# Section 7. Terms of Reference

**FOR LUMP SUM CONTRACT:**

**CONSULTING SERVICES FOR RECONSTRUCTION DESIGN of EDUCATIONAL BUILDINGS**

**(REF: DRMIS-WB-MoNE/NDRM1-WB-DH-04A)**

1. **INTRODUCTION AND BACKROUND**

Turkey is vulnerable to a wide variety of natural hazards, including earthquakes, landslides, and floods. Among these, earthquakes have claimed the highest number of lives and caused the greatest economic loss, with approximately 90,000 fatalities in 76 earthquakes since 1900, a total affected population of 7 million, and direct losses of US$ 25 billion. About half the casualties were due to two earthquakes on the North Anatolian Fault in 1939 and 1999. In the 1999 Marmara earthquakes, which affected 10 cities2 in the Marmara Region of Turkey where almost 35 percent of the Turkey’s GNP was produced, the death toll was over 18,000 with a direct economic impact estimated at US$ 5 billion (2.5 percent of GNP). Although less dramatic, floods and landslides are frequent events that cause localized losses. Observed and anticipated climate change impacts, such as more intense precipitation and rising sea level, are expected to lead to increasing risks to natural disasters, including more frequent and intense flooding in low-lying areas of river deltas and coastal cities and other extreme weather events.3 In earthquakes, globally and in Turkey, evidence have shown schools to be particularly vulnerable to damage or collapse which risks the lives of children and teachers as well as disrupting the provision of quality education.

Turkey’s Climate Change Action Plan (2011-2023) identified numbers of actions aimed at increasing national preparedness and capacity to avoid the adverse impacts of climate change and to adapt to its impacts. In 2015, Turkey submitted its Intended Nationally Determined Contribution to the United Nations Framework Convention on Climate Change, committing to reduce its GHG emissions up to 21 percent by 2030 compared to business as usual scenario, to be achieved through several new policies and measures, including those related to energy efficiency improvements.

Since 1993, the World Bank has played a prominent role in financing Turkey’s large reconstruction and disaster risk management programs. While the partnership between the Government of Turkey and the Bank initially focused on post-disaster reconstruction and recovery, it also provided a platform to support shifting from a reactive to a proactive approach. In each subsequent reconstruction project, a larger proportion of funds were dedicated to strengthening Turkey’s capacity for disaster risk mitigation and emergency preparedness.

As a part of continued 15 years of collaboration with the MoNE, in late 2016, the Bank assumed an administrator role for the Education Infrastructure for Resilience Project, funded by the European Commission’s Facility for Refugees in Turkey (FRiT), with a total budget of US$ 160 million and four-year implementation period. Based in part on the experience to date with the Education Infrastructure for Resilience Project and to mainstream seismic risk reduction in school infrastructure at scale in Turkey, MoNE and the Bank have developed the Disaster Risk Management in Schools Project (the Project, hereinafter).

For the financing of the Project, the International Bank for Reconstruction and Development (IBRD) and the Republic of Turkey signed a Loan Agreement in the amount of USD 300.00 million (EUR 267.6 Million equivalent) that became effective on November 2019. Ministry of National Education (MoNE) through its Construction and Real Estate Department is responsible for the implementation.

The Project, which is being implemented as the first operation designed with a series of projects approach, aims to contribute to the Government’s objective of reducing seismic risk to which education infrastructure and students are exposed and rests upon two main investment pillars: (i) retrofitting of schools where this is technically and financially feasible and; (ii) reconstruction where it is financially more cost effective due to very poor quality in the existing school. In this manner the Project aims to integrate safety into education infrastructure and promote school-based disaster management in a way that reduces the greatest amount of risk while applying principles of investment efficiency in order to maximize the number of vulnerable schools structurally intervened.

1. **PROJECT OBJECTIVES**

The objective of the Project is to increase the safety of students, teachers and staff in selected schools in high-risk seismic zones in Turkey. This will be achieved by reduced seismic risk of 350 vulnerable schools and increased safety of 280,000 students and staff having access to earthquake resilient education facilities. The Project will rely predominantly on retrofitting of schools (300) and reconstruction of schools (50) over 5 years.

The Project has the three key components: (a) improving seismic resilience of schools; (b) enhancing institutional and technical capacity for safer schools; and (c) project management including monitoring and learning.

Through the project, building up-to-standard and safer schools would result in avoiding creation of new risks against natural hazards and serve the purpose of long-term seismic risk reduction in school buildings.

Retrofitted and reconstructed seismic-resilient and furnished modern facilities will also contribute to a better learning environment that has a positive effect on the learning abilities of students. Retrofitting/reconstruction measures will be complemented with energy efficiency upgrades including practical green and zero-waste building measures, which will in turn result in savings of gas, electricity and water consumption, thereby also reducing the carbon footprint of schools. Schools subject to intervention will also satisfy all applicable national regulations and codes for shelter, fire, safety at workplace, access for people with disabilities and so on as well as all standards related with the materials to be used.

Detailed designs and roll-out of key interventions will be informed by the cross-cutting areas such as (i) climate change where energy efficiency and climate change adaptation investments complement the civil works in the scope of the Project and (ii) gender where designs of schools will pay attention to gender friendly spaces as a part of MoNE’s school design standards to be applied for reconstructed or retrofitted schools.

1. **SCOPE OF SERVICES**

The most recent major earthquake (magnitude 6.9) occurred on October 30, 2020 in the Aegean Sea and severely impacted the region of Izmir, which is the third largest urban area and economic hub in Turkey. A rapid damage assessment conducted by the World Bank estimated a preliminary economic loss exceeding US$ 900 million (or equivalent of 0.12% of the Turkish 2019 GDP), from direct damage associated with the event. The City of Izmir suffered disproportionately from this event, with 17 multi-story buildings collapsed, 500 to 1,000 buildings damaged beyond repair, and 116 fatalities. More than 5,000 buildings suffered light structural damage and damage to non-structural features, and the impact on critical infrastructure is still being assessed. Moreover, moderate to heavy damage for 36 public buildings and 32 schools is reported.

Accordingly, 60 school buildings located in İzmir have been prioritized for retrofitting and 20 for reconstruction considering conditions of the buildings and continuation of the seismic risk in Izmir. Out of the full prioritized list in İzmir; this contract package includes the reconstruction of 10 school buildings.

The Consultant will be required (i) to carry out the detailed designs of 10 schools in accordance with Turkish and the international standards and meet the technical requirements and the specific functions of the units as well as the requirements of Related Authorities for all the architectural, structural, mechanical, electrical and landscape designs together with the on-site and off-site infrastructural and shoring for the schools listed in Annex1, (ii) prepare technical specifications, Bills of Quantities (BoQs), site-specific ESMPs and bidding documents for construction works.

1. **DESCRIPTION OF THE CONSULTANTS’ TASKS**
   1. **DESIGN OF SCHOOL (SITE-SPECIFIC)**

During this stage, the Consultants are responsible for the establishment of a design group who are experienced in the preparation of architectural, structural, electrical, mechanical, infrastructure, shoring and landscaping of public buildings. Therefore, the Consultants shall separately indicate the staff to be assigned in the preparation of designs and documents by indicating positions planned to be assigned for each staff in their proposal.

The Consultants shall prepare and complete all architectural and engineering designs (structural, mechanical, electrical, fire safety, infrastructure connections, shoring, landscaping, etc.) of the buildings including all required calculations, drawings and specifications of the works submit to the Client for approval.

