tasks:

- 5.1.1 Administration of the civil works contract;
- 5.1.2 Supervision of the works and monitoring of progress;
- 5.1.3 Preparation of mandatory reporting. Ensure that all reports required by the Client and the Employer for implementation of the contract are submitted on schedule;
- 5.1.4 Implementation of the Environmental & Social Management Plan (ESMP);
- 5.1.5 Coordination with the Employer and the Client that all certified payments are made on time, by ensuring appropriate control and record systems are in place, in compliance with financier's and the country reporting requirements; and,
- 5.1.6 Preparation of an integrated time schedule for progress meetings with the various parties; attend meetings together with the Employer and the Client to seek response to reports and

discuss contract issues on a regular basis with the Employer and the Client and other key people; prepare and circulate minutes of the meetings, including follow-up actions required to ensure progress.

The Consultant will seek prior written approval of the Employer and the Client for the following:

- 5.1.7 Certifying any payment or Interim Payment Certificate (IPC) for the Contractor's advance payments;
- 5.1.8 Agreeing / instructing any changes in the detailed engineering design which lead to changed contract amount or application of new rates or price with respect to any variation;
- 5.1.9 Issuing of any contract variation, except in an emergency as instructed by the Consultant in accordance with Sub-Clause GCC 3.5 of the Works Contract;
- 5.1.10 In the event of additional works, the Consultant shall report to the Employer and the Client in advance of instructing on the alternative approaches anticipated under FIDIC, and on the relative merits of tendering vis-a-vis issuing a variation for such additional works;
- 5.1.11 Checking the variations submitted by the Contractor;
- 5.1.12 Approving any extension of the Time for Completion in accordance with Sub-Clause GCC 8.5;
- 5.1.13 Authorising any reasonable request by the Contractor to work outside agreed time windows (e.g. at night or on locally recognised holidays) to expedite progress so as to comply with the Completion Date for the Works or any Section.
- 5.1.14 Granting any claim for any additional cost including any cost associated with extension of Time for Completion;
- 5.1.15 Suspending the Works in accordance with Sub-Clause GCC 8.9.

Any response by the Consultant which requires the Employer's and the Client's approval, except as otherwise expressly specified, shall be notified in writing to the Contractor within 21 days of receipt in accordance with Sub-Clause GCC 4.4.

In case any delay in Works will be caused by slow response / initiative / determination or any other actions required and /or expected of the Consultant, the Consultant will have to then extend their services for the respective period without extra payment, unless the delay was outside his reasonable control and cannot be envisaged by the professional consultant experienced in the Services.

The Consultant will have the following obligations:

- 5.1.16 Advise the Client on compliance of Contractor with respect to sub-contracting (if the case may be), as specified in the Works Contract.
- 5.1.17 Upon receipt of the Contractor's Programme in accordance with Sub-Clause GCC 8.3, and within the time stipulated in the FIDIC, notify the Contractor, with a copy to the Client and the Employer, with No Objection, or the extent to which the Programme does not comply with the Contract.
- 5.1.18 Request the Contractor to provide an expected monthly cash flow requirement.
- 5.1.19 Verify that the progress of the Works is in compliance with the Programme not objected under the Contract on behalf of the Employer and the Client. Notify the Employer and the Client as far as possible in advance of any possible failure to attain the Programme by the applicable date or non-compliance with the Programme.
- 5.1.20 Report on the Contractor's control of the progress of the Works to ensure completion of the Works within the time established in accordance with the Works Contract.
- 5.1.21 If, for any cause, other than those listed in the Contract, the rate of progress of the Works or any Section is at any time, in the Consultant's opinion, too slow to ensure the

- completion of the Works or any Section by the Completion Date, instruct the Contractor in accordance with the FIDIC in writing with a copy to the Employer and the Client.
- 5.1.22 Receive from the Contractor due copies of formal Progress Reports, in accordance with Sub-Clause GCC 4.20, checking the same to ensure that they cover all relevant aspects of the Works and highlights actual or potential departures from the Programme or payment schedules and stating the proposed or necessary measures to be taken by the Contractor to overcome such departures; commenting on and supplementing as necessary such Progress Reports before forwarding them to the Employer and the Client, and advising them of any necessary measures to be taken to achieve completion of each Section within the applicable Time for Completion.
 - 5.1.23 Convene formal monthly meetings, in accordance with Sub-Clause GCC 3.8 with all relevant parties. These meetings must have a formal agenda and minutes. Except the managerial meetings, the Consultant shall convene weekly technical progress meetings with all relevant parties.
 - 5.1.24 Check the provision of all necessary insurance, performance securities and warranties and other relevant contract documentation.
 - 5.1.25 Submit monthly and comprehensive quarterly reports in a format and structure agreed with the Employer and the Client. A special emphasis will be given to the quarterly report that will update all aspects of the Contract implementation, with an appropriate executive summary and important annexes. The reports submissions shall not be later than 15 days after the end of each period.

5.2 Tasks prior to Start of Construction Works

- 5.2.1 After the signing of the Works Contract, the Consultant shall organise a meeting with the Employer's and Contractor's Representatives and make a presentation regarding the main Contract provisions highlighting key responsibilities of both Parties and of the Consultant (not only technical but also contract administration matters shall be properly covered so that they are understood by all involved), establishing modus operandi and communication system and clarify the expectations regarding Contract's execution, including early warning systems, in case any issues arise. The focus shall be made on collaboration between the parties and amicable settlement of issues.
- 5.2.2 Advise the Employer and the Client in approving Contractor's insurance policies and guarantees;
- 5.2.3 Approve, when satisfactory, the Contractor's Quality Management System (and Quality Assurance Plan as its integral part);
- 5.2.4 Facilitate any communication and attend any meeting between the Contractor and the owners of facilities (water, telephone, electricity, gas), securing the right-of-way; in particular, give advice on proposed modifications by the owners of facilities;
- 5.2.5 Approve, when satisfactory, the Contractor's Environmental and Social Management Plan;
- 5.2.6 Approve, when satisfactory, the Contractor's Health and Safety Plan;
- 5.2.7 Ensure traffic operational safety by reviewing and approval of Contractor's initial traffic management plans;
- 5.2.8 Check correctness of setting out, co-ordinates and levels of all survey reference markers and require the Contractor to make an independent check;
- 5.2.9 Supervise the markage of the resettlement area of impact;
- 5.2.10 Approve construction materials sources proposed by the Contractor in compliance with the project's E&S requirements;
- 5.2.11 Verify estimated quantities in the Bills of Quantities and promptly advise the Employer and the Client of any prospective Time and Cost effects and make appropriate recommendations;

- 5.2.12 Ensure that the Contractor has prepared and submitted a comprehensive and practical work Programme and the Consultant has reviewed/ commented/ approved the same.
- 5.2.13 Review the detailed engineering design and other works contract documents for civil works contract before starting of construction works and commenting on any issues, mistakes, or improvements that, in the opinion of the Consultant, need to be addressed to secure a successful completion of the works contract;
- 5.2.14 Within the framework of the project's grievance redress mechanism (GRM), ensure potential complainants have access to file complaints or suggestions related to the construction works (e.g., phone number, e-mail), as coordinated and supervised by the Employer, the Client and the Consultant; ensuring that the Contractor also have a functional grievance mechanism.

Following are some statutory requirements:

- 5.2.15 Draw up and maintain a schedule of all necessary statutory licences, permits and approvals necessary for the performance of the Works (the schedule should identify the dates for submissions and approvals, and the person(s) responsible for making application for such licences, permits and approvals either on their own account or on behalf of the Employer and the Client or the Contractor. Check that such applications are made on time;
- 5.2.16 Coordinate with and assist the Employer and the Client to ensure that all permits required are obtained on time;
- 5.2.17 Monitor validity of Contractor's insurance policies and guarantees and timely advice the Employer and the Client on their expiry dates, necessity to request the extensions of the validity and where necessary change the amount of the insurance policies and guarantees;
- 5.2.18 Provide and administrate the Project Management Information System (PMIS) for management of project correspondence and documents in accordance with the approved PMIS plan and procedures, and timely (until end of every week) updates of the records and reports thereof:
 - 5.2.18.1 Approval of Contractor's work programme;
 - 5.2.18.2 Approval of Contractor's site installation;
 - 5.2.18.3 Approval of Contractor's equipment;
 - 5.2.18.4 Approval of proposed subcontractors, subject to the subcontractor demonstrating satisfactory qualifications and experience for the part of the works for which the subcontractor is proposed;
 - 5.2.18.5 Approval of the procedures to ensure compliance with the Contractor's Environmental and Social Management Plan;
 - 5.2.18.6 Approval of the Contractor's Health and Safety Plan (procedures);
 - 5.2.18.7 Certification of measured quantities of Works executed by the Contractor in accordance with the Works Contract;
 - 5.2.18.8 Approval of corrections/modifications of geometric survey, if required;
 - 5.2.18.9 Approval of earthmoving scheme for earthworks;
 - 5.2.18.10 Approval of procedures for construction of pipe laying works;
 - 5.2.18.11 Approval of proposed sources of materials;
 - 5.2.18.12 Approval of construction techniques for structures;
 - 5.2.18.13 Approval of setting-out of the works;
 - 5.2.18.14 Approval of the Contractor's documents and information management system;

5.3 Supervision Tasks during Construction

Supervision Tasks during Construction include but are not limited to the following.

