KYRGYZ REPUBLIC
KYRGYZ REPUBLIC RESILIENT LANDSCAPE RESTORATION PROJECT
(RESILAND CA+ PROGRAM)

COMPONENT 2.2 LANDSCAPE RESTORATION USING CLIMATE-RESILIENT NATURAL AND GREY (TRADITIONAL) SOLUTIONS

TERMS OF REFERENCE

Conducting technical supervision over construction works on sites of mudflow protection structures (southern region)

I. BACKGROUND

The drylands in Central Asia are among the most rapidly degraded and climatically vulnerable areas in the world. The combination of natural arid conditions, years of overgrazing, and increasing anthropogenic pressures, such as land conversion to intensified commercial agriculture, logging, has led to deforestation, loss of vegetation cover, land degradation, erosion, and loss of biodiversity. This, in turn, has affected agricultural productivity, the sustainability of infrastructure, and the potential for tourism development, while increasing the fragility of the region. The region is increasingly exposed to intense weather events and natural disasters, which further degrade landscapes, human living conditions, economic opportunities, and infrastructure. Moreover, in Central Asia, land degradation is a crucial factor in migration in search of livelihoods. The effects of climate change are expected to worsen the state of countries' natural resources and the overall sustainability of their populations and ecosystems. Glaciers in Central Asia, which account for 10 percent of the annual river flow in the Amu Darya and Syr Darya River basins, have already decreased by one-third in volume since the beginning of the 20th century. The melting of glaciers and snow cover in upstream countries due to climate change will lead to an increase in mudflows, floods, and the risk of glacial lakes breaking through, which will affect countries both in the upper and lower reaches of rivers.

The geography of the Kyrgyz Republic makes its territory highly vulnerable to natural disasters. On average, the country experiences 200 natural disasters annually, including avalanches, earthquakes, floods, mudflows, landslides, and droughts.

Land degradation, mountainous terrain, and the effects of climate change make the country particularly vulnerable to mudflows, which further degrade its landscapes and impact communities and infrastructure. The combination of degraded land, topography, and adverse climatic conditions—particularly heavy rainfall following lengthy periods of drought and the rapid melting of glaciers and snow—led to 920 mudflows between 2010 and 2022, accounting for 35 percent of all natural disasters in the country.

On average, 17,000 people are affected by mudflows annually, costing the economy $38 million. Mudflows have eroded soil, destroyed vegetation, and damaged infrastructure, homes, agricultural activities, and other economic assets, while also threatening the lives and livelihoods of people living in low-lying areas. Projections indicate that the effects of climate change will lead to a 5–15 percent increase in the frequency and intensity of mudflows by 2050.

The World Bank-supported Program for the Restoration of Sustainable Landscapes in Central Asia (RESILAND CA+) was established in 2019 with the aim of providing Central Asian countries with a regional framework to enhance the sustainability of regional landscapes and people through landscape restoration. This umbrella program funds landscape restoration analytics and consulting, as well as investment projects in the Central Asia, namely – Uzbekistan Resilient Landscape Restoration Project and Tajikistan Resilient Landscape Restoration Project, united by a regional exchange platform for high–level dialogue on landscape restoration. The collective, harmonized, and regional approach to the program, in which common goals of regional cooperation are achieved through country-level interaction, is considered the most effective

method of transboundary landscape restoration. At the same time, border areas are often hotspots of land degradation, deforestation, and poverty, which makes national approach less effective. The program is also aligned with the regional vision of addressing the degradation of regional public goods through collaboration within a single region.

The Kyrgyz Republic Resilient Landscape Restoration Project (hereinafter KG RESILAND) will apply green, NBS, and gray solutions to increase the resilience of communities and landscapes to natural disasters, particularly mudflows and floods. The project aims to increase the areas of the Kyrgyz Republic under sustainable landscape management and will promote collaboration between the Kyrgyz Republic and other Central Asian countries in the restoration of transboundary landscapes, as well as building capacity and establishing a favorable environment for relevant organizations in the Kyrgyz Republic engaged in the effective and sustainable monitoring of mudflows and glaciers, with the aim of reducing their short- and long-term impacts on livelihoods and land degradation.

Under Component 2—Enhancing Resilient Landscapes and Livelihoods—of the KG RESILAND project, activities are planned to implement combination of climate-resilient green solutions for landscapes and upstream soil erosion control (slope and ravine stabilization, systems to combat sedimentation and debris flows, and other nature-based solutions (NBS) applied on mountain slopes) and gray solutions (embankments or dams, bank stabilization structures and other protective structures along rivers and floodplains most prone to landslides), in addition to modernizing the country's monitoring system for soil erosion, mudflows, glaciers, and GLOFs to ensure more informed decisions taken on long-term mudflow mitigation.

Climate-resilient gray solutions will be implemented through the rehabilitation of existing and construction of new embankments and bank stabilization structures in the Jalal-Abad, Osh, Issyk-Kul, and Naryn oblasts of the Kyrgyz Republic. Interventions will be carried out at approximately 20 sites spanning about 31.72 km; the exact number and location of target sites may be adjusted during project implementation. The objective is to help reduce landscape degradation and protect communities, livelihoods, and infrastructure from the impact of mudflows in these high-risk areas. The initiative aims to protect 11,796 households. Additionally, 10,074 hectares of agricultural land and numerous social infrastructure facilities will be protected from potential damage.