The following issues relevant with the design studies will be considered by the Consultant and taken into consideration:

* The Consultant shall provide new site-specific construction designs and drawings to meet maximum built-up areas for public buildings considering existing site conditions. The Consultant shall prepare **unique designs** for 70% of school buildings.. It’s expected that built-up areas of the new public buildings to be designed are required to be as much as greater than the existing ones.
* Each public building yard shall be considered as Campus and the Consultant is responsible for the overall assessment of campus during the preparation of reconstruction designs to ensure efficient use of the whole site. During these studies, the joint use of the existing buildings that will not be demolished and the new buildings to be reconstructed will be considered (construction of additional buildings adjacent to the old ones, forming connections between them etc.)
* Plan studies should be performed for the requirements of each public building and accordingly a report for these needs shall be submitted to Client prior to design works in Phase I. In these studies, the related management personnel of the public buildings will be visited to determine the needs of each building. The connections and relations between the existing blocks (if any) and the buildings to be reconstructed should be investigated. The requirements of the local authorities, particularly the municipalities, shall be considered. Feasibility studies for sports centre/hall, conference hall etc. may be done for the facilities to be reconstructed.
* The structural designs shall provide economical solutions in accordance with “Turkey Earthquake Specification for Structures” published on March 2018 in Official Gazette.
* The landscaping planning should be designed as the most efficient arrangement that includes the playing grounds, recreation places. In addition, the layout shall have the proper designs for auxiliary systems. Also, for the site works; drainage and proper lighting systems shall be considered avoding lighting pollution.
* The mechanical designs shall comprise economical and energy & water efficient systems and have the appropriate connections with other related city infrastructure systems.
* The electrical designs shall cover the appropriate systems that have well-organized installations inside the concrete works to minimize the possible negative effects on the structural system of the buildings.
* The weak-current installations such as data cables, projector connections and fire alarms shall be considered and also UPS cabling shall be provided.
* The necessary studies for the supply of equipment such as multimedia boards, independent speakers for the classrooms, main UPS for computers shall be integrated into the designs and specifications in accordance with the function and educational purposes of the public buildings.
* The design and specifications should be free of internal contradictions.
* The non-structural elements and the detailed drawings for the installation should be considered in the designs.
* Special attention should be given to health and safety issues, fire safety requirements, accessibility for the disabled, traffic regulations, infrastructure for zero waste and environmental aspects. The materials to be used in the buildings should be preferred as containing recycled content or recyclable, environmentally harmless, economical and long life.

Since any delay in the preparation and the completion of the designs and related documents will directly affect planned commencement date for construction works and construction period, the Consultants will prepare all designs and documents with due care and diligence during the envisaged periods so as not to cause any delay. And these designs shall be prepared taking Related Authorities demands into account to assure the usage purpose of Facilities.

* + - 1. **Data Collection Stage**

Before the commencement of the design works, the Consultants will be responsible to collect the existing inputs and examine the construction sites together with the documents and information in order to make required analyses and evaluations.

The Consultant is expected to examine the construction sites and collect the required inputs and cadastral documents [deed, layouts, cadastral extract, building permits, occupation permits, plans, survey, etc –(tapu, çap, kroki, istikamet rölevesi, vaziyet planı, vs)] to make the required analyses, evaluations and design. In addition, the consultants shall prepare designs considering the requirements and the needs of related institutions to assure the usage purpose of Facilities.

During the data collection stage, the consultant will match and compare the cadastral extract with existing lay-out and (if) any discrepancy detected will be reported to the Client including alternative solutions. If it is realized that the analyses and evaluations of any public building does not satisfy the above-mentioned requirements of Related Authorities or related Authorities because of some cadastral, municipal or other issues, the Client has right to replace the public buildings with new one to reach final design of 10 public school buildings considering the efforts spent by the consultants. Site geotechnical studies will be commenced by the Consultant accordingly. The consultant shall submit 10 final drawings at the end of the design phase.

The Consultant will be responsible for the completion of all necessary studies for needed geotechnical works without any additional payment. The Consultant will make **a new geotechnical investigation** by site surveys, soil tests, laboratory tests, and shall prepare the new geotechnical report (for the public buildings to be constructed) complying with the current specifications and regulations in the format and content of Ministry of Environment and Urbanization in Turkey and the prepared reports shall be approved by the Chamber of Geotechnical Engineers.

Before the site surveys, soil tests, laboratory tests, the Consultants inform the Client in advance, and take the approval of the Client about the location of the new boreholes. The consultant shall ensure that all activities related to above site surveys are carried out according to best environmental practices to avoid any associated impacts.

* + - 1. **Concept Design Stage and Programming**

The Consultants shall prepare, Concept Designs of Public buildings considering Turkish Standards and the international standards, and relevant regulations taking into account and as a result of the orientation, site investigation and negotiation with the Client and the related Authorities. After that, the Consultant shall submit concept designs of the public buildings to Client for approval (in 1/500 or 1/200 scale). Concept design will include at least the following:

1. **Site Layout:** Preliminary site planning, including the required security, locations of the public buildings, site access, and the major seismic resistance concepts alternative architectural layouts to meet site conditions, functional and beneficiary needs.
2. **Interior Space Layout:** Basic planning of the interior spaces of the public buildings, including the relationships between functional areas and consideration of security requirements together with the need of library, laboratories, multi-purpose hall, gymnasium, music hall, infirmary, social facilities etc. in addition to the required number of classrooms.
3. **Exterior Elevations:** Preliminary elevations of all facades and sketches indicating the building mass of concept.
4. **Principal Construction Drawings:** Preparation of all related principal construction drawings considering technical requirements, applicable local and international standards (structural, architectural, mechanical, electrical, electronics and communication, infrastructural, shoring and landscaping drawings etc) in compliance with related standards and new Turkish Earthquake Code ensuring the seismic resistance of both the structural and nonstructural components of the buildings in the case of a seismic event will occur.
5. **Cost Estimation:** Based on findings and information gathered during the site visit, the Consultant will prepare a basic construction cost analysis and a "Market Survey and Local Construction Environment Profile" for design concept.
6. **Utility Services:** All existing off-site and on-site public utility support services shall be identified. All additional off-site and on-site utility support services shall be identified, including the public utility support services used and connected to, and all other utility support services that must be developed as part of this project
7. **Site Visit Report:** A written narrative report with appropriate photographic material discussing the feasibility of the project, special problems and opportunities. The structural and physical condition as well as location of existing perimeter walls (retaining walls etc.) surrounding the public building yard will be checked, evaluated and reported. Besides, neighbor structures that surrounding the public building yards will be visually inspected and (if) possible risks related with these structures during demolishing and excavation works detected, necessary precautions shall be reported and taken into consideration during designs.
8. **Landscaping:** Completed space program extended to total gross area. The landscaping planning should be designed as the most efficient arrangement that includes the playing grounds, recreation places, etc.

The needs of people with disabilities (TS 9111) will be reflected in all designs.

The Client may require the Consultant to revise designs or provide an additional design to reflect comments and recommendations. This is as of the normal development of the project and no additional cost to the Client. Finally, concept design from presentations will be chosen and approved by Client for refinement and development.

* + - 1. **Preliminary Design Stage**

In the scope of this stage, the Consultant shall prepare the site plans and preliminary designs (architectural, structural mechanical, electrical) of selected 10 public buildings from the list together with the preliminary design for onsite and offsite infrastructure connections (road, passageways, electricity, communication, water supply, sewerage, storm water, natural gas etc.) considering available service units and submit to the Client for approval (in 1/200 or 1/100 scale). This submission shall also include a detailed preliminary design stage report giving all details of studies. At this stage, the Consultant shall submit the 3D visuals of the exterior designs of the building with alternatives for the approval of the Client. The Client reserves the right to accept or reject the studies.

The Consultants shall also collect relevant data, contact with the relevant Authorities and get their pre-consent for preliminary designs of infrastructure connections of the subject buildings before submitting the designs for approval to the Client.

After the Client approval, the Consultants shall have obtained the consent/approval of the relevant Authorities and/or their local branches (Municipalities for building permit, Fire Department for fire protection, Transportation Department for traffic, etc.) to proceed the final design stage. In case of any requirements from the relevant Authorities other than the additional demands of the Client after his approval, the Consultant will follow the required procedures and provide necessary studies without any extra cost to the Client.

* + - 1. **Final Designs and System/Detailed Drawing Stage**

The Consultants shall prepare the final designs and system/detailed drawings for all architectural structural, electrical, mechanical, communications and information, fire protection, elevator, heating (with natural gas), lightning, air conditioning, infrastructure connection, landscaping, shoring etc. components of buildings in accordance with the approved preliminary designs and submit to the Client for approval together with the required calculations, reports and implementation details considering technical requirement and international and national specifications (e.g. recent regulations about the heat insulation, access of people with disabilities) in compliance with the building codes including the *“Turkey Earthquake Specification for Structures”* published on March 2018 in Official Gazette and most recent version of Building Energy Performance (BEP) Directive. Submitted architectural drawings shall have been furnished with a complete finishing list. The materials and equipment described in the finishing list shall not address only one brand and should be satisfied by at least three brands within the required quality standards preferably national products.