5.3.1 Quality Control

- 5.3.1.1 Check compliance with the Quality Management Plan (QMP) for all aspects of the Project.
- 5.3.1.2 Receive from the Contractor the full particularised version of their Quality Management System in English and Romanian language; as soon as possible check and comment upon it and, if necessary, request the Contractor to amend the above document.
- 5.3.1.3 Inform the Employer and the Client if there are any difficulties in obtaining such a fully particularised Quality Assurance Manual in the form required by the Consultant. Carry out necessary oversight to ensure that the Contractor maintain an effective and sufficient quality assurance procedure for the Works and monitor its operation.
- 5.3.1.4 Notify the Employer and the Client if there is any failure of tests or inspection and if such failure is anticipated to cause delay to any Completion Date or other material adverse consequence; advice on further tests required and arrange that the Contractor carry out necessary rectification.
- 5.3.1.5 Carry out oversight inspection of the work being executed by the Contractor to provide assurance as to the quality and standards of the materials and workmanship, and compliance with the specifications and drawings as included in the contract, the approved detailed design, the method statements, the Quality Assurance Manual and any agreed amendment thereto.
- 5.3.1.6 At all reasonable times have access to the site and to workshops and places where materials or plant are being manufactured, fabricated or prepared for the Works.
- 5.3.1.7 Verify that independent testing of the materials or plant to be supplied under the works contract as is required by the contract has been or is to be carried out in accordance with such requirements at the expense of the Contractor.
- 5.3.1.8 Agree with the Contractor's procedures and times for inspecting, witnessing or testing any materials or plant as provided in the Quality Assurance Manual or the Contract. Where notice of testing is required, give the Contractor not less than 72 hours' notice of intention to carry out an inspection or attend tests.
- 5.3.1.9 Agree practical procedures with the Contractor for giving notice for any examination by the Consultant, which may be required before the Contractor can cover up or put out of view any part of the Works. In accordance with such procedures, and the approved Quality Assurance Manual, examine where appropriate and check any part of the Works which is about to be covered or put out of view; notify and advise the Employer and the Client if any material defects are discovered and monitor the remedying of same.
- 5.3.1.10 The Consultant shall verify that all laboratory tests described in terms of type and frequency are carried out by the certified laboratory. The Consultant shall himself check the quality of such tests by conducting separate testing to verify the Contractor's findings.
 - 5.3.1.10.1 Request the Contractor to make available for review copies of all test results within a reasonable time of the test being carried out.
 - 5.3.1.10.2 Through oversight of the Contractor's operations, or through on-site inspection, determine if any materials or plant are, or are likely to be, defective or otherwise not in accordance with the Contract, and reject such materials or plant.
 - 5.3.1.10.3 Take into consideration any reasonable requirement by the Employer and the Client of inspection, testing of plant, goods or materials found to be defective pursuant to the contract or where he has reasonable ground for suspecting the existence of a defect or

defects. Carry out any such inspection and arrange such testing on behalf of the Employer and Client in accordance with the contract.

- 5.3.1.10.4 Afford full opportunity for the Employer and the Client to ask for and to be present when examining and measuring any part of the Works which is about to be covered up or put out of view, and examining foundations before any part of the Works is placed thereon. Give reasonable prior notice to the Employer and the Client whenever such part of the works or foundations is ready for such examination.
- 5.3.1.11 Carry out, when requested by the Employer and the Client, such other inspections, supervision of testing on-site or procure the carrying out by the Contractor of such tests and supervise the same and carry out such other acceptance procedures or arrangements with the relevant authorities.
- 5.3.1.12 Supervise factory inspections, all installation work at the sites and commissioning/testing of project components, if required.

5.3.2 Site Management

- 5.3.2.1 Upon Commencement of the Works, in accordance with the terms of the contract, execute and deliver Commencement Certificate and obtain the countersignatures of the Contractor;
- 5.3.2.2 If the Contractor does not receive possession of the site in accordance with the contract, or if the Contractor does not receive a notice on Commencement Date within any period stipulated in the contract, assess whether the Contractor is likely to suffer delay and/or incur extra cost and notify the Employer and the Client accordingly;
- 5.3.2.3 Review and approve (if found in order) the Contractor's Quality Assurance Plan, Work plan, site-specific Traffic Management Plan, evaluating and monitoring the implementation of the civil works;
- 5.3.2.4 Liaise with the Employer, the Client and the Contractor, and prepare and submit required reports. In case non-compliances are detected, issue notices, make appropriate settlements and inform the Employer and the Client;
- 5.3.2.5 Perform daily supervision of the works, checking and approving materials, utilities, infrastructures, equipment, availability of quality certificates, technical competence and workmanship to ensure that the works contract is executed in accordance with the contract documents;
- 5.3.2.6 Inspect the works to check whether performance complies with specifications and drawings;
- 5.3.2.7 Chair site meetings and endeavour to ensure that at all times outstanding problems are settled in order to avoid any delay or extra expenditure (having regard, however, to the terms of the Contract and the limitations on the authority of the Consultant referred to under these ToR);
- 5.3.2.8 Keep track on all interfaces, attend interface co-ordination meetings and assure that all interfaces are properly managed and that interface problems are addressed and solved.
- 5.3.2.9 Keep full and proper records of all meetings and discussions attended or conducted by the Consultant and make the same available for inspection by the Employer and the Client forthwith on request.
- 5.3.2.10 On request of the Employer and the Client, attend meetings to resolve differences of opinion on general or technical matters.
- 5.3.2.11 Ensure that the Employer and the Client receive timely notice of and is permitted to attend all site meetings and other meetings with the Contractor.
- 5.3.2.12 Notify the Contractor if the Consultant objects to any person who has conducted himself as incompetent or negligent; notify and advise the Employer and the Client if this is the case and agree on any action to be taken.

- 5.3.2.13 Advise the Employer and the Client on the general organisation of the Contractor's resources at the Site, including management and programming systems, manpower, plant and equipment.
- 5.3.2.14 Monitor and check the day-to-day quality control and quantity measurements of the works carried out under the works contract, participating in marking works carried out on site, ensuring documentation of works performed and to be performed based on technological sequence (covered works certificates, intermediate certificates, etc.) and implementation of laboratory testing required, testing protocols compliance and approving their reliability; witness and approve regular tests of materials and of completed works, and order additional tests if required;
- 5.3.2.15 In addition to the above, record work site daily events including work locations and activities, plant and staffing on site, and quantities to pay (subject to geometric and quality tests);
- 5.3.2.16 Keep a log book throughout the construction period where daily records over work quantities, tests and other activities to serve as a basis for monthly reporting and necessarily contain information concerning:
 - 5.3.2.16.1 Work day start and end.
 - 5.3.2.16.2 Contractor's capability to execute works (availability of required equipment and labour force, technical condition, safety provision for works execution).
 - 5.3.2.16.3 Materials and structures brought to the construction site during the day (name, quantity, quality certificate or laboratory testing results).
 - 5.3.2.16.4 Works accomplished by the Contractor during the day, i.e. name, place, volume, etc. (appropriate documents to be attached).
 - 5.3.2.16.5 Deviations from the design documents, appropriate measures undertaken.
 - 5.3.2.16.6 Emergencies, accidents, not planned suspension of works (indicating the reasons).
 - 5.3.2.16.7 Grievances received, referred and addressed from both communities and workers.
 - 5.3.2.16.8 Violations of code of conduct.
 - 5.3.2.16.9 Incidents, accidents, including fatalities and near misses, are recorded and reported.
- 5.3.2.17 Supervising the works contract in all matters concerning safety of the construction works (including the erection of temporary signs, guardrails, lighting and availability of other safety means at pipe laying works), proper working conditions of workers, and proper relationship between the Contractor and the workers with the local population and, if required, to inform the Employer and the Client to take appropriate measures;
- 5.3.2.18 In order to prevent risks during construction, the Consultant will have the following obligations:
 - 5.3.2.18.1 Identification of hazards for the construction stage. This must comprise health and safety risks, procedural risks, environmental and social risks, technical and quality risks, risk of cost overrun, risk of delays, risk to third parties, etc.
 - 5.3.2.18.2 Assess the likelihood of these risks and the potential consequences.
 - 5.3.2.18.3 Identify possible mitigation measures.
 - 5.3.2.18.4 Proactively and continuously seek to manage and reduce/eliminate hazards/risks.
- 5.3.2.19 Comparison of work output actually carried out with that presented in the Works Programme (Sub-Clause GCC 8.3) and discuss with the Contractor remedy to possible slippage;
- 5.3.2.20 Order the removal of improper or substandard work;
- 5.3.2.21 Control materials incorporated into the works;