Site selection under Component 2 is based on the occurrence of mudflows, transboundary downstream impacts, their intensity and impact on households and agricultural land. Seventeen sites are located in the Osh and Jalal-Abad oblasts (bordering Uzbekistan) along the mudflow tributaries of the transboundary Kara-Darya River, such as the Kugart, Kara-Unkur, and Aravan-Sai. The remaining four sites will be located in the Issyk-Kul (bordering Kazakhstan) and Naryn oblasts in the north, in areas with high mudflow risk. Significant protective benefits are expected for transboundary road infrastructure, households, and environmental safety in Issyk-Kul Oblast, as well as for households and agricultural lands in Naryn Oblast.

Activities implemented under Component 2 will primarily consist of new construction, repair, and/or rehabilitation of existing priority protective infrastructure (protective embankments and bank stabilization structures) built during the Soviet era. The selected sites include defective structures, which will be repaired and, where necessary, upgraded, and non-functional structures, which will be restored.

II. OBJECTIVE OF THE ASSIGNMENT

The objective of the consulting services is to carry out technical supervision and monitoring of the construction of mudflow protection structures located in the Osh, Jalal-Abad oblasts (16 sites) and to assist the MoES (Selvodzashita, PIU) in:

(a) ensuring high quality standards for construction and installation works during the implementation of construction contracts and the completion of works within the established timeframe and budget;

(b) supervising the performance of construction contracts carried out by contracting organizations (hereinafter the Contractor). The Consultant must ensure that the quality of construction works complies with the Design and Estimate Documentation (DED), as well as with construction standards and regulations (SNiP) and other applicable GOST standards of the KR in the field of construction, and with the environmental and social requirements and commitments set out in the environmental and social instruments within the contract documents.

A Secondary objective is to assist the PIU in the effective execution of contracts by providing support in the management and monitoring of projects under implementation.

Upon completion of construction works, defects should be identified during the liability period (12 months from the date of completion of construction works), the Consultant shall carry out technical supervision of the process of their rectification. In the event of disputes regarding the causes of defects, the Consultant shall conduct an independent expert assessment, prepare a reasoned technical report for the MoES (Selvodzashita, PIU) and compile a body of evidence confirming or refuting the Contractor's liability.

III. SCOPE OF SERVICES

The Consultant shall supervise the construction and installation works to ensure that all objectives are met and that the construction works are of a high standard, as specified in the Objectives section of these Terms of Reference.

The Consultant's responsibilities include, but are not limited to, the following:

- The Consultant shall provide regular technical supervision at construction sites and shall be responsible for the high-quality execution of all Contractors' contracts for the construction of mudflow protection structures (protective embankments, mudflow diversion channels, jet-guiding spurs, etc.). Furthermore, the Consultant shall ensure that the Contractor complies with the provisions of the construction works contract regarding the quantities and quality specified in the Design and Estimate Documentation (bill of quantities, technical specifications, SNiP), and timeline;
- The Consultant shall review the Contractor's contracts to identify any omissions that may compromise the completeness or consistency of the works. This review shall be conducted immediately upon commencement of services and shall be completed within the first two weeks. Upon completion of the review, the Consultant shall prepare a report on this review, setting out all conclusions and recommendations to address any omissions identified. This report shall be submitted together with the inception report. Notwithstanding the foregoing, the Consultant shall immediately inform the MoES (Selvodzashita), PIU of any omission that may have a material impact on the implementation of the Consulting Services for the construction contracts in terms of the performance of the works at the time of disclosure or identification of the omissions;
- The Consultant shall assist the MoES (Selvodzashita), PIU in monitoring compliance with the World Bank's environmental and social requirements during construction and installation works by performing the tasks described in the section **'Construction Supervision and Acceptance of Works';**
- The Consultant shall ensure the collection and storage of all necessary and required documents (certificates of completion, general work logs, health and safety logs, as-built drawings , plans, longitudinal and cross-sectional profiles, etc., statements of work volumes, certificates of inspection of concealed works, test reports for construction materials, certificates for material, passports for precast concrete and equipment , etc.) for the commissioning of the completed construction project in accordance with the current legislation of the Kyrgyz Republic. The Consultant shall ensure the handover of all documents (executive documentation for construction) for each project to the MoES (Selvodzashita, PIU);
- The Consultant shall take all necessary measures to ensure the quality control of construction works.

- The Consultant must ensure regular geodetic control over compliance with planned and elevation points with reference to benchmarks;
- The Consultant, together with representatives of the MoES (Selvodzashita, PIU), shall make all necessary engineering decisions required for the successful and timely performance of the contract within the planned time limits and budget;
- The Consultant must monitor the contractor's adherence to the work plan and adjust it on a monthly basis;
- The Consultant shall verify that Contractors have an OHS plan in place; monitor and report incidents or accidents; or report on OHS performance;
- During the provision of services, the actual volumes of work performed are subject to regular recording and verification. All changes to the terms of reference and justified additional expenses must be recorded and documented in a timely manner. These records, following their approval by the MoES (Selvodzashita, PIU) and the submission of supporting documentation by the Consultant, shall form the basis for the issuance of monthly interim invoices for payment. Upon completion of the services and at the end of the period of liability for the quality of the results provided, the Parties shall carry out a final reconciliation of the work actually performed and the costs incurred in order to make the final settlement in accordance with the terms of the contract.