The Consultants are required to make necessary site surveys and mapping for a complete final design of the infrastructure connections (road, electricity, telephone, water supply, sewerage, storm water, natural gas, etc.) of the buildings to the existing city systems. The Consultants shall ensure during the final design studies that none of the infrastructure connections require additional land acquisition which might trigger World Bank’s safeguards policy on Involuntary Resettlement (OP 4.12). All such connections should follow existing routes and/or public roads. The Consultants shall have obtained the consent/approval of the relevant Authorities and/or their local branches to the final infrastructure connection designs before submitting those for approval to the Client.

In addition to these details, the Consultants shall also prepare the detailed drawings for children playgrounds for public buildings and simple and low-cost landscaping of the sites in accordance with the recent regulations and standards. Such facility drawings shall also consider accessibility for the children/people with disabilities.

The non-structural elements and the detailed drawings for the installation should be considered in the final designs.

During the preparation of infrastructural designs, the piping system for sewer connections shall allow gravity flow without any pumping. For this aim all required information shall be gathered from the related authorities and incorporated into the designs with respect to site conditions. The final design should cover the economical solution respecting the handling and commissioning costs. In addition, the design shall involve the safety regulations such as detection tapes for the infrastructure elements. Besides, the required details related with base insulation, details of the sleeve size and locations for piping shall be reflected on the designs.

Most of the buildings to be demolished and reconstructed are located in city centers. Therefore, Consultant will calculate and ensure safety of the slope stability for the excavated areas considering the geotechnical report to be prepared in accordance with the revised regulations by General Directorate of Construction Works of the Ministry of Environment and Urbanization (MoEU). Consultant will take necessary measures not to cause any damage due to unsafe foundation excavation during the course of the work by taking into account the  ground water table, effects of surrounding structures and machineries  with temporary or permanent structures (dewatering and ground water lowering, piles or micro-piles, retaining wall, soil anchorage, diaphragm wall, etc.)

**4.2 ENERGY EFFICIENCY RELATED SERVICES**

Based on the template provided under “Building Energy Performance” directive of Turkey, energy performance certificates (EPCs) shall be prepared and issued both before and after demolishing&reconstruction works in order to demonstrate the level of improvement.

* 1. **IDENTIFICATION OF ENVIRONMENTAL AND SOCIAL RISKS AND PREPARATION OF ESMPs**

The World Bank (WB) Operational Policies (OP)/Bank Procedures (BP), OP 4.01 on Environmental Assessment (EA) triggered by the project require that the impacts associated with schools’ reconstruction are identified along with appropriate mitigation and monitoring measures. To fulfil the above, an Environmental and Social Management Framework (ESMF) was prepared by MoNE and was publicly disclosed on April 1, 2019 (https://iegm.meb.gov.tr/meb\_iys\_dosyalar/2019\_04/01131358\_National\_Disaster\_Risk\_Management\_Project-ESMF-Final\_Document.pdf). This ESMF provided information on the potential environmental, occupation health and safety and social impacts as well as guidelines and procedures to manage these impacts. The ESMF also includes an Environmental and Social Management Plan (ESMP) checklist to be utilized by the consultant in the to preparation of the site-specific ESMPs for schools’ reconstruction activities.

The ESMP checklist, which will be a section of the ESMPs, has 3 (three) parts:

* **Part 1** includes a descriptive part that characterizes the project and specifies it in terms of the institutional and legislative aspects, the technical content of the project, the potential need for a capacity building program and description of the public consultation process. Attachments for additional information can be supplemented when needed.
* **Part 2** includes an environmental and social screening checklist, where activities and potential environmental issues can be checked in a simple Yes/No format. If any given activity/issue is triggered by checking “Yes”, a reference is made to the appropriate section in the table in Section 3, which contains clearly formulated management and mitigation measures.
* **Part 3** represents the monitoring plan for activities during project construction and implementation. It retains the same format required for ESMP proposed under normal Bank requirements for Category B projects. It is the intent of this check-list that Part 2 and Part 3 be included into the bidding documents for contractors, priced during the bidding process and diligent supervision be implemented during work.

The Consultant shall conduct the initial assessment of the project sites, and prepare and present site specific ESMPs clustered by province and by construction works package (i.e., retrofitting or reconstruction) for the mentioned school buildings in line with the Environmental and Social Management Framework (ESMF) prepared by MoNE in accordance with national environmental laws and regulations, with international good practice, the World Bank’s safeguard requirements as well as World Bank Group’s (WBG’s) Environmental, Health and Safety (EHS) guidelines.

The Consultants shall ensure that in line with the ESMF, no involuntary land acquisition that may trigger World Bank’s safeguards policy OP 4.12 on involuntary resettlement, takes place in case reconstruction of school buildings require new school plot. In such cases, where new school building needs to be reconstructed in a new land plot, MoNE will first ensure that the new land plot does not have any past involuntary resettlement issues and does not involve any prior use by a private individual. The Consultant shall fill out the land acquisition screening checklist as part of ESMP.

The Consultant shall commence the preparation of ESMPs immediately after the data collection and detailed assessment of school buildings are completed. The Consultants shall finalize ESMPs during the final design phase and ESMPs specific environmental, OHS and social measures shall be included among the bidding documents for works contract and become part of the successful bidder’s works contract.

The Consultant shall submit draft ESMP within 30 days after the determination of each construction works package and MoNE’s notice to proceed for the preparation of the respective ESMP. The ESMPs will be reviewed and by MoNE and the World Bank and related comments will be provided, afterwards the Consultant will revise the ESMPs accordingly within 5 working days. Furthermore, the Consultant shall update and/or revise any of these ESMPs if and when a school design review results in changes that would require additional environmental permit/approval and/or environmental and social assessment studies.

The Consultant must prepare the ESMPs in both English and Turkish languages. The Consultants shall also liaise with MoNE to finalize the ESMPs with World Bank’s approval and help MoNE organize disclosure and consultation for the ESMPs with the public, stakeholders who might be affected from the retrofitting and/or reconstruction. Each of the prepared ESMPs shall be made publicly available on the MoNE’s website. Hard copies should also be made available to the public at accessible places within the project local area, as well as at the contractor’s/ supervisor’s offices.

* 1. **THE PREPARATION OF BIDDING DOCUMENTS FOR WORKS CONTRACTS**

The Consultants shall prepare complete bidding documents related with the construction contract in accordance with World Bank’s applicable Procurement Regulations and Standard Bidding Documents in parallel to the previous stages stipulated above. Bidding documents shall include but not limited to the Conditions of Contract, Form of Bid, Technical Specifications, Bill of Quantities (BoQ’s), final designs, system/detailed drawings, specific environmental, OHS and social mitigation measures included in the ESMPs etc.

The Consultants shall prepare the bidding documents in close cooperation with the Client and with due care and diligence. Any of the items in these documents shall not contradict with each other and all material specifications shall be in accordance with the specifications of the Turkish standards and/or international standards.

The Consultant shall prepare the designs, plans, technical specifications, BoQ’s, ESMPs, bidding documents etc. and all additional documents, detailed designs in such a way that the necessity for variation orders during the construction stage is minimized.

The Consultant shall make any reasonable modification to documents, reports, etc. as may be approved by the Client during the various stages of approval.

* 1. **SUPPORT DURING THE BID EVALUATION / CONTRACT (CONSTRUCTION CONTRACT) SIGNING STAGE**

Upon the completion and approval of the design studies, ESMP and bidding documents stated above, the prospective Contractors will be invited with an advertisement for the submission of proposals by the Client in accordance with the standard form of bidding documents.

The Consultants shall be responsible for assistance to the Client for the acquisition of all required documents for contractors’ questions about the construction Works during the tendering stage.

MoNE will be responsible for tender evaluation.