- 5.3.2.22 Examine and attend the testing of any work that is about to be covered or put out of view before permanent work is placed thereon;
- 5.3.2.23 Recapitulate quantities of works carried out monthly for each contractual item of work;
- 5.3.2.24 Prepare a template for Variations (in close consultation with the Employer and the Client), along with requirement of supporting documents;
- 5.3.2.25 Compare monthly actual progress against progress as scheduled; and ensure Contractor revises the work schedule;
- 5.3.2.26 Prepare a template for IPCs (in close consultation with the Employer and the Client), along with requirement of supporting documents and supply the same to the Contractor;
- 5.3.2.27 Review Contractor's Monthly Statements and Statement at Completion and issue IPCs;
- 5.3.2.28 Ensure that the IPCs provide clear reference about the locations for which the works are claimed;
- 5.3.2.29 Ensure timely submission of variations and IPCs;
- 5.3.2.30 Convene and chair periodic site meetings and monthly progress meetings and ensure minutes are recorded and signed by all parties.
- 5.3.2.31 Control and appraise the progress of the works and recommending to the Employer and the Client to order suspension of works and to authorize extensions of the period for completion of the works;

5.4 Payments and Accounts

- 5.4.1 Financial management of the works contract based on (1) Contractor's Works Programme and cash-flow projections which should be revised at required time intervals and, (2) upon his own judgement, the Consultant shall prepare, as part of its monthly reports, monthly disbursement tables showing the status of previous disbursements and a tentative prediction of future disbursements on a monthly basis;
- 5.4.2 For the purpose of confirmation of the Contractor's exemption from payment of VAT, customs duty, tax for the execution of customs procedures for the import of goods and/or services intended for the implementation of the project, **as foreseen in the** Law no. 376 of December 29, 2022 and the Government Decision No. 105/2023 of February 28, 2023, the Consultant shall confirm to the Employer and the Client that the goods to be purchased and/ or the services to be provided under the contracts signed between the Contractor and different suppliers, are intended for the implementation of the works contract and conform to the Bill of Quantities.
- 5.4.3 Receive from the Contractor, on a monthly basis, Statements pursuant to the Contract.
- 5.4.4 Check in accordance with the relevant provisions of the Contract the Contractor's payment documentation and resolve with the Contractor, where possible, any mistakes and queries which may arise in conjunction therewith; advise the Employer and the Client of any adjustments considered necessary.
- 5.4.5 Ascertain the amount to be certified in respect of the Contractor's invoices pursuant to the contract. Within the times stipulated in the Works Contract provisions, issue an IPC addressed to the Contractor and the Employer and the Client specifying the certified amount payable by the Client to the Contractor.
- 5.4.6 Certify any additional amounts due to the Contractor in respect of valid claims notified in accordance with the procedure set out in the contract.
- 5.4.7 Consider any invoices submitted by the Contractor pursuant to the contract and certify any additional sums which the Consultant is empowered to certify as due, provided

always that the Contractor has supplied sufficient particulars to enable the Consultant to determine the amount due.

- 5.4.8 Collate and prepare quarterly budgets showing sums anticipated to fall due from the Employer/Client to the Contractor, dates and amounts of invoices and certificates under the Contract and values expected to be achieved in the quarter and deliver the same to the Employer and the Client forthwith.
- 5.4.9 The Payments will be done in accordance with Sub-Clause GCC 14.7.

5.5 Delays and Claims

- 5.5.1 Check that the Contractor continue to give the details and notices that are required under the contract related to any delay and forward such details and notices to the Employer and the Client.
- 5.5.2 Notify the Employer and the Client immediately if the Contractor fails to complete any Section, as provided in the Work Programme, within the applicable Completion Date or appears likely so to fail.
- 5.5.3 Advise the Employer and the Client on any difficulties that may arise generally in connection with the execution of the works.
- 5.5.4 Receive notice of the intention of a Contractor to claim any additional payment within the times stipulated in the FIDIC contract and adopt the stipulated process for claim resolution and notify the Employer and the Client thereof.
- 5.5.5 Upon the request of the Contractor, discuss the delay, the reasons therefor, determine and notify the Contractor of any extension of time and any amendments to any of the programme schedules. Where the delay has been caused by any of the causes referred to in the contract or where an extension of time has been granted, consult with the Contractor on behalf of the Employer and the Client, and send to the Employer and the Client for its review, such revisions to the Programme and payment schedules which the Contractor considers necessary in consequence of any such delay or extension of time.
- 5.5.6 Work with the Employer, the Client and the Contractor to set up the Dispute Avoidance/Adjudication Board, as required under the FIDIC contract, and follow up all requisite processes in addressing the Contractor's or the Employer's and the Client's claims.
- 5.5.7 If necessary, prepare a case for the application of Delay damages or a claim against the Performance Guarantee where a Contractor has failed to perform.
- 5.5.8 Prior to certification of any payment to a Contractor in relation to a Contractor's claim, the Consultant will have consulted with the Employer and the Client on the grounds on which the Consultant intends to certify the payment. The Consultant will provide the Employer and the Client with any particulars to enable the Employer and the Client to establish its position with regard to the Consultant's certificate.

5.6 Suspension, Default and Disputes

- 5.6.1 If in the Consultant's opinion, a suspension is required, the Consultant will initially consult with and seek the approval of the Employer and the Client. After receiving their approval to issue a suspension, the Consultant will follow the procedures and conditions established in the FIDIC contract.
- 5.6.2 Notify the Employer and the Client immediately if the Contractor is failing to comply with its obligations under the Contract, including environmental, social, health & safety requirements. Discuss with the Employer and the Client possible remedies, and advise on the rights and obligations of the parties under the Contract.

- 5.6.3 If any urgent remedial work is necessary, act in accordance with the Contract, and otherwise advise the Employer and the Client on carrying out the same by the Contractor or, if impossible to do so, discuss such failure with the Employer and the Client.
- 5.6.4 If any dispute or difference is referred to arbitration, assist the Employer and the Client generally in respect of such arbitration provided always that the Consultant will not be required to act improperly or contrary to his obligations as the Consultant under the Contract.
- 5.6.5 In the event of termination, provide advice and assistance in connection with the departure of the Contractor from the site and the assignment of the benefit of any agreement for the supply of goods, materials, services and/or execution of any works.
- 5.6.6 Advise the Employer and the Client of their rights upon the occurrence of any force majeure/exceptional event.

5.7 Completion

- 5.7.1 The Consultant shall attend to the works inspections carried out by the State Authorities in accordance with the Applicable Law;
- 5.7.2 Assist the Employer and the Client with the execution of the Taking Over in accordance with Sub-Clause GCC 10 from the Contractor, in particular by preparing the lists of deficiencies/minor outstanding works which need to be corrected;
- 5.7.3 Organize provisional and temporary technical acceptance of works and submit all supervision documents to the Taking Over Committee according to the contract and local Applicable Law;
- 5.7.4 Within the terms and conditions stipulated within the FIDIC contract, receive a Notice from the Contractor to issue a Taking-Over Certificate in respect of the Works.
- 5.7.5 Within 28 days of receipt of such a Notice, inspect the Works with the representatives of the Employer and the Client.
- 5.7.6 Provide that the Employer and the Client have confirmed that they have no objection to the Consultant so doing, issue immediately to the Contractor, with a copy to the said parties, a Taking-Over Certificate stating the date on which the Works were substantially completed in accordance with the Contract.
- 5.7.7 Taking into account any comments of the said parties, give instruction in writing to the Contractor specifying all the work required to be done by the Contractor before the issuance of a Taking-Over Certificate; notify the Contractor of any defects/outstanding works affecting Completion that may appear after giving such instructions and before completion of the Works specified therein; provided that the Contractor has completed the Works so specified and remedied any defects so notified to the satisfaction of the Consultant, the Employer and the Client, issue a Taking-Over Certificate within the period as prescribed in the FIDIC Contract.
- 5.7.8 Issue Taking-Over Certificate in accordance with the Conditions of the works contract noting that no outstanding construction works shall be left for Defects Notification Period (DNP) and the Consultant shall take this into account before issuing the Take-Over Certificate as well as that the as-built records and manuals will have to be completed also in advance. It may be acceptable if the comments to the as-built records are finalized by the Contractor during first months of DNP but prior agreement of the Employer and the Client shall be obtained for allowing such delay. Finally, the requirements of the Applicable law on the works acceptance shall be taken into account by the Consultant as the compliance with these procedures is a precondition to the Take-Over certificate and thus advance notice will need to be given to the Employer and the Client, so that the required committee can be timely formed;

- 5.7.9 Monitor employment generation through civil works, by recording the permanent and temporary staff working for the Contractor on a monthly basis;
- 5.7.10 Inform the Employer and the Client regarding potential claims from the Contractor and entitlement of Employer's and the Client's claims.
- 5.7.11 Under FIDIC contract, the Employer and the Client are wholly tasked with issuing Notification of Employer's claims, and for issuing fully detailed claims for the Consultant to determine.