In addition to the expansion of contractual activities and the duties required by the MoES (Selvodzashita, PIU), the services, in accordance with these ToR, include but are not limited to the following activities:

Commencement of the consulting services contract

At this stage, the Consultant will review the contract documents and the Design and Estimate Documentation (DED) to gain an overall understanding of the scope and complexity of the assignment. This task will also involve reviewing the Environmental and Social Management Plans (ESMPs) and the Resettlement Action Plan (RAP) (where applicable) submitted by the PIU.

The Consultant will also, where necessary, hold regular meetings and participate in meetings with key stakeholders, including the MoES (Selvodzashita, PIU), local authorities, on matters relating to the construction sites.

Following an initial review and discussion, the Consultant shall prepare and submit an inception report within 4 weeks of the contract being awarded. The inception report will include, in particular, the following:

- Methodology and plan for technical supervision at construction sites to ensure high-quality execution of construction works, including environmental and social safeguards, occupational health and safety (OHS) methodology for data collection and stakeholder interviews, frequency, schedule, and number of site visits, checklists for technical supervision of construction works and a description of all resources to be engaged by the consultants during construction;
- Staffing levels at the office and on-site (at project sites), organization and implementation of mechanisms, plans for technical supervision and monitoring, and an overall team deployment schedule;
- Detailed methodology for achieving high-quality construction, including field and laboratory tests to be carried out under this assignment and a description of quality assurance audit procedures;
- Reporting forms, a reporting schedule and a procedure for the approval and review of reports to ensure compliance with contractual requirements and other comments from the MoES (Selvodzashita, PIU).

Organization of services

The Consultant shall ensure that services are provided in strict compliance with applicable regulatory documents in the construction sector (SNiP, GOST), as well as construction quality standards, and shall guarantee that contractors are mobilized within the timeframes set out in the schedule, using qualified personnel. The Consultant's obligations regarding the provision of services include, but are not limited to, the following:

- To provide the services of as technical supervision engineers and other necessary technical personnel to carry out technical supervision of construction works at project sites and quality control of construction works on the construction site, to ensure compliance with the construction schedule, and to provide Contractors with instructions regarding work quality standards in accordance with the relevant standards;
- Deploy the necessary number of personnel at each site with a clear division of responsibilities to carry out continuous daily supervision of the construction. The Consultant's personnel (technical supervision engineers) at the construction site must be present on site at all times;
- Geodetic engineers must also visit the sites periodically to carry out verification surveys of the volumes of work completed, and to check the axial positions, elevation marks and geometric parameters of the structure;
- Develop system to monitor the daily presence of technical supervision engineers on the construction site. The number of technical supervision engineers and other specialists at each site is determined based on the scope of work in consultation with the MoES (Selvodzashita, PIU);
- Coordinate all proposals regarding the construction process and seek advice from the PIU in advance, in particular to ensure the proper execution of reconstruction and construction works;
- Prior to the commencement of construction works, the Consultant must draw up detailed work plan and schedule, which must be approved by the MoES (Selvodzashita, PIU). Coordinate site visits by their staff, establish communication channels and feedback mechanisms, and incorporate their recommendations into reports for subsequent submission to the MoES (Selvodzashita, PIU);
- The Consultant shall prepare monthly and quarterly reports for the MoES (Selvodzashita, PIU) on contract implementation, including the following sections: 1) introduction with basic information on the contract, description of the planned infrastructure, goals and objectives of the contract 2) physical status of contract implementation indicating completed and remaining types of construction and installation work in cumulative form (cumulative work table). 3) compliance with quality requirements at the facility, including data on sampling and results, information on identified deviations from quality requirements and measures to eliminate deviations 4) adherence to work plan with the attachment of comparative diagrams, 5) the implementation of the ESMP. 6) information on visits to construction sites by representatives of third parties, indicating questions and comments; 7) any information that requires immediate resolution by the management of the MoES.