During above-mentioned processes, the Consultant will be responsible for the adverse consequences that arise as a result of their slow action, delay, omission, etc.

1. **DELIVERABLES**

The Consultants shall prepare and submit to the Client various reports, drawings and document that are specified in or that are implied from these Terms of Reference in respect of various components of the Projects as described in the Terms of Reference.

These reports, drawings and other documentation relate to the various stages of the Consultants' Services including, but not necessarily limited to;

* Energy Performance Certificates for the buildings to be demolished
* Concept Design Stage
* Preliminary Design Stage
* Final/Detailed Design Stage
* ESMPs (with land acquisition checklists if reconstruction works take place in a new land plot)
* Preparation of Bidding Documents, Technical specifications (including BoQs and cost estimates)

The Consultants shall prepare and submit a report satisfactory to the Client each calendar month, including progress charts and photographs in colors giving all information regarding the progress of the Works, actual extent and nature of the Works completed as well as details of any delay in the Works substantiating documentation if required. The Consultants shall also clearly indicate in the report whether the delay (if any) of any part of the works will cause any delay in the completion of the whole Works.

The report shall be submitted to the Client by the tenth day of following month. Any comment by the Client on the report shall be reviewed and the report shall be modified and re-submitted to the Client within 7 (seven) calendar days.

The requirements for the submission of reports, drawings and other documentation are given below. Reports shall be prepared in both Turkish and English languages. The metric system of weights and measures shall be used.

Submission shall be as follows:

* 1. **General**

Format of Reports : A4 or A3, including where appropriate drawings reduced to A3 size.

Format of Drawings: A1 and/or A0 size.

A draft copy (Turkish 2, English 2) of all reports shall be submitted to the Client in advance for discussion purposes following which the Consultants shall be required to prepare the final copy, incorporating any amendments arising from such discussions.

* 1. **Design period for works:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of copies of report/drawings** | **Turkish** | **English** | **Memory Stick (English and Turkish)** |
| 1 | Energy Performance Certificate | 2 | 2 | 2 |
| 2 | Concept Design Stage | 2 | 2 | 2 |
| 3 | Preliminary Design Stage | 2 | 2 | 2 |
| 4 | Final Design Stage | 2 | 2 | 2 |
| 5 | ESMP Reports | 2 | 2 | 2 |
| |  |  | | --- | --- | | 6 | Bidding Documents, BoQs, Technical Specs |   6 | Bidding Documents, BoQs, Technical Specs | 2 | 2 | 2 |

* 1. **Preparation of Bidding Documents and Bidding Procedure Stage**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  | **Turkish** | **English** | **Memory Stick (English and Turkish)** |
|  | Number of copies of Contract Documentation for each Contract for Works Packages (including all subsequent Amendments issued during tender stage) | 20 | 5 | 25 |

Original of the drawings that shall be submitted to the Client are not included in the above number of copies.

Those of the documents and reports not mentioned above but either specified or implied in the contract shall be submitted in 2 copies in Turkish and English languages each.

In relation to the ongoing stages of the Consultants Services, the submission requirements given above show the type of documentation that will be required by the Client during the performance of the Services. However, the Consultant shall allow in its fee for the submission of all reports, drawings, documents, etc. either specifically requested in these Terms of Reference or those which may be implied there from and the Contractors' contracts. The Client may however vary such requirements during the course of the Services to be performed.

Should additional copies be required over to those stated above or specified in these Terms of Reference, these shall be supplied by the Consultants at the cost of reproduction of such documents, reports or drawing. Additionally, after finalizing the reports and “as built” drawings, these shall be submitted to the Client on one (1) set of Memory Stick uploaded to a cloud system only accessible by the Client and in the software format acceptable by the Client. Each copy shall be durably bound in a volume or volumes depending on bulk, and the transparent copies shall have a suitable protective cover/box. All copies shall be labeled in accordance with the needs of the Client.

Upon the completion of Works and Supply Procurement, the Consultants shall submit all the original copies of correspondences, documents, test results and drawings relating to the services and Works, to the Client together with indices in acceptable files and forms by the Client and as archived. The Consultants shall keep the copies of the documents.

1. **TIMELINE**

During the design a period it should be noted by the Consultants that prepared designs/details/calculations/reports/specifications and other documents submitted to the Client for approval will be reviewed by the Client and approved or returned for revision and/or resubmission in 15 calendar days

The Consultants shall submit all the documents in a timely manner to complete the services on time without any delay. A tentative time schedule for the completion of the consultants’ services for the various parts of the Project is given below;

**PHASE I:**

**For Design Works:**



The Consultants shall submit all the documents in a timely manner to complete the services on time without any delay. Time schedule for the completion of the consultants’ services for the various parts of the Project is given below;

* **Concept Design Stage and Programming:** The Services in relation with this shall be completed within 90 calendar days from the Contract signing date,
* **Energy Audit Reports and EPC:** within 90 calendar days from the Contract signing date,
* **Preliminary Design Stage:** The Services in relation with this stage shall be completed within 120 calendar days from the Contract signing date,
* **Final Designs and System/Detail Drawing Stage:** The Consultants shall complete the studies regarding this stage in 150 calendar days from the Contract signing date,
* **Preparation of ESMPs:** within 150 calendar days from the Contract signing date and should be finalized (including disclosure) before tender documents preparation,
* **Preparation of Tender Documents:** The Consultants shall prepare the complete Tender Documents as specified above and receive the Clients approval for the same 180 calendar days from the Contract signing date.
* **Tender Evaluation and Contract Signing Stage:** The Consultants shall support the Client specified above after the bid opening date.

1. **SUPPORT TO BE PROVIDED BY THE CLIENT TO THE CONSULTANTS**

The Consultants will be fully responsible for providing their central office in İzmir until the contractors are in place to make these site offices available. The central office shall be furnished and equipped by the Consultants as per related clauses of SCC of Standard Forms of Contract, whereas the site offices shall be furnished by the Contractor.

All sort of running expenses shall be under the Consultant’s responsibility. The site offices of the consultants furnished and equipped by the Contractor with enough space for consultant’s staff and meeting. The Consultant shall not be required to deliver any equipment and materials provided by the reimbursable expenses and which have been used for the Services to the Client.

All local transport for the Consultants staff including the site supervisory staff shall be provided by the consultant and shall be included in the fee proposal submitted.

Subject to availability to Client the following items shall be provided free of charge by the Client to the Consultants if available: The existing maps, topographic plans, development plans, cadastral data, layouts.

In addition, the Client shall, where possible, assist the Consultants in obtaining approvals, permissions from the Municipalities and other State Authorities in respect of the Services to be performed.

The Consultants shall return to the Client all documents received from the Client following the completion of the Services to be performed.

1. **TEAM COMPOSITION & QUALIFICATION REQUIREMENTS FOR THE KEY EXPERTS**

The Consultant is responsible for the establishment of a design review group who are experienced in the preparation of structural, architectural, electrical, mechanical, energy efficiency related works. The Consultant shall separately indicate the staff to be assigned in the preparation of designs and documents by indicating positions planned to be assigned for each staff in their proposal. The consultant is expected to establish a design and survey team in İzmir.

**Team Composition**

The successful fulfillment of the scope of services requires professional qualification in the fields of similar civil engineering works; architectural works, MEP works, Energy Efficiency, infrastructure/superstructure resilience, and disaster risk mitigation; construction methods engineering; environmental, social, occupational health and safety, and community health and safety mitigation; construction and contract management; and related fields.

It is anticipated that key professional staff of the Consultant’s team may include a combination of international and/or Turkish professionals.

The Consultant shall assemble a team capable of implementing an integrated approach to engineering design, infrastructure/superstructure resilience, and the attainment of desired outcomes in terms of construction quality; technical, social, and environmental risk mitigation; and value-for-money.

The Consultant shall provide adequate staff in terms of expertise and time allocation, as well as needed equipment/services in order to complete the activities required under the scope of work and to achieve the objectives of the project in terms of time, costs and quality.