5.8 Environmental and Social Management Plan

The Consultant will ensure that all applicable environmental and social requirements of the World Bank are being adhered to by the Contractor. This includes providing oversight of and support, as needed, to Contractor in implementation of the Environmental and Social Management Plan (ESMP), Environmental and Social Monitoring Plan and preparation of required environmental and social reports.

The Consultant will ensure that the Contractor delivers its E&S obligations under its contract. This includes, but is not limited to the following:

- 5.8.1 Review the Contractor's Environment and Social Management Plan (C-ESMP), including all updates and revisions at frequencies specified in the Contractor's contract (normally not less than once every 6 months);
- 5.8.2 Assess all other applicable contractor's documents related to E&S aspects including the Health and Safety Management Plan and Sexual exploitation and abuse (SEA) prevention and response action Plan;
- 5.8.3 Review and consider the E&S risks and impacts of any design change proposals and advise if there are implications for compliance with ESIA, ESMP, consent/permits and other relevant project requirements;
- 5.8.4 Undertake, as required, audits, supervisions and/or inspections of any sites where the Contractor is undertaking activities under its contract, to verify the Contractor's compliance with E&S requirements (including relevant requirements on SEA/SH (sexual harassment));
- 5.8.5 Carry out audits and inspections of Contractor's accident logs, community liaison records, monitoring findings and other E&S related documentation, as necessary, to confirm the Contractor's compliance with E&S requirements (including relevant requirements on SEA/SH);
- 5.8.6 Immediately notify the Employer and the Client of any failure by the Contractor to comply with its SEA and SH obligations;
- 5.8.7 Immediately notify the Employer and the Client of any allegation, incident or accident, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Client's Personnel, Contractor's Personnel or Experts. In case of SEA and/or SH, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, sexual abuse or sexual harassment), only gender and age of the person who experienced the alleged incident should be included in the information. The Consultant shall provide full details of such incidents or accidents to the Employer and the Client within the timeframe agreed with the Employer and the Client.
- 5.8.8 Immediately inform and share with the Employer and the Client notifications on ESH&S incidents or accidents provided to the Consultant by the Contractor, and as required of the Contractor as part of the Progress Reporting. Subsequently, review the adequacy of the Contractor's report on the incident and or accident and proposed measures to address it and prevent its recurrence.

- 5.8.9 Share with the Employer and the Client in a timely manner the Contractor's ES metrics, as required of the Contractor as part of the Progress Reports.
- 5.8.10 Determine remedial action/s and their timeframe for implementation in the event of a noncompliance with the Contractor's E&S obligations;
- 5.8.11 Ensure appropriate representation at relevant meetings including site meetings, and progress meetings to discuss and agree appropriate actions to ensure compliance with E&S obligations;
- 5.8.12 Ensure that the Contractor's actual reporting (content and timeliness) is in accordance with the Contractor's contractual obligations;
- 5.8.13 Review in a timely manner the Contractor's E&S documentation (including regular reports and incident reports) regarding the accuracy and efficacy of the documentation;
- 5.8.14 Undertake liaison, from time to time and as necessary, with project stakeholders to identify and discuss any actual or potential E&S issues;
- 5.8.15 Monitor how a grievance redress mechanism is implemented and functioning, including types of grievances recorded and how they are solved;
- 5.8.16 Enhance policies, procedures, and documentation by addressing barriers to achieving a level-playing field for women and men;
- 5.8.17 Ensure that supervision services include measurable activities related to strengthening/safeguarding equality of opportunity, and that these are implemented and monitored using appropriate resources and indicators.

5.9 Archaeological Remains

The Consultant will have the following obligations:

- 5.9.1 Receive notice in accordance with GCC 4.23 from the Contractor in the event of the discovery of any fossils, coins, articles of value or antiquity or other similar remains, dangerous dumpsites, hazardous contamination or munitions within the Site and advise the Employer / Client in relation to the steps to be taken in consequence thereof and the time and cost implications of such steps (Chance Find Protocol described in detail in the Section VII – Works Requirements of the Request for Bids).
- 5.9.2 Decide any extension of time and any additional payment to which the Contractor is entitled in accordance with the terms of the Contract as a result of discovery of any archaeological remains or dangerous dumpsites.

5.10 Health and Safety

- 5.10.1 Require the Contractor to prepare and implement a construction Health and Safety Plan and where necessary, require the Contractor to provide and maintain at their own cost all lights, guards, fencing, warning signs and watching, for the protection of the Works or for the safety and convenience of the public or others.
- 5.10.2 Supervise the Contractor in all matters concerning safety and care of works.
- 5.10.3 Monitor and ensure that during the implementation of the project, all employees, including the Consultant and the Contractor's personnel engaged in the activities related to the implementation of the project, must fully respect prescribed measures for occupational protection, all in accordance with the recommendations of the World Health Organisation, relevant departments of the Company and authorities of the Republic of Moldova.

PHASE II. DEFECT NOTIFICATION PERIOD

5.11 Activities during the Defects Notification Period.

- 5.11.1 Consultant will be responsible for monitoring the Contractor's operations and for issuing any required certificates.
- 5.11.2 For the purpose of carrying out the services, the Consultant shall carry out site visits to monitor the rectifications on unattended/ uncompleted activities, identifying and preparing reports on defects, if any, supervising the remedial works and preparing and issuing the Final Payment Certificate.
- 5.11.3 Instruct the Contractor to search for defects and the cause thereof and to execute all such work of amendment, reconstruction, and remedying defects or other faults during the Defects Notification Period as prescribed within the FIDIC contract.
- 5.11.4 Monitor generally the Contractor in performing its obligations during the Defects Notification Period. Prepare and issue the Performance Certificate, within the times and using procedures prescribed within the Sub-Clause GCC 11.9.
- 5.11.5 In the event that the Contractor refuses to carry out any remedying work, assist the Employer and the Client in resolving the situation.
- 5.11.6 Advise the Employer and the Client of the value of any completed Section and of any further information as may be necessary for calculating any adjustment in the amount of the Performance Security and, if the case, of any other bonds or securities procured by the Contractor to secure its obligations.
- 5.11.7 Before the end of the Defect Notification Period (with prior coordination with the Employer and the Client), the Consultant shall conduct a detailed defect inspection of the structures and prepare a defect report for issue to the Employer, the Client and the Contractor.
- 5.11.8 Prior to the expiry of the Defect Notification Period the Consultant shall certify (or otherwise) that the defects or damage have been remedied.
- 5.11.9 In addition to the above, the Consultant will:
 - 5.11.9.1 promptly analyse all the claims received, evaluate them and conduct consultations in accordance with the Contract;
 - 5.11.9.2 immediately report to the Employer and the Client any event or dispute/disagreement which requires the intervention of the Employer and will assist the Employer in resolving any site dispute;
 - 5.11.9.3 issue Performance Certificate;
 - 5.11.9.4 review the Contractor's Final Statement and issue Final Payment Certificate; recommend returns of guarantees and retention.

6. PROFILE OF THE CONSULTANT

The Consultant must be a registered firm or association/joint venture of firms having experience, technical and organisational capabilities and qualified personnel to complete the assignment.

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 following criteria will be applied to evaluate experience of the consultant:

6.1 Core business and years in business:

- at least 10 years of experience in engineering and consulting services. As a proof of compliance, the consultant shall provide the following documents in the Technical Proposal (in case of JV must be provided for each partner): copy of the registration certificate; copy of articles of incorporation; list of completed projects as firm, incl. contacts for reference check – covering at least the whole period of the last 10 years

6.2 Qualifications in the field of the assignment:

- at least 2 construction supervision assignments in installation of water, sewerage, thermal networks, irrigation or/and hydrotechnical installations, including construction, installation/construction of pumping stations, water towers substantially completed (completion certificate issued) either alone or as a member of a JV with a minimum participation of 50% input during the last 10 years starting 1st of January 2014 and the deadline for submission of proposal;
- at least 1 completed contract during the last 10 years in supervision of works under FIDIC conditions of contract or other internationally recognized conditions of Contract.

As a proof of compliance with the above requirements, the Consultant shall provide list for related contract, incl. amounts, brief description of the assignment, contacts for reference check, copy of the main contract pages and Taking Over, letter of acceptance or reference letter from the Client.

7. TEAM COMPOSITION, STAFFING INPUT & QUALIFICATION REQUIREMENTS

The Consultant shall employ suitably qualified engineers and other professionals, who shall be competent to carry out their duties in accordance with responsibilities and/or authorities that are specified in these ToR or are necessarily implied from the Works Contract. The Consultant will demonstrate equal opportunities in the mobilization and management of human resources.

In preparing the Staff Mobilization Schedule, the Consultant shall take account of the Contractor's Work Programme and construction activities.

The Consultant shall consider the prospective peaks of the construction activities and ensure the adequacy of staffing levels during such periods and shall be responsible for efficient staffing levels, including its reduction, when the real pace of the construction activities is much lower than work program envisages.

The Consultant shall arrange for an appropriate head office back-stopping support for the Engineer's supervision team including nomination of a suitably qualified and experienced person who shall act as "Engineer" on behalf of the Consultant for the project under the authorised delegation of the Consultant.