Assisting the Client's (MoES)in contract administration for the implementation of works

The MoES delegates the following responsibilities to the Consultant in relation to the management of construction contracts:

- Monitoring the Contractors' acquisition of the necessary permits from the relevant authorities prior to the commencement of construction works, as well as overseeing the mobilization of the necessary personnel, construction machinery and equipment. Reviewing and approving the construction schedules (work plans) and method statements proposed by the Contractor; verification and signing of IPCs (interim payment certificates); participation in the acceptance committee and signing of the completion certificate

- Regularly inspecting the Contractor's machinery, equipment, installations and facilities, both for construction works and for the accommodation of workers, to ensure they comply with the terms of the contract and all statutory regulations;
- Verifying and ensuring that contractors comply with health and safety requirements in accordance with legislation or other regulations, as well as compliance with approved measures to mitigate negative environmental impacts;
- To carry out regular checks to ensure that Contractors have a sufficient number of professionally and technically qualified personnel, as may be specified in their contracts, to perform the works in accordance with established procedures;
- To assist Contractors in developing solutions and alternative methods to overcome unforeseen obstacles during implementation;
- Negotiate with Contractors regarding the scope of additional works and their justification. Additional works must be submitted to the MoES (Selvodzashita, PIU) in good time (28 days in advance) to allow for a timely decision;
- Review and approve justifications for amendments to the DED, followed by justification for changes to the work schedule stipulated in the contract. Submit justifications and recommendations to the MoES (Selvodzashita, PIU) regarding changes to construction deadlines, provide justifications for payment of additional works (where necessary), and investigate the causes of additional works;
- Monitoring the availability of all required documents for the commissioning of the completed construction project in accordance with the current legislation of the Kyrgyz Republic in the field of construction;
- Assisting the MoES (Selvodzashita, PIU) in the acceptance and commissioning of completed construction projects, as well as verifying the as-built documentation for the completed projects and other necessary documents prepared by the Contractors for the handover of the projects;
- In conjunction with the Contractors, update the operation and maintenance manuals for the constructed protective structures, and organize a short training course for the operating organizations.
- Organize meetings necessary for the management and provision of services required for project activities, including periodic meetings with the MoES (Selvodzashita, PIU) and the Contractor to review progress, prepare and distribute copies of the agenda, and meeting minutes. Meetings at the construction site must be jointly agreed upon by the MoES (Selvodzashita, PIU), the Consultant and the Contractors;
- Participate in meetings with stakeholders (local communities, community groups and other interested parties) to discuss the progress of the project and assist the MoES (Selvodzashita, PIU) in resolving any issues related to project activities. Assist the MoES, PIU in providing clarifications and explanations to stakeholders and other government officials;
- The Consultant shall provide support in resolving all disputes and disagreements that may arise between the Client and the Contractor within the specified timeframes. In the event of legal or arbitration proceedings, the Consultant shall prepare the supporting documents required by the PIU.

Quality assurance and control

The Consultant is required to develop a comprehensive quality assurance system (QAS) setting out the frequency of testing, the sampling procedure and the acceptance criteria for all types of construction works. This system must be based on the technical specifications of the relevant contracts or, in the absence of such specifications, on best international practice. The quality assurance system developed by the Consultant must include the following mandatory activities:

- Ensure regular testing of all necessary construction materials (quarry stone, concrete, reinforcement, etc.), as well as other tests and investigations (such as soil compaction, soil particle size distribution, etc.) to ensure compliance with design solutions and prescribed specifications;
- Regular inspection of the contractor's construction equipment, temporary buildings and structures to ensure compliance with the conditions specified in the Contractor's construction works contract;
- Regular inspection of the site to ensure compliance with environmental requirements, occupational health and safety, and safety regulations, including the management of hazardous waste generated during construction works (asbestos or materials containing asbestos, etc.), as well as workers' working and living conditions, etc.;
- Verification of the quality of the construction materials and equipment used, as well as the availability of relevant documentation confirming their required quality standards;
- Issuing notices to the Contractor, in consultation with representatives of the PIU, to rectify or correct any works which are found to (a) do not comply with drawings and other technical documents, (b) do not comply with specifications, (c) have not been submitted for acceptance (with the drawing up of acceptance certificates), or have been recorded as unacceptable (in the instructions);
- Tests must include all tests as specified in the technical specification, the DED and in accordance with the requirements of SN KR 12-02:2018 «Organization of construction works». If it is necessary to use an external laboratory, the consultant will take samples and test them in accredited/approved laboratories.
- Field tests and sampling must be carried out in the presence of the MoES (Selvodzashita, staff/PIU Engineer/Contractor's representative); the process must be documented with reference to the location where samples are taken; the sampling act must be signed by supervision engineer.
- Technical supervision shall be carried out in accordance with these Terms of Reference and in accordance with applicable laws, regulations and orders in the field of construction specified in Section IX of these Terms of Reference, and in particular the 'Regulations on Technical Supervision' and the requirements of World Bank procedures.

Construction supervision and acceptance of works

Technical supervision of construction work at the site must be carried out by consultants to ensure quality throughout the period of reconstruction and construction work. Technical supervision of construction work must cover the following activities related to the construction and mechanical work included in the contract documentation:

- Ensure accurate and timely maintenance of technical supervision documentation in accordance with the requirements of the legislation of the Kyrgyz Republic;
- Conduct regular technical supervision of construction and installation works at each site throughout the project's implementation and provide regular reports to the MoES (Selvodzashita, PIU) as specified in the contract. Technical supervision is carried out to ensure proper construction quality, verify the scope of work, and ensure compliance with construction codes and regulations;
- Regulate and monitor any necessary or requested changes to the scope of work during the construction phase and upon commissioning of the facility;
- Be responsible for verifying the scope of work performed by contractors, their compliance with building codes and regulations, and adherence to construction methods;
- Inspect and test all equipment, materials, and work for compliance with specifications in accordance with the project documentation. Promptly notify the MoES (Selvodzashita, PIU) and Contractors if such equipment, materials, and work do not comply with the project

documentation. Prepare recommendations for the MoES (Selvodzashita, PIU) regarding acceptance or rejection of any part or parts of the completed work;