The team shall have at least the following key positions (or equivalent combination of expertise):

**Overall Assignment Leadership**

* Project Team Leader - Senior Civil Engineer/Senior Architect (experience in IFI funded projects and school buildings)

**Design and Preparation of Bidding Documents Phase**

* Civil/Structural Engineer
* Energy Efficiency Engineer
* Environmental and Social Expert/Specialist
* Occupational Health and Safety Specialist
* Architect
* Infrastructure Engineer (Civil/Environmental Engineer)
* Mechanical Engineer
* Electrical Engineer

This core team shall be supported by other professionals as proposed by the Consultant. These additional profiles must indicate whether they are to be regarded as long-term/short-term and senior/junior so that it is clear which fee rate in the budget breakdown will apply to each profile.

All staff must be independent and free from conflicts of interest in the responsibilities accorded to them. The selection procedures used by the Consultant to select these other staff shall be transparent, and shall be based on pre-defined criteria, including professional qualifications, language skills and work experience. Note that civil servants and other staff of the public administration of Turkey cannot be recruited as experts, unless prior written approval has been obtained from the Client. As the final reports will be produced in both English and Turkish, the Consultant may wish to consider having translators on the team or propose a viable alternative for reliable and high-quality translation.

The list below provides further details on the required qualifications of the core team positions:

**Project Team Leader**, will be responsible for the overall management of the project. (i) Bachelor’s degree in Civil Engineering or Architecture (ii) at least 10 years of professional experience (iii) minimum 5 years of working experience in management of projects cooperation with international donors/agencies such as WB/IFC/EBRD/EU/AFD and United Nations

**Civil/Structural Engineer,** (i) Bachelor’s degree in Civil Engineer (ii) at least 10 years of professional experience (iii) M.Sc. and/or PhD in Structural/Seismic Eng.

**Energy-Efficiency Engineer** (i) Bachelor’s degree in Mechanical/Electrical Engineering (ii) at least 10 years of professional experience (iii) with certificate from Ministry (iV) with experience in EE design of min. 50.000 m2 in max 10 different buildings

**Infrastructure Engineer** (i) Bachelor’s degree in Civil/Environmental Engineer (ii) at least 10 years of professional experience

**Architect** - (i) Bachelor’s degree in Architecture (ii) at least 10 years of professional experience (iii) reconstruction design experience of school buildings

**Mechanical Engineer** - (i) Bachelor’s degree in Mechanical Engineering (ii) at least 10 years of professional experience (iii) reconstruction design experience of school buildings

**Electrical Engineer** - (i) Bachelor’s degree in Electrical Engineering (ii) at least 10 years of professional experience (iii) reconstruction design experience of school buildings

**Environmental and Social Expert/Specialist** will be responsible for ensuring that ESMPs are prepared in accordance with national environmental laws and regulations, with international good practice, the World Bank’s safeguard requirements as well as World Bank Group’s Environmental, Health and Safety guidelines. The Environmental and Social Expert/Specialist is expected to have; (i) Bachelor's degree in Environmental Engineering, (ii) at least 8 years of professional experience; (iii) minimum 3 years of working experience in management/preparation of ESIA/ESMP studies in the local context and in cooperation with international donors/agencies such as WB/IFC/EBRD/EU/AFD and United Nations; and (iv) at least two assignments that included similar tasks.

**Other experts, support staff & backstopping**

The Consultant shall select and hire other experts as required for the preparation of ESMPs (geological engineer, GIS expert, soil expert, landscaping architecture, ecologist, etc). The CVs of these experts should also be included in the technical proposal. However, technical evaluation will be conducted based on qualifications of the key experts.

All experts should have as a minimum requirement a university degree, at least five (5) years’ work experience, be fluent in English, and proven experience in the field(s) relevant for their specific projects, and work experience in Turkey will be an asset.

Costs for backstopping and support staff should be included in the financial offer of the consultant. The Consultant should also provide adequate administrative staff (i.e. secretary, translator, interpreter, accountant, document controller etc.) and technicians/junior engineers needed to support the expert team to assure the quality of all its activities and outputs.

**TERMS OF REFERENCE (TOR)**

**FOR TIME-BASED CONTRACT:**

**CONSULTING SERVICES FOR RECONSTRUCTION SUPERVISION of EDUCATIONAL BUILDINGS**

**(REF: DRMIS-WB-MoNE/** **NDRM1-WB-DH-04B)**

1. **INTRODUCTION AND BACKROUND**

Turkey is vulnerable to a wide variety of natural hazards, including earthquakes, landslides, and floods. Among these, earthquakes have claimed the highest number of lives and caused the greatest economic loss, with approximately 90,000 fatalities in 76 earthquakes since 1900, a total affected population of 7 million, and direct losses of US$ 25 billion. About half the casualties were due to two earthquakes on the North Anatolian Fault in 1939 and 1999. In the 1999 Marmara earthquakes, which affected 10 cities2 in the Marmara Region of Turkey where almost 35 percent of the Turkey’s GNP was produced, the death toll was over 18,000 with a direct economic impact estimated at US$ 5 billion (2.5 percent of GNP). Although less dramatic, floods and landslides are frequent events that cause localized losses. Observed and anticipated climate change impacts, such as more intense precipitation and rising sea level, are expected to lead to increasing risks to natural disasters, including more frequent and intense flooding in low-lying areas of river deltas and coastal cities and other extreme weather events.3 In earthquakes, globally and in Turkey, evidence have shown schools to be particularly vulnerable to damage or collapse which risks the lives of children and teachers as well as disrupting the provision of quality education.

Turkey’s Climate Change Action Plan (2011-2023) identified numbers of actions aimed at increasing national preparedness and capacity to avoid the adverse impacts of climate change and to adapt to its impacts. In 2015, Turkey submitted its Intended Nationally Determined Contribution to the United Nations Framework Convention on Climate Change, committing to reduce its GHG emissions up to 21 percent by 2030 compared to business as usual scenario, to be achieved through several new policies and measures, including those related to energy efficiency improvements.

Since 1993, the World Bank has played a prominent role in financing Turkey’s large reconstruction and disaster risk management programs. While the partnership between the Government of Turkey and the Bank initially focused on post-disaster reconstruction and recovery, it also provided a platform to support shifting from a reactive to a proactive approach. In each subsequent reconstruction project, a larger proportion of funds were dedicated to strengthening Turkey’s capacity for disaster risk mitigation and emergency preparedness.

As a part of continued 15 years of collaboration with the MoNE, in late 2016, the Bank assumed an administrator role for the Education Infrastructure for Resilience Project, funded by the European Commission’s Facility for Refugees in Turkey (FRiT), with a total budget of US$ 160 million and four-year implementation period. Based in part on the experience to date with the Education Infrastructure for Resilience Project and to mainstream seismic risk reduction in school infrastructure at scale in Turkey, MoNE and the Bank have developed the Disaster Risk Management in Schools Project (the Project, hereinafter).

For the financing of the Project, the International Bank for Reconstruction and Development (IBRD) and the Republic of Turkey signed a Loan Agreement in the amount of USD 300.00 million (EUR 267.6 Million equivalent) that became effective on November 2019. Ministry of National Education (MoNE) through its Construction and Real Estate Department is responsible for the implementation.

The Project, which is being implemented as the first operation designed with a series of projects approach, aims to contribute to the Government’s objective of reducing seismic risk to which education infrastructure and students are exposed and rests upon two main investment pillars: (i) retrofitting of schools where this is technically and financially feasible and; (ii) reconstruction where it is financially more cost effective due to very poor quality in the existing school. In this manner the Project aims to integrate safety into education infrastructure and promote school-based disaster management in a way that reduces the greatest amount of risk while applying principles of investment efficiency in order to maximize the number of vulnerable schools structurally intervened.

1. **PROJECT OBJECTIVES**

The objective of the Project is to increase the safety of students, teachers and staff in selected schools in high-risk seismic zones in Turkey. This will be achieved by reduced seismic risk of 350 vulnerable schools and increased safety of 280,000 students and staff having access to earthquake resilient education facilities. The Project will rely predominantly on retrofitting of schools (300) and reconstruction of schools (50) over 5 years.

The Project has the three key components: (a) improving seismic resilience of schools; (b) enhancing institutional and technical capacity for safer schools; and (c) project management including monitoring and learning.