The "Engineer" shall be a Chartered Engineer with demonstrated understanding and experience (>10 years) in management of FIDIC based Contracts.

It is expected that the Consultant's team shall comprise of the experts as follows.

7.1 Consultant's Staffing input

The Client's estimation on the experts' time input distribution over the various phases of the services (works supervision, Defects Notification Period)

The following Key Staff is envisaged to be engaged in the field during preparation and construction period:

- one (1) Team Leader / Engineer's Representative – 20 man/months;
- one (1) Chief Site Engineer – 24 man/months;
- one (1) Water Engineer – 15 man/months;
- one (1) Quality Assurance Expert – 5 man/months;
- one (1) Environmental and Health & Safety Expert – 15 man/months;
- one (1) Social Expert – 8 man/months.

During the Defect Liability Period the Consultant is required to provide:

- one (1) Team Leader / Engineer's Representative – 1 man/months
- one (1) Chief Site Engineer for a total of three (3) months in the field; the three (3) months shall consist of the full-time presence required during the first month of this period and then a total of two (2) months when needed over the remaining eleven (11) months.
- one (1) Water Engineer – 2 man/months.

7.2 Key Experts

Curriculum Vitae of the Key Staff proposed shall be signed by each Key Expert and submitted with the Consultant's Technical Proposal, in sufficient detail to clearly demonstrate that the credentials described below have been met. The Key Staff should possess University Degree related to their respective proposed specialty in this project.

Provided that the basic minimum staff requirements are met, the Consultant is free to propose the supervision structure that is deemed by the Consultant to optimally meet the project requirements.

The Team Leader / Engineer's Representative shall be present during the working season and shall be available until the Works are complete and defects remedied.

In addition to the minimal required team of Key Staff mentioned above, the Consultant shall provide the necessary field teams of support staff.

The qualifications requirements for the Key Staff are outlined below:

7.2.1 Team Leader / Engineer's Representative (TL/ER)

- Minimum B.Sc. degree in civil or water engineering or similar;
- Minimum 10 years of professional experience;
- Minimum 8 years' experience as Team Leader of multi-disciplinary teams in the construction supervision in similar projects;
- Experience in at least 1 contract for supervision of construction of water supply and sewerage networks.
- Familiarity with and experience & knowledge of the procurement guides and rules of International Financial Institutions such as the World Bank, EBRD, EU, EIP, KFW, etc.
- Previous experience in supervision of works using FIDIC Conditions of Contract or any other International Contract Conditions used by IFI's.

7.2.2 Chief Site Engineer (CSE)

- Minimum B.Sc. degree in civil or water engineering, or similar;

- Minimum 10 years of general professional experience;
- Minimum 6 years' experience as Site Engineer of multi-disciplinary teams in supervision of construction works under similar projects;
- Having a specific experience in similar works for at least 2 projects of such magnitude at due position.

7.2.3 Quality Assurance Expert (QAE)

- Minimum B.Sc. degree in civil or water engineering or similar;
- Minimum 7 years of experience in quality management of civil works and materials testing;
- Experience of dealing with pumping stations and pipe networks construction contracts is essential, including electrical and mechanical equipment;
- Experience in similar position on at least 2 successful projects of similar size and complexity during last 7 years shall be demonstrated.

7.2.4 Environmental and Health & Safety Expert (EHSE)

- Minimum B.Sc. degree in environmental science, environmental engineering, civil engineering or similar;
- Minimum 3 years' experience working with H&S management issues relating to civil works projects including the preparation and/or implementation of H&S Management Plans.
- Experience in preparation / implementation / supervising of Environmental and Social Impact Assessment, Environmental Management Plan / Constructor – Environmental Management Plan of infrastructure project of at least one international contract technically similar in complexity.
- Experience within the last 5 years with the projects dealing with the Environmental and Social Standards of the World Bank and/or other IFI's.
- Familiarity with the local environmental guidelines and procedures.
- Knowledge of English (as a minimum Upper-Intermediate English B2 level) is mandatory.
- Knowledge of Romanian / Russian would be considered an advantage.

7.2.5 Social Expert (SE)

- Minimum B.Sc. degree in social sciences, sociology, anthropology, community development, environmental and social management, or a related field;
- Minimum 3 years of experience in social impact assessment and mitigation in infrastructure projects.
- Experience in resettlement action planning, livelihood restoration, land acquisition processes, and compensation frameworks is highly desirable.
- Relevant experience in citizen engagement, managing compliance, addressing gender-based violence/ sexual exploitation/ sexual abuse and sexual harassment etc.;
- Knowledge of national regulations and international social safeguard policies.
- Experience in the project's that have respected Environmental and Social standards of World Bank and/or other IFI's would be an advantage.

7.2.6 Non-Key Staff/Technical Support Staff

The time, number and type of non-key (and short-term) specialists to be mobilised will be agreed between the Client and the Consultant as the need arises. For estimating purposes, a number of individual expert visits and a global number of person-months are to be shown in the proposal and the Consultant should also enter a person-month rate and round-trip air ticket costs. For short-

term experts 10 person-months is to be included in Proposal. Short-term experts may only be mobilised upon the written consent of Client and each short-term expert must provide mission reports prior to their demobilisation.

Short-term experts may be required in the following areas:

- mechanical engineering expertise;
- structural engineering expertise;
- electrical engineering expertise;
- geology and geotechnical expertise;
- environmental and social expertise;
- specific equipment expertise;
- hydrology;
- hydraulics;
- claim expertise;
- legal adviser;
- financial experts;
- road safety;
- etc.

Also, the Consultant shall provide technical staff licensed as Technical Supervisors, to cover the supervision activities in construction and specialized works as required by the Applicable Law, which shall be made available as needed.

The list of non-key staff is not exhaustive and could be complemented by the Consultant in its proposal by any other non-key staff as deemed necessary by the Consultant.

Consultants are encouraged to associate with local firms and include in the team local Technical Support Staff. The applicants are strongly encouraged to involve qualified female candidates.

8 REPORTING REQUIREMENTS AND TIME SCHEDULE FOR DELIVERABLES

The Consultant will provide the Employer and the Client with the information and documentation through submission of periodic reports prepared during the course of its service or specific reports prepared at the request of the Employer and the Client in relation to the construction, completion, testing or commissioning of the Works.

For practical reasons it is proposed to allow a delay of 10 working days in submission of the reports in the Romanian language due to the translation efforts.

All reports issued by the Consultant shall be reviewed and approved by the Employer and the Client. A period of 14 days shall be allowed for the review and approval.

During the period of the services, the Consultant will provide the Employer and the Client with the following reports (1 copy in Romanian and 1 copy in English and an electronic copy).

8.1 Inception Report/Mobilization Report: within the two weeks after the contract effective date;

- 8.2 *Weekly summary: within 2 days of the end of each calendar week;*
- 8.3 *Monthly Progress Reports: within 10 days of the end of each calendar month;*
- 8.4 *Quarterly Progress Reports: within 15 days of the end of each quarter, covering all aspects of the project implementation and supported by charts, tables and graphics as needed to accurately report the situation on the ground. A template and outline of the report shall be attached as part of the inception report for discussion with the Client/Employer;*
- 8.5 *Completion of the works Report: within 28 calendar days upon issuing the Taking-Over Certificate;*
- 8.6 *Defect Notification Period Reports: within two weeks of completion of each Defect Notification Inspection mission;*
- 8.7 *Draft Final Report: Prior to last two months of the assignment;*
- 8.8 *Final Report: immediately upon issuing the Final Payment Certificate;*
- 8.9 *Special Reports such as: **Environment & Social Incident Response**: submitted within 12 hours of any incident happened directly or indirectly related to the project, in accordance with the World Bank's E&S requirement, **Variations** - no later than 14 days from the moment when the Consultant becomes aware that a Contract Variation order may be required; **Claims** - a) for preliminary assessment of the validity of the Contractor's potential Claim no later than 7 days from the date of receipt of the respective Notice of Claim; b) for a detailed analysis of the validity of the Claim no later than 21 days from the date of receipt of such Claim, etc.*

8.1.1 Inception Report/ Mobilization Report

No later than two weeks after the contract effective date, a brief report should be submitted providing information on:

- ✓ Consultant's models for the reports,
- ✓ Interim Payment Certificates,
- ✓ refined staff mobilization schedule and work plan,
- ✓ time reporting systems,
- ✓ results of survey of construction sites confirming the design appropriateness or identifying any issues that may need to be addressed,
- ✓ Project Management Information System,
- ✓ define the responsibilities to be delegated,
- ✓ establish the communication procedures with the Employer/Client and Contractor, and
- ✓ required procedures and formats to carry out the civil works contract administration tasks.

8.2.1 Weekly summaries

The Consultant will prepare and submit to the Employer and the Client weekly summary within 2 days of the end of each calendar week. The summary will cover the cumulative and currently registered progress (including mobilization status) and supplied materials. The format shall be agreed between the Parties.