- Timely measure the quantity of approved and accepted work and materials, verify and certify interim certificates of work performed, as well as the completion of part or all of the work. Systematically check and maintain records in the general work logs;
- Regularly check and confirm the Contractor's records of completed work: certificates of completion, certificates of concealed work, work progress logs, executive drawings, diagrams, etc. Conduct daily monitoring of the progress of work at the construction site (using geo-referenced photo and video), as well as monitoring and resolving all issues at the construction site; if necessary, involve PIU engineers in resolving complex issues related to additional financing.

Environmental and social monitoring

The consultant ensures strict compliance of the construction methods and schedules proposed by the Contractor with applicable technical regulations, environmental safety regulations and occupational health and safety standards, including monitoring the proper technical condition of construction equipment and compliance with rules governing the storage and use of fuel and lubricants (F&L), as well as ensuring the comprehensive safety of production processes, property, personnel and the public.

The consultant's responsibilities also include the following tasks:

- Regular inspection of the site to ensure compliance with environmental, occupational health and safety requirements, including the management of hazardous waste generated during construction works, as well as workers' working and living conditions, etc.;
- Assisting the PIU in implementing the World Bank's social policies, such as the GRM, the prevention of sexual exploitation and harassment/gender-based violence, as well as other issues relating to social and environmental safeguards, etc.;
- Carrying out daily on-site general supervision of construction works, including monitoring the implementation of measures to mitigate environmental and social impacts as set out in the working design and the ESMP;
- Assisting the PIU in preparing the quarterly report on compliance with the requirements for implementing the ESMP;
- Liaising with state supervisory bodies in the field of environmental safety, assisting in the provision of information in accordance with their requirements, and participating in all types of state inspections relating to social and environmental safety.
- Ensuring the Contractor's GRM is operational and visible at each site; maintaining a complaints log; and reporting on grievances received and resolved in monthly progress reports.
- Verifying contractor OHS plans, conducting OHS site inspections, maintaining incident logs, and reporting to PIU regularly
-

IV. REPORTING

The Consultant will report to the MoES (Selvodzashita, PIU), and also to the KG RESILAND Component 2 Coordinator of the PIU and the PIU Engineer. The primary point of contact is the PIU Engineer (the contract manager appointed by the client), to whom the Consultant will submit reports on the services provided. The Consultant will work closely with the MoES (Selvodzashita, PIU team), and local self-government authorities, and the project's author.

The table below sets out the reports to be submitted by the Consultant, the schedule for their submission, and the number of electronic and hard copies to be provided in Russian and English. The final report must be submitted in Russian and English.

№	Reports	Deadline	Q-ty of hard copy and digital format
1	Inception report	During 4 weeks after the signing of the contract	3 R
2	Monthly progress reports for each sub-project	During 1 week after the end of the previous month	3 R
3	Quarter progress reports for each sub-project	During 2 week after the end of the previous quarter	3 R
4	Reports on the completion of construction works for each site (Final report)	Draft report: 2 weeks after completion of the work. Final report: within 4 weeks of completion and approval.	3 R&E
5	Defect Period Report	Defects report: 2 weeks after scheduled and unscheduled site visits.	3 R&E
	R – in Russian language, E – in English language Reports must be properly illustrated with diagrams, sketch drawings, tables, photographic records and charts.		

Inception report

The Consultant shall provide assessment of tasks, the structure of the staffing schedule in the office and in the field, schedule for the provision of services, preparation procedures, plan for the transportation and testing of samples in accordance with the requirements of building codes and regulations and the legislation of the Kyrgyz Republic, methodology for quality control of work, document templates for interim payments, and monthly report for approval by the PIU based on the recommendation by the MoES (Selvodzashita).

Monthly and Quarter progress reports

The Consultant shall submit monthly progress reports within one week of the end of each month. The report shall include the following: (a) work carried out during the previous month in accordance with the work plan, specifying the stages of completion of various tasks together with photographs; (b) expenditure incurred, invoices submitted for payment, and contract variations relating to changes in the project, specifications or quantities; estimates of the funds required to complete the project; (c) any difficulties, technical and administrative problems arising on site, constraints, delays, cost overruns and any irregularities on site hindering the achievement of full efficiency in the work performed, and recommended measures to remedy them; (d) description of the work planned for the following month; (e) the conclusions of technical specialists following site visits during the month, as well as a summary of the instructions they issued; and (f) important visitors to the site; (g) the total number of workers employed on the project by the contractor; information regarding the contractor's failure to comply with environmental and social requirements, if any; quantities of materials delivered to the site; days of adverse weather; (h) the status of compliance with safety measures. In all cases, the report must include a forecast regarding the completion of major construction works and a photographic record. This includes photographic illustrations of the progress of construction works.