Through the project, building up-to-standard and safer schools would result in avoiding creation of new risks against natural hazards and serve the purpose of long-term seismic risk reduction in school buildings.

Retrofitted and reconstructed seismic-resilient and furnished modern facilities will also contribute to a better learning environment that has a positive effect on the learning abilities of students. Retrofitting/reconstruction measures will be complemented with energy efficiency upgrades including practical green and zero-waste building measures, which will in turn result in savings of gas, electricity and water consumption, thereby also reducing the carbon footprint of schools. Schools subject to intervention will also satisfy all applicable national regulations and codes for shelter, fire, safety at workplace, access for people with disabilities and so on as well as all standards related with the materials to be used.

Detailed designs and roll-out of key interventions will be informed by the cross-cutting areas such as (i) climate change where energy efficiency and climate change adaptation investments complement the civil works in the scope of the Project and (ii) gender where designs of schools will pay attention to gender friendly spaces as a part of MoNE’s school design standards to be applied for reconstructed or retrofitted schools.

1. **SCOPE OF SERVICES**

The most recent major earthquake (magnitude 6.9) occurred on October 30, 2020 in the Aegean Sea and severely impacted the region of Izmir, which is the third largest urban area and economic hub in Turkey. A rapid damage assessment conducted by the World Bank estimated a preliminary economic loss exceeding US$ 900 million (or equivalent of 0.12% of the Turkish 2019 GDP), from direct damage associated with the event. The City of Izmir suffered disproportionately from this event, with 17 multi-story buildings collapsed, 500 to 1,000 buildings damaged beyond repair, and 116 fatalities. More than 5,000 buildings suffered light structural damage and damage to non-structural features, and the impact on critical infrastructure is still being assessed. Moreover, moderate to heavy damage for 36 public buildings and 32 schools is reported.

Accordingly, 60 school buildings located in İzmir have been prioritized for retrofitting and 20 for reconstruction considering conditions of the buildings and continuation of the seismic risk in Izmir. Out of the full prioritized list in İzmir; this contract package includes the reconstruction of 10 school buildings.

The Consultant will be required (i) to carry out construction supervision and building commissioning services, (ii) supervise remedial works to rectify defects that arise during the Defects Liability Period (DLP) for the buildings listed in Annex-1.

1. **DESCRIPTION OF THE CONSULTANTS’S TASKS**
   1. **PHASE 2 - SUPERVISION OF CONSTRUCTION WORKS AND ENGINEERING SERVICES**

The Consultant as "the Engineer” shall be responsible to carry out all the duties envisaged in World Bank’s Standard Bidding Documents. The Consultant shall also be responsible as the “Engineer” to amend designs, provide details and instruct the contractors whenever it necessitates, during the course of works. Significant issues shall be subject to approval of the Client as indicated in the terms and conditions of the GCC and SCC.

* + 1. **Initiation of** **Supervision**
* The Consultant shall follow up evacuation of buildings respect to Contractors’ work programs closely on site and shall communicate with related authorized persons for public buildings. The Client shall be kept updated on the actual evacuation progress. In case evacuation does not take place on time, the Consultant shall take necessary actions to ensure the completion of works within the original scheduled period without delay in close cooperation with the Client and the Contractors.
* The Consultant shall collect necessary documents required for obtaining the Modification Construction Permit from the Municipality and assist the Contractors for obtaining the Modification Construction Permit. The Consultant shall also sign the documents be submitted for construction permit.
  + 1. **Construction and Construction Supervision**
* The Consultants shall be responsible to check all the information required for accurate setting-out of the works and obtain additional information from the related authorities before the Contractors set out the Works and supervise all the setting- out studies by the Contractors. The boundaries of the available construction site shall also be compared with the project layout.
* Consultants shall supervise and oversee all aspects of the construction and installation of the various components of the works to ensure strict compliance with the drawings and contract documents, subject to any express or implied terms contained in any Conditions of Contract entered into between the Employer (Client) and the Contractors.
* The Consultant shall provide sufficient, qualified and experienced staff to ensure proper site supervision of the works and engineering services during the construction period and during the Defects Liability / Maintenance period.
* The Consultant shall also be responsible to amend designs, provide details and instruct the contractors whenever it necessitates, during the course of works. The Consultants will be responsible from the adverse consequences arise as a result of their slow action, delay, omission, etc.
* If it is necessary to make amendments to the design during the course of the contract, the site supervisory staff must be fully qualified to carry out any such amendments.
* Prepare the necessary documents required for obtaining the Construction Permit from the Municipality or other relevant authority and assist the Client /the Contractor for obtaining the Construction Permit.
* The Consultants will be responsible for supervising the demolition, construction and installation of the Works as well as for the inspection and conduct of testing of all materials, plant and equipment both during the demolition and construction period and for any works that have to be completed during the Maintenance/Defects Liability Period. The Consultants shall maintain effective liaison with the Client on all aspects of the demolition/construction/installation, including the performance of the Contractor and shall submit the reports specified later in Section 5 and envisaged in the Contractors contracts in a timely manner and to the required details.
* Consultants are expected to arrange necessary shifts among their staff to supervise the works 24 hours a day, if necessary, during concrete casting. Placement of concrete may be executed by the Contractor in night hours rather than daily hours because of traffic or other reasons not allowed by related authorities. In that case Consultant will arrange his staff employment according to this condition without any cost to the Client and the Contractor.
* The Consultants are required to arrange a proper transportation programme for the assigned staff in supervision services within Technical Proposal.
* The Consultants shall fully inform the Client about the cost and time impact or any other consequences of his any sort of proposals (such as revision, recommendation, etc.). The Client shall not be responsible for the consequences of the fact which the Client is not informed of in advance.
* The Consultant shall prepare the energy performance certificates (enerji kimlik belgesi) after the reconstructions works will be completed.
* It is the duty of the Consultants to interpret the drawings and specifications and to consult with the Contractors as required to ensure compliance with the Contract Documents and the construction/installation program.
* The Consultant shall arrange weekly and monthly meetings with contractors, inform the Client about progress of the work and activities, attend any meetings reasonably convened by the Client and provide any information or evidence reasonably required by the Client at any public meetings or inquiries which might be held in connection with the Project.
* If the similar construction works are supervised by other Consultants in other sites, the Consultants shall co-operate with the other Consultants and join the meetings whenever required by the Client.
* The Consultant shall take necessary measures, continuously monitor and supervise the Contractor’s operations for environmental, social, occupational health and safety aspects.
* In this context the most recent Turkish environmental and safety regulations are required to be taken into consideration particularly during the supervision of the construction works. Within this scope Consultant shall also be responsible for the supervision of the Contractors’ onsite environmental management practices (waste management, noise, etc.) and report to the Client in his monthly progress reports.. Consultant shall have the responsibility for relevant supervision and instruction of the applications to the Contractor.
* The Consultant shall supervise the Contractor on behalf of the Client for performing and implementation of all Occupational Health and Safety activities in accordance with the enforcement of the related Turkish Laws and legislations, and measures specified in the ESMP. The consultant duties and responsibilities shall include:

1. Conduct daily visits to all construction sites to check the contractor’s OHS documents and compliance, provide on-the job trainings, ensure compliance of the works with OHS practices and regulations, and issue non-compliance notices to the contractor and report the same to the Client
2. Ensure that the workers are provided OHS training and have complete health records and personal files in accordance with pertinent legal requirements, and avoid access of the workers to work site if there any non-compliance
3. Make available an OHS expert in high-risk worksites (e.g.: high elevations scaffolds, confined space, crane works, digging works, etc.)
4. Check conformity of equipment/ machines on worksites with national standard, and avoid their use in case of non-compliances
5. Promptly notify the Client within 48 hours of any incident or accident related to the Project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers including health and safety serious injuries and road accidents. Provide sufficient detail regarding the incident or accident, indicating immediate measures taken or that are planned to be taken to address it, and any information provided by any contractor
6. Participate in the contractor's regular OHS meetings and provide input for needed improvements
7. Provide the contractor with a copy of key OHS documents (Law 6331 on OHS Code, 5510 Social Security and General Health Insurance Law, 4857 Labour Code and also IFC Environmental, Helath and Safety (EHS) Guidelines) and check the compliance