8.3.1 Contract's Monthly Progress Reports

The Consultant will prepare and submit to the Employer and the Client monthly Progress Reports within 10 days of the end of each calendar month. The first Report will cover the period up to the end of the first calendar month following the Consultant's mobilization. Each monthly progress report will include:

- 8.3.1.1 Brief summary information about any events or circumstances which, in the Consultant's opinion, may create sufficient grounds for any time, claim and/or cost overrun under a Contract and the Consultant's recommendation of the measures being (or to be) adopted to overcome such events or circumstances and the contractual basis thereof;
- 8.3.1.2 Comparison in the form of a chart showing the Contractor's original cumulative cash-flow estimate, in monthly periods, of all payments to which the Contractor will be entitled under the contract and the actual payments certified by the Consultant up to the end of the reporting period. In the event of the cumulative amount of the actual monthly payment certificates being lower than the Contractor's estimates, the Consultant will accompany the chart with a supporting information and provide:
 - Details of any events or circumstances that have caused the discrepancy;
 - Assessment of the significance of such events or circumstances, including the Consultant's opinion on whether these may jeopardise the completion in accordance with the contract;
 - Report on the measures being (or to be) adopted to overcome delays in respect of each event or circumstances and the contractual basis thereof;
- 8.3.1.3 Comparison of the actual percentage completion of delivery compared with the planned for each critical path item identified in the Work Programme; where any delivery is behind the Programme, the Consultant will comment on the likely consequences and state the remedial action being (or to be) taken;
- 8.3.1.4 Comparison of the actual percentage completion of delivery compared with the planned for each main item of plants and materials, if not included in the list of critical path items;
- 8.3.1.5 Projection on Contract's total final price and the completion date;
- 8.3.1.6 Information about the use of provisional sums and an appropriate justification thereof;
- 8.3.1.7 Photographs showing the progress on the site;
- 8.3.1.8 List of new quality assurance documents, reports on test results and certificates of materials;
- 8.3.1.9 Safety statistics, as provided by the Contractor, including details of any major incidents and activities (e.g., strikes, riots, demonstrations, media attention, etc.) relating to workers, public, and environment;
- 8.3.2 List of all notices, consents, approvals, certificates or determinations given or issued by the Consultant within the reported period; and
 - 8.3.2.1 Other information, as may be required by the Employer and the Client.
 - 8.3.2.2 Summary of the work accomplished by the supervision team for the preceding month, including the progress of the civil works contract, status of physical and financial progress, the status of Contractor's claims for cost or time extensions, if any, brief descriptions of problems encountered including a record of any accidents on site and recommended solutions, information on any occupational health and safety incidents (if any), along with follow-up action undertaken, grievances, violations of the code of conduct, employment generated through civil works and other relevant information requested by the Employer and the Client. In the consequent monthly reports, the Consultant needs to provide a follow-up section on previously reported problems and what follow up actions were undertaken by the Consultant/Employer/Contractor. The

report should also contain the records of the Consultant's work for the preceding month (copy of correspondence with the Employer, the Client and the Contractor, etc.) and the reporting on (a) quality control and management, (b) compliance with the ESMP, any adverse environmental impacts that accrue during construction, the corrective measures taken to remedy that impacts and (c) social safeguards matters.

The reports have to be concise and contain only critical information related to progress, issues and key events for the month. The Consultant's report should not exceed 10 pages per contract, except for photos which should only be submitted electronically and the above requested copies of the project documents. Only critical correspondence should be provided, as the annexes.

8.4.1 Quarterly Progress Reports

Within 15 days of the end of each quarter, covering all aspects of the project implementation and supported by charts, tables and graphics as needed to accurately report the situation on the ground. A template and outline of the report shall be attached as part of the inception report for discussion with the Employer and the Client.

8.5.1 Completion of the works Report

On completion of the works contract, upon issue of the Taking-Over Certificate, within 28 calendar days the Consultant shall submit a comprehensive Works Completion Report, which shall include but not limited to, copy of the Taking-Over Certificate; verified "as-built" drawings showing all revisions to the design of the Works; method of construction, the construction supervision performed, summary of temporary employment generated by the project, an analysis of the completion cost of the Works; an overview of the actual progress of the Works detailing reasons for delays and/or extensions of time; an overview of Site safety procedures; an overview of the Contractor's working practices and resources; an assessment of the quality of materials and workmanship; details of technical and/or administrative difficulties encountered and how these were overcome. In addition to the above, the Works Completion Report must also include estimated vs. actual cost, project baseline schedule vs. actual schedule, challenges encountered and measures taken, lessons learned, highlight good practices, areas of improvement, environmentally friendly initiatives, advanced technologies (if used), accidents/incidents reported, etc. The template of the works completion report shall be finalized in close consultation with the Employer and the Client.

8.6.1 Defects Notification Period Reports

The Consultant shall prepare for each inspection visit a report detailing:

- outstanding and remedial works completed by the Contractor during the period;
- the location, nature, extent and analysis of the causes of defects identified, if any;
- recommended method to correct identified defects together with cost estimates;
- in consultation with the Employer and the Client and the Contractor the liability for correcting the defects identified.

The report shall be submitted to the Employer and the Client within two weeks of completion of each Consultant's mission.

8.7.1 Draft Final Report

Two months prior to the assignment completion, the Consultant shall prepare a first draft Final Report which shall highlight all major points of interest that arose during the contract. The report will include, amongst others, the summary of the type, quality, quantities and sources of materials used on the project; Contractor's plants, equipment and personnel; problems encountered and solutions employed; changes made in the design and specifications and the reasons therefor; a breakdown of the Contractor's performance in terms of respect of the service quality criteria for maintenance services; a breakdown of the final cost of the contract item by item; a summary of contract changes/variations and expenditure of provisional sum.

8.8.1 Final Report

Upon completion of the contract, i.e. immediately upon issuing the Final Payment Certificate, the Final Report shall be submitted by the Consultant which will take into account all comments, if any, provided by the Employer and the Client to the draft Final Report.

8.9.1 Special Reports

If required and at the request of the Employer and the Client, within two weeks from any such request, the Consultant shall prepare a Special Report on any major issue raised by the contract implementation, including (but not limited to) modification of drawings, claims, etc.

9 IMPLEMENTATION ARRANGEMENTS, FACILITIES AND PROJECT DOCUMENTS

9.1 Implementation Arrangements

The works contract is expected to be signed following the successful conduct of a separate procurement procedure and is expected to have a duration of 24 months and the contract is to be signed in the second semester of the year 2025.

The Services to be provided by the Consultant are expected to last 39 months, divided in 2 Phases. The Phase 1 will include 1 month for pre-Commencement activities and 24 months of works supervision; and Phase 2 will include 12 months covering Defects Notification Period and 2 months for the Performance Certificate issue and other closing activities, final account and contract close-out. This will be subject to the successful performance of the Consultant in Phase 1 and provided the credit closing date is extended or other source of financing is secured.

The Consultant shall prepare a Technical Proposal and a Financial Proposal for both Phase 1 and Phase 2, which will be evaluated on the basis of the aggregate price. The contract to be signed with the Consultant will be for Phase 1 only, and a separate addendum may be signed for Phase 2 provided that the credit is extended or other source of financing is secured and provided the Consultant's performance under Phase 1 was satisfactory.

The time period may be changed by written agreement between the parties.

9.2 Facilities

The Contractor shall erect or hire temporary site office for his own use and the use of the Consultant (i.e. limited to 1 person of the Consultant's team) during the construction works in a

position to be agreed with the Consultant. The office shall be substantially built, weatherproof, well-lit and suitably furnished, with heating and air conditioning.

The site office shall contain all modern furniture and equipment (incl. printer and internet connection) to be used by the Contractor's staff, translators, secretarial staff etc. and 1 person of the Consultant's team as well as sufficient space for meetings with the Employer/Client and/or Consultant and archiving of all relevant documentation.

For the weekly site meetings, the Contractor shall provide for:

- Meeting Room (30 m2 floor area) with tables and chairs for 6 persons. Equipped with Internet connection, heating and air conditioning.
- WC and bathroom.

The Contractor shall provide every assistance to the Consultant and Consultant's personnel in carrying out their duties on site. For such purpose, the Contractor shall make available suitably qualified competent and experienced staff, fully equipped with new surveying instruments and measuring equipment, levels, measurement poles, tools, measuring instruments, gauges, meters, paint, tolerance tools, and all items as necessary for the proper inspection, testing, measurement, checking of setting out, and level checking of all parts of the Works.

Other office consumables such as stationary, printing paper, items for making documents, printer ink, toiletries, water, tea, coffee, and the like shall be covered by the Consultant.

Contractor will provide for the full duration of the contract, for the sole use of the Consultant's supervising personnel, the following as-new materials, equipment and quantities thereof, handed over to the Consultant:

- Safety helmets (hard hats) 10 nos;
- Coloured Safety Visibility Vests 10 nos;
- Water proof Rain Jackets 6 nos;
- Large size umbrella 4 nos;
- Rubber Boots (sizes to be assessed) 6 nos;
- Safety Working Shoes (sizes to be assessed) 6 nos;
- Flood-light Torches (rechargeable type) 2 no;
- Steel retractable type 3m measuring tapes 6 nos;
- Cloth or plastic, housed winding type 30m measuring tapes 4 nos;
- Safety glasses, protective eye wear 4 nos;
- Ear muffs hearing noise protection 4 nos;
- Breathing mask, with replaceable activated carbon filters 2 nos;
- Industrial grade working gloves 6 nos;
- Fall protection harness 2 nos.