Recommended structure of the monthly and quarter progress report:

1) introduction with basic information on the contract, description of the planned infrastructure, goals and objectives of the contract

2) physical status of contract implementation indicating completed and remaining types of construction and installation work in cumulative form (cumulative work table)

3) monitor closely mobilization, implementation, completion and handover of the structures to the MoES and reflect progress and recommendations in reports;

4) recommend contractual measures in case of non-compliance with contractual obligations related to quality, timeline, mobilization and resources.

5) compliance with quality requirements at the facility, including data on sampling and results, information on identified deviations from quality requirements and measures to eliminate deviations
6) adherence to work plan with the attachment of comparative diagrams,

7) the implementation of the ESMP, OHS, and GRM

8) information on visits to construction sites by representatives of third parties, indicating questions and comments

Attachments:

Photographs related to the types of work performed or deviations, containing a description of the work or comments. Photographs confirming the correction of design deviations.

Final report

The final report shall include final report on the construction and installation works carried out, as well as all executive documentation (certificates of inspection for concealed works, laboratory test reports, diagrams, drawings, plans, etc.).

Draft report must be submitted within two weeks of completion of the works, and the final report must be submitted within four weeks, taking into account all comments from the client. The report must include full details of the construction supervision work carried out.

Defect Period Report

Consultant shall submit a Defect Period Report for each site within two weeks after scheduled and unscheduled visits.

V. DATA AND TERMS PROVIDED TO THE CONSULTANT

It is expected that the PIU, acting as the client, will provide the Consultant with available drawings, information and other documents relating to the project. The PIU shall ensure access to all sites and key personnel associated with the sites included in the project.

The Consultant must verify the accuracy and reliability of the drawings/information/documents provided by the client before they are used for the project. In addition to the data/information provided by the client, the Consultant is responsible for collecting

any other drawings/information/documents required for the project through field surveys and studies.

All facilities required for the performance of this assignment shall be arranged and paid for by the Consultant. No office space shall be provided by the client.

VI. DURATION OF THE CONSULTING SERVICES

The duration of the technical supervision services will depend on the timeframe allocated for the completion of the construction contracts. The total duration of the consultant's work under the assignment is approximately 12 months, which technically extends throughout the entire construction period and includes one month prior to the start of construction works for the preparation of the service delivery plan and schedules.

Upon completion of the construction and installation works, the Consultant will also provide technical supervision services during the defect liability period, which is 12 months. During the liability period for defects, the service period and schedule provide for scheduled monitoring once every six months and one unscheduled visit as required, in connection with the identification of defects by the Client. The Consultant shall maintain defects register, share it with the MoES (Selvodzashita, PIU), and establish a protocol for issuing the final Defects Correction Certificate.

The Consultant's service schedule must cover the construction period for all 16 sites (Table 1) and the defect liability period (Table 2).

Abbreviations in the table:

TSE – Technical Supervision Engineer;

SE – Safety embankment.

Table 1. Estimated contribution of key personnel during

№	Key personnel	person-month
1	Chief Project Engineer and Team Leader	12
2	TSE on objects: SE on the Kugart River 1. site 'Zhygach-Korgon-1' 2. site 'Zhygach-Korgon-2' 3. site 'Kyzyl-Tuu'	12
3	TSE on objects: SE on the Kugart River 1. site Blagoveshchenka; 2. site Yntymak.	12
4	TSE on objects: SE on the Kara-Unkur-Sai River 1. site Kokcho-Koz, Bazar-Korgon; 2. site Khadzhir-Abad.	12
5	TSE on objects: SE on the Kara-Unkur-Sai River 1. site Aral; 2. site Kyrgyzstan.	12
6	TSE on objects: SE on the Gulcha River, Gulcha 1. site Bus Station, Stadium, Park; 2. site Yr-Kese.	10
7	TSE on objects: SE on the Terek-Suu River 1. site Bokoymo, Sopu Korgon.	10
8	TSE on objects: SE on the Aravan-Sai River 1. site Kesek; 2. site Pakhta -Dobo, v. Zhany-Aravan.	12

9	TSE on objects: SE on the Kara-Darya River 1. site Chimbay; SE on the Yassy River: 2. site Workers' Town.	12
10	Geodesist for the southern region	10
11	Environmental and social safeguard specialist	3
	Total person-months	**117**

Table 2. Estimated contribution of key personnel during the defect period

№	Key personnel	person-month
1	Chief Project Engineer and Team Leader	3
2	TSE on objects: SE on the Kugart River 1. site 'Zhygach-Korgon-1' 2. site 'Zhygach-Korgon-2' 3. site 'Kyzyl-Tuu'	1
3	TSE on objects: SE on the Kugart River 1. site Blagoveshchenka; 2. site Yntymak.	1
4	TSE on objects: SE on the Kara-Unkur-Sai River 1. site Kokcho-Koz, Bazar-Korgon; 2. site Khadzhir-Abad.	1
5	TSE on objects: SE on the Kara-Unkur-Sai River 1. site Aral; 2. site Kyrgyzstan.	1
6	TSE on objects: SE on the Gulcha River, Gulcha 1. site Bus Station, Stadium, Park; 2. site Yr-Kese.	1
7	TSE on objects: SE on the Terek-Suu River 1. site Bokoymo, Sopu Korgon.	1
8	TSE on objects: SE on the Aravan-Sai River 1. site Kesek; 1. site Pakhta -Dobo, v. Zhany-Aravan.	1
9	TSE on objects: SE on the Kara-Darya River 1. site Chimbay; SE on the Yassy River: 2. site Workers' Town.	1
10	Geodesist for the southern region	1
	Total person-months	**12**