* The Consultant shall ensure that the Contractor’s activities are following the ESMP. The Consultant shall supervise the Contractor’s implementation of environmental and social mitigation measures as identified in the ESMP. The Consultant should ensure Contractor that the Project’s Grievance Redress Mechanism set forth by MoNE is utilized and made available, accessible and visible in Project site.
* The Consultant shall ensure that the Contractor records any grievance received by local community or worker and report it in monthly ESMP monitoring reports to PIU.
* The Consultant shall be responsible for the compilation and submission of site-specific information to the Client, through monthly progress reports and by completing quarterly ESMP monitoring reports. These reports will include an update on the status of implementation of the respective ESMP, OHS compliance, and also outline any environmental, social and OHS problems being encountered, as well as any grievances received by nearby communities and/or workers, and give recommendations on how these problems may be overcome.
* The Consultant shall provide feedback and give notice to the MoNE regarding environmental and social issues at sites.
* The Consultant shall be responsible for assisting the Client with supervision of the implementation of environmental and social aspects of the project as part of its overall supervision responsibilities, in accordance with ESMP.
* If the Contractor is found to be non-compliant with the ESMP requirements, the Consultant shall file a non-conformity report and any relevant payment orders should be put on hold, until non-compliance issues are remedied satisfactorily or issue a fine in consultation with MoNE.
* The Consultant shall attend workshops to be organized by the Client that may be related to the project implementation, environmental and social safeguards, occupational health and safety, communication and public information, and grievance redress mechanism.
* The Consultant shall ensure that brochures, posters, grievance forms and other visual communication products to be provided by the Client are available and properly displayed at construction sites from beginning to end of the construction work.
* The Consultant shall include the hoarding panel design visuals in the tendering documents for the school buildings construction. Visual designs to be printed on panels will be provided by the Client.
* The Consultant shall ensure that the Contractor deliver the hoarding panels and install them around the construction site appropriately before construction work starts.
* The Consultant shall be in contact with the Client in responding to inquiries and grievances received at construction sites and shall provide support to communication activities to be carried out at schools before construction work starts.
  + - 1. ***Payment to Contractors, Variations***
* The Consultant shall check the Contractor’s valuations for payment on account and issue certificates according to the Conditions of Contract used and shall also be responsible for agreeing with the Client on each payment certificates in payable amount. The actual procedure and presentation of the certificates, supporting documents, etc. shall be discussed and agreed with the Client. If payment certificate is not prepared by Contractor, Consultant will prepare payment certificate on behalf of Contractor.
* The Consultant shall review the designs, plans, technical specifications, BoQ’s, etc. and prepare all additional documents and detailed designs during the first month of his assignment as mentioned in the above paragraphs, in such a way that the necessity for variation orders during the construction/installation stage is minimized as mentioned in Phase I. If it is considered necessary by the Consultant or the Client that any alterations in any of the Contract Documents, Plans or Specifications are advisable, the Consultant shall prepare and submit such alterations to the Client for approval, in a timely manner, supported by the necessary calculations, details and, time and cost implications. The Consultant shall state whether the alterations will cause any delay in the work programme, and therefore the contractor(s) to be entitled any time extension or not, supported by necessary documentation. On receiving written approval from the Client, the Consultant shall promptly amend the existing designs or supply any additional designs, plans, drawings and specifications where required or found necessary for the satisfactory completion of the works. Furthermore, the Consultant shall review and approve Contractor’s and manufacturer’s drawings and where appropriate incorporate these drawings into the overall design and review alterations which might be requested by the Contractors during the course of Works. The Consultant shall fully inform the Client about the cost and time impact and any other consequences of his any sort of proposals (such as revisions, recommendations, etc). The Client shall not be responsible from the consequences of the fact of which the Client is not informed in advance.
  + - 1. ***Tests, Reports***
* The Consultant shall approve an appropriate Material Testing Laboratory for all tests required that will be mentioned in Contractors’ Technical Specification and shall discuss the various testing requirements stipulated in its documents with personnel of the laboratory. The Consultant shall give at least 24 hours prior notice to the laboratory for all tests which are required to be undertaken. All samples shall be properly labeled in accordance with the requirements of the laboratory and the Consultant shall be responsible for the delivery of all samples for testing and for the collection of all test reports.
* The involvement of the approved Materials Testing Laboratory is limited to the actual performance of the tests in accordance with the Consultant’s laid down procedures and/or the specified standards stated in the Contract. The Consultant shall be responsible for interpreting the results received, instructing the repetition or the carrying out of additional tests and taking whatever action necessary to ensure compliance with the contract requirements. The Laboratory staff may from time to time offer advice to the Consultant on any matter within the scope of their competence but it is up to the Consultant whether to accept or reject such advice or suggestion. If any advice or suggestion is accepted by the Consultants, they shall become completely responsible for it as if the advice or suggestion has been of its own initiative.
* Where necessary, tests and inspections may be carried out at the place of manufacture during fabrication and/or prior to shipment. The Consultants shall inform the Client well in advance about any such performance test foreseen to enable the Client to participate in these tests if he so wishes.
* The Consultant shall stipulate the criteria, the planning and the procedure for all tests and inspections necessary for the materials, equipment, plant and workmanship and the commissioning of the Works and shall provide supervision and inspection for these tests. The Consultant shall compile a record of all such tests and compare the results with the specifications, standards or with the performance criteria that has been guaranteed by the suppliers or contractors.
* Preparation and submission of as-built drawings, shop drawings, operating and maintenance manuals for all items of equipment and plants incorporated in or associated with the works, shall be controlled and followed by the Consultant in timely manner. As-built drawings, operating and maintenance manuals should be obtained from the Contractor during the issuing of taking-over certificate. Otherwise, the Client might ask the Consultant for the conversion of the approved shop drawings into as-built drawings if Client considers that the Consultant is not strictly following up the work. The Consultant shall also prepare and submit to the Client’s approval a report giving all information about the “as-built-conditions” including (but not limited to) calculations, drawings, specifications, test reports and final Bill of Quantities
* Prepare Energy Performance Certificate (EKB): The consultant shall prepare the energy performance certificate of the building before and after the completion of the works.
  + - 1. ***Accounts, Claims***
* In any case, all the correspondences received from the contractor shall be reviewed, evaluated and responded within one week. Any claim from the contractor(s) under the construction contracts shall be evaluated by the Consultant and necessary recommendation shall be made the latest within two weeks, as well.
* The Consultant shall review and report on any financial claims submitted by the Contractors within 2 weeks of receipt of such claims.
  + - 1. ***Disputes***
* The Consultant shall assist in the setting of all disputes or differences, which may arise between the Client and the Contractors, in a timely manner. In the case of litigation and arbitration the Consultant shall assist the Client in the preparation of the documents needed by the Client.
  + 1. **Defects Liability and Maintenance Period**

The Consultant shall continue to be responsible for the supervision and inspection of the construction and completion of the Works during the Defects Liability Period as defined in the construction contracts. The level of supervision shall be appropriate to the scale of the works being carried out. These inspections and supervision are to ensure that works, agreed to be carried out during the Defects Liability Period, are properly carried out and have been completed and that any failure of any part of the Works has been rectified. If any defect is discovered, during this period, the Consultant shall promptly investigate the reason for it, report to the Client and take required actions to rectify the defect. A report of these inspections shall be submitted to the Client, which shall include all details of any defects, faults, accidents or breakdowns, which have occurred together with the estimated costs of repair and the time scales within which they will be completed. Moreover, the Consultant shall submit quarterly report summarizing all the activities during subject quarter of Defects Liability. A final report shall be submitted at the end of the Defects Liability Period giving full details of all works carried out during that period. This report shall be submitted by the Consultant to the Client at least 30 days prior to the Consultant’s issuing Defects Liability Certificate for the completed Works. The Consultant will provide minimum number of technical staff acceptable to the Client on each construction site during the Defects Liability Period.

1. **DELIVERABLES**

The Consultants shall prepare and submit to the Client various reports, drawings and document that are specified in or that are implied from these Terms of Reference in respect of various components of the Projects as described in the Terms of Reference.