The Contractor shall provide transport for the sole use of the Consultant.

The Consultant will supply all necessary computer hardware and software required to deliver the services, together with the necessary office equipment, which will be handed over to the Employer and the Client at the end of the assignment.

The Client may assist the Consultant in obtaining any entry/exit visas, etc. However, any related costs shall be borne by the Consultant.

The Consultant shall include in his proposals for a separate monthly running cost for office accommodation; communication costs; and drafting, reproductions and translations. He shall also present the air tickets and other travel costs. Each of these costs will be reimbursed on time against receipts, but in any case, without exceeding the total ceiling cost of each item, as included in the consultant's financial proposal.

The Consultant will be expected to arrange accommodation facilities, at his own cost, for all staff. The key experts are encouraged to be accommodated close to the Works Contract that they are supervising. The Consultant will also be responsible for all salaries, fees, allowances, insurance, leave pay and taxes for the staff involved in the assignment.

All employees, including the Consultant and the Contractor's personnel engaged in the activities related to the implementation of the project, must fully respect prescribed measures for occupational protection.

9.3 Project Data and Documents

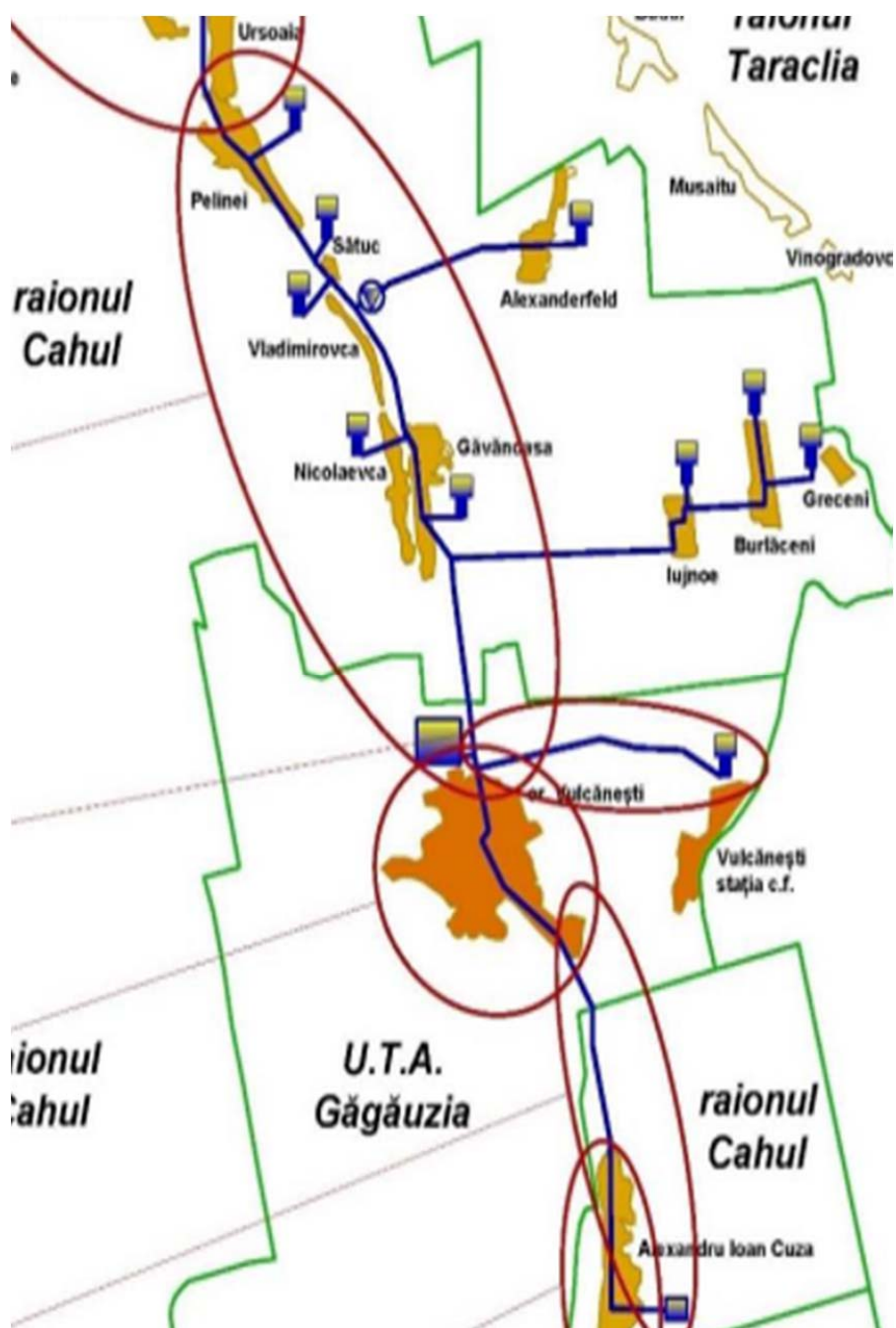
All documentation related to the execution of the Works is and will remain the property of the Client and Employer after completion of the assignment. The Consultant shall not publish, use or dispose of this documentation without written consent of the Employer and the Client.

The Consultant shall provide and maintain orderly working files and a comprehensive, computerized log for correspondence, minutes of meetings and conferences, submittal data, submittal registers, inspection and monthly progress reports, contract documents including amendments, notice to commence, variation orders and modifications, all in a Project Management Information System (PMIS), as approved by the Employer and the Client and compatible with the Employer's Management Information System (MIS).

The Consultant shall also maintain all detailed deliverable inventory, scheduled dates and actual status. During the course of the works under the contract, the Consultant shall maintain any and all electronic and printed project documents in good order. From time to time, the Employer and the Client may request the Consultant to provide certain documents to interested parties, approved by the Employer and the Client. Documents of a sensitive nature should be stored separately in a safe place.

Prior to completion of the final contract period, the Consultant shall deliver to the Employer and the Client any and all hard copies project documents, in good order and properly indexed and marked. Additionally, the Consultant shall provide the Employer and the Client with all electronic files of any and all project documents stored in a media acceptable to the Employer and the Client including a comprehensive, well-organized electronic index of all those documents. The copyright of all project materials and any software license used for the PMIS shall belong to the Employer, Client.

Annex 1. Locations of the Cahul Water Supply sub-project



Annex 2. Description of the Water Supply System

"Improvement of Water Supply Services in Cahul and Vulcanesti Districts" foresees the construction of the water transmission main for the localities of cluster D, Cahul Rayon, Stage 2;, according to the "Feasibility Study for water supply services in Cahul Rayon, with options for wastewater services, based on the Water Supply and Sanitation Chapter of the Socio-Economic Development Strategy" elaborated within the Project "Modernization of local public services in the Republic of Moldova", approved in September 2014.

Geographical conditions

Geographically, Cahul Rayon is located in the South-Western part of the Republic of Moldova, on the left bank of the Prut River. The rayon is bordered on the North with the Cantemir Rayon, on the North-East and South-East with separate localities included in the ATO Gagauzia, on the East with Taraclia Rayon, on the South with Ukraine, on the West by the Prut River with Romania. The area of Cahul Rayon is about 1.545 km², which is up 4.6% of the country's territory.

Cahul Rayon is an administrative-territorial unit which comprises 56 localities: Cahul city, 37 communes and 18 villages. The city of Cahul is located on the Frumoasa River, at a distance of 175 km from the city of Chisinau and 60 km from the city of Galati, Romania. Regarding population, Cahul is the largest city in the southern region of the country and constitutes the 6th city in the Republic of Moldova.

Relief and climate conditions

The territory of the rayon is situated on the lower part of the Prut River plain, at an altitude of 119.00 m above sea level. The relief descends from North to South and includes the Plateau Tigheci in the North, the plain of Cahul in the Center, and the depressions of the Cahul, Salcia and Ialpuș Rivers in the East. The territory is lower on the West side and it is represented by the old terraces of the Prut River, fragmented by valleys and ravines.

The climate is temperate - continental. Winters are short with snow layers of uneven thickness, while summers are with long hours of sunshine. The average air temperature is about + 11 ° C.

The period with the lowest temperatures predominates in January-February -4.2°C. In the winter, low-tempered weather conditions (with frost) are about 50%, while temperate weather conditions (without frost) are up to 25. Low temperatures of about - 25°C are rarely registered, usually in January. The snow layer has small and uneven thicknesses (about 10-17 cm) and can be present for 70 days. The spring is about 2.5 months with average temperatures of about + 16-17 ° C. During summer, the temperature varies between + 21°-35°C, averaging about + 21°C. Near December, the temperatures are reduced and in January the first freezes can occur. Autumn lasts about 2.5 months, with average temperatures of about + 16°C at the beginning and temperatures of about

0°C to the end. The average precipitation varies between 490-500 mm. Mixed precipitations (liquid, solid) are present during the winter.