Team Leader – 12 months coordinating technical supervision work and 3 months coordinating work during the defect liability period;

Technical Supervision Engineers – 10 or 12 months carrying out technical supervision of construction works and 1 month monitoring during the defect liability period, including site visits;

Geodesist for the southern region – 10 months to carry out control surveys at sites and 1 month for monitoring during the defect liability period, including site visits;

Environmental and social safeguard specialist – 3 months to carry out environmental and social monitoring in accordance with the ESMP.

Total specialists:

Chief project engineer and team leader –	1 person.
TSE –	8 persons
Geodesist for the southern region –	1 person.
Environmental and social safeguard specialist –	2 persons
Occupational Health and Safety	1 person

Total: 13 people.

VII. PAYMENT TO THE CONSULTANT

The contract concluded between the Client and the Consultant for the supervision of physical work is a "Time-based Contract". Payments under the consultancy services contract, based on actual hours worked, are made monthly on the basis of actual costs and the report provided (daily allowances in accordance with KR legislation, travel logs, hotel expenses, travel costs, etc.), in accordance with the reporting requirements described in these Terms of Reference and the service contract.

VIII. QUALIFICATION REQUIREMENTS AND SELECTION CRITERIA

Minimum qualification requirements for companies at the stage of expression of interest:

- At least three years' experience in technical supervision of the construction of industrial buildings and structures, infrastructure facilities, and hydraulic engineering structures (preferred) – 40 points;
- Proven experience working with government organizations on technical supervision – 30 points;
- Experience of working on at least two projects financed by international organizations – 30 points.

Professional specialists of the appropriate level are required to ensure high-quality supervision of construction works. The selection process will involve the assessment of the professional CVs of 13 key specialists. The team of specialists may be supplemented as required. In addition to key specialists, non-technical (non-key) specialists may be required to carry out this assignment (for the preparation of reporting documents, bookkeeping, and office management). The Consultant is required to provide a sufficient team with the appropriate qualifications and experience to carry out the work described in the Scope of Services. Any staff member proposed by the Consultant in their tender proposal may only be replaced by another specialist with equivalent or greater qualifications and experience. The candidate proposed to replace a previously proposed staff member must be approved by the client.

№	Specialists	Q-ty of positions
1	Chief Project Engineer and Team Leader	1
2	Technical Supervision Engineer	8
3	Geodesist	1
4	Environmental and Social Safeguard Specialist	2
5	Occupational Health and Safety (OHS)	1
Total:		**13**

Criteria for evaluating the technical proposal of the company that received the highest score during the evaluation of companies:

The number of points awarded for each of the following positions or specializations shall be determined taking into account the following sub-criteria and the corresponding percentage weighting:

- Adequacy and quality of the methodology and work plan for carrying out the task 20%
- Experience and qualifications of key staff 80%

Selection of qualification criteria for key specialists

№	Position	General qualifications (general education, professional certificates): 20%	General Experience: 40%	Specific Experience: 40%
1.	**Chief Project Engineer and Team Leader** **(1 position)**	Higher education/bachelor's degree in hydrotechnical engineering, relevant professional qualification certificate in engineering services (hydrotechnical construction)	At least 5 years' relevant experience as a team leader on at least 2 projects where the scope and complexity of the work were similar to the proposed assignment in terms of embankments, their size and volume of works.	At least 5 years' relevant professional experience in areas related to the supervision of hydrotechnical structures. International experience in technical supervision of hydrotechnical structures is an advantage. Relevant work experience in the region Knowledge of English is an advantage.
2.	**Technical Supervision Engineer** **(8 positions)**	Higher education/bachelor's degree in hydrotechnical engineering,	relevant professional qualification certificate in engineering services (hydrotechnical construction)	Relevant work experience in the region At least 5 years' relevant experience in technical supervision of the construction of hydrotechnical structures similar in terms of embankments, their size and volume of works.

3.	**Geodesist** **(1 position)**	Secondary technical/specialised education in the field of 'geodesist/topographer', with a relevant qualification certificate as a specialist in geodesic work.	At least 5 years' relevant work experience in oblasts related to geodesy, cartography and topography. Knowledge and practical application of geodesy and cartography software (AutoCAD and/or Civil 3D, Credo_DAT).	Relevant work experience in the region
4.	**Environmental Specialist**	Higher education/master's degree in ecology or environmental protection. Qualification certificate from Gosstroy KR as an 'Environmental Protection Specialist' is an advantage.	Relevant work experience on at least one project where the scope and complexity of the work is no less than that of the proposed assignment. At least 3 years' experience in the field of environmental protection and development of environmental impact assessments (EIA). Experience working with the World Bank's social and environmental standards is an advantage.	Relevant experience in the region (working knowledge of local languages / knowledge of local culture or the administrative system, government organization, etc.).
5	**Social Safeguard Specialist**	Higher education degree on social sciences or equal work experience	Relevant work experience on at least one project where the scope and complexity of the work is no less than that of the proposed assignment. At least 3 years' experience in the field of labor protection, social safeguards. Experience working with the World Bank's social and environmental standards is an advantage.	Relevant experience in the region (working knowledge of local languages / knowledge of local culture or the administrative system, government organization, etc.).

6	**OHS Specialist**	Higher education/master's degree in social sciences, ecology/environmental protection, or technical sciences. Qualification certificate issued by the Gosstroy will be asset.	Carrying relevant and active OHS certification	Relevant experience in the region (working knowledge of local languages / knowledge of local culture or the administrative system, government organization, etc.).

IX. APPLICABLE LAWS AND TECHNICAL REGULATIONS

Building codes and regulations, legislation of the Kyrgyz Republic:

Technical supervision and monitoring of construction must be carried out in accordance with the regulatory, legal and technical acts in force within the territory of the Kyrgyz Republic.

List of applicable regulatory legal acts and documents:

- Law of the Kyrgyz Republic 'On Urban Planning and Architecture of the Kyrgyz Republic';
- Law of the Kyrgyz Republic "On the Fundamentals of Technical Regulation in the Kyrgyz Republic";
- "Regulations on the procedure for issuing documents for the design, construction and other alterations to real estate objects and the conformity assessment of completed construction projects being commissioned in the Kyrgyz Republic".
- Resolution of the Government of the Kyrgyz Republic "On the Approval of the Regulations on the Classification of Characteristics of Construction Objects and the Procedure for State Architectural and Construction Supervision of Construction, Reconstruction and Other Alterations to Real Estate Objects in the Kyrgyz Republic";
- Regulations on technical supervision, independent engineering organizations, and technical audits in construction, approved by Order No. 11-npa of the State Agency for Architecture, Construction and Housing and Communal Services under the Government of the Kyrgyz Republic dated 15 December 2017;
- SN KR 12-01:2018 'Occupational Safety in Construction';
- SN KR 12-02:2018 'Organization of Construction Works';
- SN KR 20-02:2018 'Seismic-resistant construction. Design standards';

and other regulatory documents in force within the territory of the KR.

Annex 1. List of sites

№	Site name	Length (km)	Protects		Type of works
			Households	Agricultural land (ha)	
	Total for the Jalal-Abad Oblast:	**16,203**	**6434**	**7962**	
	Suzak district				
1	Protective embankment on the Kugart River, "Kyzyl-Tuu" site, a/a Lenin	3,000	200	90	New construction
2	Protective embankment on the Kugart River, "Zhygach-Korgon-1" site, a/a Lenin	0,963	912	2121	Extension of the existing embankment
3	Protective embankment on the Kugart River, Blagoveshchenka site, a/a Suzak	1,000	310	245	Repair and restoration work
4	Protective embankment on the Kugart River, Yntymak site, a/a Tash-Bulak	2,000	700	70	Repair and restoration work
5	Protective embankment on the Kugart River, "Zhygach-Korgon-2" site, a/a Lenin	0,500	912	2121	Extension of the existing embankment
	Bazar Korgon				
6	Protective embankment on the Kara-Unkur-Sai River, "Kokcho-Koz" site, Bazar-Korgon	1,100	929	110	New construction
7	Protective embankment on the Kara-Unkur-Sai River, Khazhirabad site, a/a Seydikum	1,940	688	97	Repair and restoration work
	Nooken district				
8	Protective embankment on the Kara-Unkur-Sai River, Aral site, a/a Aral	3,100	1110	2138	Extension of the existing embankment
9	Protective embankment on the Kara-Unkur-Sai River, Kyrgyzstan site, a/a Sakaldy	2,600	673	970	Repair and restoration work
	Total for the Osh oblast:	**6,457**	**3842**	**1067**	
	Alay district				
1	Protective embankment on the Gulcha River, a/a Gulcha, "Bus Station, Stadium, Park" site	0,707	740	0	Repair and restoration work
2	Protective embankment on the Gulcha River, a/a Gulcha, Yr-Kese site	0,370	230	0	Repair and restoration work

3	Protective embankment on the Terek-Suu River, a/a Uch-Dobo-Alai, Bokoymo site, Sopu-Korgon	0,550	60	13	New construction
	Aravan district				
4	Protective embankment on the Aravan-Sai River, Kessek site, Mangyt District	0,800	100	70	New construction
5	Protective embankment on the Aravan-Sai River, Zhany-Aravan village, Pakhta-Tobo site, a/a Alla-Anarova	1,530	2250	600	New construction
	Uzgen district				
6	Protective embankment on the Kara-Darya River, "Chynbai" site	1,500	250	300	New construction
7	Protective embankment on the Yassy River, "Workers' Town" site	1,000	212	84	New construction

Note: The length of the structures may change during the preparation of the Design and Estimate Documentation.