The hydrographic system is represented by the Prut river with its left tributaries Larga, Cahul, Salcia Mare. The Prut River flows into the Danube River to Giurgiulesti. On the territory of the rayon are the largest natural lakes in the republic - Belev and Manta.

The topographic surveys and geotechnical studies

Topographical surveys are special topographic surveys, developed according to NCM A.06.02:2015 "Executarea lucrarilor geodezice in constructii" for the creation of a topographic plan in the MOLDREF 99 coordinate system (according to Law no.778 of 27.12.2001 on geodesy, cartography and geoinformatics, a unique coordinate system of the Republic of Moldova for all types of geodetic works, cartographic works, cadastral works and plotting works), necessary for the execution of the design works of the water supply system.

Geotechnical surveys include the following works:

- Investigation of the soil by executing one or more geotechnical drillings;
- Determination of groundwater level;
- Sampling and analysis in a certified laboratory;
- Preparation of the Geotechnical Report, which explains the results of the work performed and presents recommendations on the location of the objectives in the field.

According to the geological-engineering and hydrogeological conditions along the road R32 (Cahul-com.Lebedenco) Cahul rayon, following was concluded:

- the sector assigned to the construction of water supply system is suitable;
- the absolute elevations vary from 120.000 m to 8.000 m, the maximum elevation difference in the subject design area is 112,00 m;
- according to the seismic zoning maps of the Republic of Moldova, approved by the Ministry of Regional Development and Constructions (Monitorul Oficial, no.72-74 of May 14, 2010), the seismicity in the Cahul Rayon is 8 degrees;
- the depth of groundwater: drilling 3 - from 0,80 m; drilling 5 – from 1,90 m; drilling 8 – from 1,10 m; drilling 10 – from 1,70 m; drilling 15 – from 2,00 m; drilling 16 – from 1,00 m; drilling 17 – from 2,30 m;
- no landslides;
- according to the СНиП 2.01.01-82 „Строительная Климатология и Геофизика” ("Construction Climatology and Geophysics"), the frost depth is 0.8 m in the Republic of Moldova, and it permits the laying depth of water transmission main of 1,40 m;

The engineering researches carried out for the design documentation are considered sufficient for the construction of water supply system.

The water source for the town of Cahul and the localities from clusters A, B, C, D, Cahul District planned to be connected is the Prut River.

The water supply system scheme for design stage 2, as follow:

- The water transmission main from the designed water pumping station SP-2a up to the existing water pumping station SP-5 is supplied under pressure. The pumping group is designed for water supply of the localities of Cluster A, B, C and D in the Cahul District, according to the "Feasibility Study for water supply services in Cahul District, with options for wastewater services, based on the Water Supply and Sanitation Chapter of the Socio-Economic Development Strategy".
- The water transmission main from the design manhole F-12 (according ob.19/17-AE "Design and construction of water transmission main Cahul-Lebedenco-Pelinei-Gavanoasa-Alexandru Ioan Cuza Cahul District (Stage 1)") up to the designed water pumping station SPR-1 is supplied by gravity.
- The water transmission main from the designed water pumping station SPR-1 up to the connection node for Etulia, Etulia Noua and Cismichioi localities is supplied under pressure. The designed water pumping station SPR-1 is provided for the water supply of the localities of Cluster D: Iujnoe, Burlaceni, Greceni, Vulcanesti, Alexandru Ioan Cuza, Etulia, Etulia Noua and Cismichioi.
- The designed water pumping station SPR-2 is provided for the water supply of the existing water reservoir from the Alexandru Ioan Cuza locality is supplied under pressure.
- The connection node for Pelinei locality – designed manhole F-15, from which through a water transmission main, the water will be transported by gravity and stored in two water towers designed with volume of $V=50 \text{ m}^3$ and the height of the supporting tower of $H_p=18,00 \text{ m}$ each.
- The connection node for Satuc locality – designed manhole F-18, from which through a water transmission main, the water will be transported by gravity and stored in a water tower designed with volume of $V=25 \text{ m}^3$ and the height of the supporting tower of $H_p=15,00 \text{ m}$.
- The connection node for Alexanderfeld locality – designed manhole F-21, from which through a water transmission main, the water will be transported by gravity up to existing water reservoirs.
- The connection node for Vladimirovca locality – designed manhole F-28, from which through a water transmission main, the water will be transported by gravity and stored in two above-ground water reservoirs designed with volume of $V=25 \text{ m}^3$ each.
- The connection node for Nicolaevca locality – designed manhole F-35, from which through a water transmission main, the water will be transported by gravity and stored in two

water towers designed with volume of $V=25 \text{ m}^3$ each and the height of the supporting tower of $H_p=15,00 \text{ m}$.

- The connection node for Gavanoasa locality – designed manhole F-38, from which through a water transmission main, the water will be transported by gravity and stored in two towers designed with volume of $V=50 \text{ m}^3$ each and the height of the supporting tower of $H_p=15,00 \text{ m}$.
- The connection node for Iujnoe, Burlaceni and Greteni localities – designed manhole F-43.
- The connection node for the town of Vulcanesti – designed manhole F-47, from which through a water transmission main, the water will be transported by gravity to the existing manhole Fex-2.
- The connection node for Alexandru Ioan Cuza locality – designed manhole F-62.
- The connection node for Etulia, Etulia Noua and Cismichioi localities – designed manhole F-67.

The water transmission main from the designed water pumping station SP-2a up to the existing water pumping station SP-5; from the design manhole F-12 (according ob.19/17-AE "Design and construction of water transmission main Cahul-Lebedenco-Pelinei-Gavanoasa-Alexandru Ioan Cuza Cahul District (Stage 1)") up to the designed manhole F-67 is designed into two pipelines:

- first pipeline is dimensioned for 1/3 of the average flow rate;
- second pipeline is dimensioned for 2/3 of the average flow rate.

The components of the project are as follows:
“Expansion and improvement of water supply services in Cahul and Vulcanesti districts”

Item	mu	Quantity, unit
From the water source		
Main water pipeline	km	97.24
Disinfection stations	unit	10
Pumping/ Repumping stations	unit	3
Pelinei village		
Water supply distribution networks	km	22.83
Water tank (50m ³)	unit	2
Satuc village		
Water supply distribution networks	km	2.25
Water tank (25m ³)	unit	1
Gavanoasa village		
Water supply distribution networks	km	17.26
Water tank (50m ³)	unit	2
Vladimirovca village		
Water supply distribution networks	km	6.94
Water tank (25m ³)	unit	2
Nicolaevca village		
Water supply distribution networks	km	8.64
Water tank (25m ³)	unit	2
Vulcanesti railway Station and Vulcanesti Free Economic zone		
Water tank (50m ³)	unit	2
Main water pipeline	km	4.41
Water supply distribution networks	km	4.65
Repumping stations	unit	1

Annex 3. List of National Standards

1. СНиП 2.04.02-84 “Водоснабжение. Наружные сети и сооружения”;
2. CP G.03.08:2020 „Instalatii si retele de alimentare cu apa si canalizare. Proiectarea si constructia sistemelor exterioare de alimentare cu apa potabila pentru localitati mici cu un consum sub 200 m³/zi”;
3. NCM B.01.03:2016 “Sistematizarea teritoriului si a localitatilor. Planuri generale ale intreprinderilor industriale in constructii”;
4. NCM B.01.05: 2019 ”Urbanism. Sistematizarea si amenajarea localitatilor urbane si rurale”;
5. CP G.03.02-2006 „Proiectarea si montarea conductelor sistemelor de alimentare cu apa si canalizare din materiale de polimeri”;
6. NCM A.07.02-2012 “Procedura de elaborare, avizare, aprobare si continutul-cadru al documentatiei de proiect pentru constructii”;
7. NCM A.06.02:2015 “Executarea lucrarilor geodezice in constructii”;
8. ГОСТ 21.101-97 „Основные требования к проектной и рабочей документации”;
9. ГОСТ 21.704-2011 „Система проектной документации для строительства. Правила выполнения рабочей документации наружных сетей водоснабжения и канализации”;
10. СНиП II-7-81 ”Строительство в сейсмических районах”;
11. NCM A.08.02:2014 „Securitatea si sanatatea muncii in constructii”;
12. СНиП 3.05.04-85 «Наружные сети и сооружения водоснабжения и канализации»;
13. СанПиН 2.1.4.027-95 „Regulile si regimul de utilizare a ariilor care intra in zonele de protectie”;
14. CP A.08.01-96 "Instructiuni de verificare a calitatii si de receptie a lucrarilor ascunse si/sau in faze determinante la constructii si instalatii aferente”;
15. NCM F.02.02-2006 ”Calculul, proiectarea si alcatuirea elementelor de constructii din beton armat si beton precomprimat. MD 1. M.O. № 125-129 an.2013”.