These reports, drawings and other documentation relate to the various stages of the Consultants' Services including, but not necessarily limited to;

For Construction Works:

* Construction Supervision Stage
* Energy Performance Certification after construction works completed
* Completion and Defects Liability Stage

The Consultants shall prepare and submit a report satisfactory to the Client each calendar month, including progress charts and photographs in colors giving all information regarding the progress of the Works, actual extent and nature of the Works completed as well as details of any delay in the Works substantiating documentation if required. The Consultants shall also clearly indicate in the report whether the delay (if any) of any part of the works will cause any delay in the completion of the whole Works.

The report shall also include the percentages of the work items completed and planned, and also the actual and planned cash-flows for each work item as of the reporting period prepared in the project planning tools (such as MS Project, Primavera, Asta, etc…) accepted by the MoNE.

The report shall also include test records of materials, equipment and plant tested with copies of the test results and statistical evaluation of the test results in table and graphical form. Action taken with regard to poor results shall be stated.

The report shall give a detailed review of the Works to be performed during the following month and a general listing of the works to be performed during the following two months.

The report shall also give information about personnel employment status of the Consultants.

The report shall also include OHS, environmental and social management practices followed for mitigation of environmental and social impacts of the works, including any grievances received from public and also from workers and the overall compliance with the ESMP.

The report shall be submitted to the Client by the tenth day of following month. Any comment by the Client on the report shall be reviewed and the report shall be modified and re-submitted to the Client within 7 (seven) calendar days.

Due to the urgent nature of the project and short construction time, the Consultants shall also prepare a report in table form showing summary of cumulative progress in main work activities on weekly basis. The report shall be submitted to the Client in an acceptable format on Monday of each week via electronic mail and as hard copy. The weekly report shall also be e-mailed to Client.

In addition, the Consultants shall record views from at least 5 different points for the construction site, on weekly base, showing the progress on the site with dates and record them with acceptable format on Memory Sticks and submit to the Client.

The requirements for the submission of reports, drawings and other documentation are given below. Reports shall be prepared in both Turkish and English languages. The metric system of weights and measures shall be used.

Submission shall be as follows:

1. **General**

Format of Reports : A4 or A3, including where appropriate drawings reduced to A3 size.

Format of Drawings: A1 and/or A0 size.

A draft copy (Turkish 2, English 2) of all reports shall be submitted to the Client in advance for discussion purposes following which the Consultants shall be required to prepare the final copy, incorporating any amendments arising from such discussions.

1. **Construction Supervision Stage**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of copies of report/drawings** | **Turkish** | **English** | **Memory Stick (English and Turkish)** |
| **1** | Number of copies of Weekly Report (Hard copy) | 1 | 1 | 1 |
| **2** | Number of copies of Monthly Report | 2 | 2 | 1 |
| **3** | Number of copies of Quarterly Report | 2 | 2 | 1 |

1. **Completion and Defects Liability/Warranty Stage**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Number of copies of report/drawings** | **Turkish** | **English** | **Memory Stick (English and Turkish)** |
| **1** | Operating and Maintenance Manuals | 2 | 1 | 1 |
| **2** | Quarterly Report | 2 | 2 | 1 |
| **3** | Complete sets of as-built drawings | 1 | 1 | 1 |
| **4** | Taking-Over Report(s) | 1 | 1 | 1 |
| **5** | Defects Liability Period Report(s) | 2 | 2 | 2 |
| **4** | Energy Performance Certificates | 2 | 2 | 1 |

Original of the drawings that shall be submitted to the Client are not included in the above number of copies.

Those of the documents and reports not mentioned above but either specified or implied in the contract related to the Construction Supervision Stage and Completion and Defects Liability Period shall be submitted in 3 copies in Turkish and English languages each.

In relation to the ongoing stages of the Consultants Services, the submission requirements given above show the type of documentation that will be required by the Client during the performance of the Services. However, the Consultant shall allow in its fee for the submission of all reports, drawings, documents, etc. either specifically requested in these Terms of Reference or those which may be implied there from and the Contractors' contracts. The Client may however vary such requirements during the course of the Services to be performed.

Should additional copies be required over to those stated above or specified in these Terms of Reference, these shall be supplied by the Consultants at the cost of reproduction of such documents, reports or drawing. Additionally, after finalizing the reports and “as built” drawings, these shall be submitted to the Client on one (1) set of Memory Stick and in the software format acceptable by the Client. Each copy shall be durably bound in a volume or volumes depending on bulk, and the transparent copies shall have a suitable protective cover/box. All copies shall be labeled in accordance with the needs of the Client.

Upon the completion of Works and Supply Procurement, the Consultants shall submit all the original copies of correspondences, documents, test results and drawings relating to the services and Works, to the Client together with indices in acceptable files and forms by the Client and as archived. The Consultants shall keep the copies of the documents.

1. **TIMELINE**

During the supervision period it should be noted by the Consultants that prepared designs/details/calculations/reports/specifications and other documents submitted to the Client for approval will be reviewed by the Client and approved or returned for revision and/or resubmission in 15 calendar days.



The Consultants shall submit all the documents in a timely manner to complete the services on time without any delay. Time schedule for the completion of the consultants’ services for the various parts of the Project is given below;

**PHASE II:**

**For Construction Works**

* **Construction Supervision and Defects Liability Periods:** Under normal conditions, the scheduled construction period is 14 months in total and the defects liability period for each group of public buildings is 12 months

1. **SUPPORT TO BE PROVIDED BY THE CLIENT TO THE CONSULTANTS**

The Civil Works Contractors’ bidding documents shall be arranged to incorporate clauses to provide temporary office area to the Consultants at the construction site depending on the size and location of the construction site, the size and number of rooms shall be jointly determined by the Client and the Consultant considering the needs of the Client as well. The Consultants will be fully responsible for providing their central office in İzmir until the contractors are in place to make these site offices available. The central office shall be furnished and equipped by the Consultants as per clauses of SCC of Standard Forms of Contract, whereas the site offices shall be furnished by the Contractor. All sort of running expenses of site offices shall be under the Contractors responsibility. The Consultant shall not be required to deliver any equipment and materials provided by the reimbursable expenses and which have been used for the Services to the Client.

All local transport for the Consultants staff including the site supervisory staff shall be provided by the consultant and shall be included in the fee proposal submitted.

Subject to availability to Client the following items shall be provided free of charge by the Client to the Consultants if available: The existing maps, topographic plans, development plans, cadastral data, layouts.

In addition, the Client shall, where possible, assist the Consultants in obtaining approvals, permissions from the Municipalities and other State Authorities in respect of the Services to be performed.

The Consultants shall return to the Client all documents received from the Client following the completion of the Services to be performed.

1. **TEAM COMPOSITION & QUALIFICATION REQUIREMENTS FOR THE KEY EXPERTS**

The Consultant is responsible for the establishment of a supervision group who are experienced in structural/retrofitting, architectural, electrical, mechanical, energy efficiency related works. The Consultant shall separately indicate the staff to be assigned for the supervision and documents by indicating positions planned to be assigned for each staff in their proposal. The consultant is expected to establish a supervision team in İzmir.

**8.1 Team Composition**

The successful fulfillment of the scope of services requires professional qualification in the fields of similar civil engineering works; architectural works, MEP works, Energy Efficiency, infrastructure/superstructure resilience, and disaster risk mitigation; construction methods engineering; environmental, social, occupational health and safety, and community safety mitigation; construction and contract management; and related fields.

It is anticipated that key professional staff of the Consultant’s team may include a combination of international and Turkish professionals or nationals only depend on the Consultants proposal.

The Consultant shall assemble a team capable of implementing an integrated approach to engineering design, infrastructure/superstructure resilience, and the attainment of desired outcomes in terms of construction quality; technical, social, and environmental risk mitigation; and value-for-money.

The Consultant shall provide adequate staff in terms of expertise and time allocation, as well as needed equipment/services in order to complete the activities required under the scope of work and to achieve the objectives of the project in terms of time, costs and quality.

The team shall have at least the following key positions (or equivalent combination of expertise):

**Overall Assignment Leadership**

* Project Team Leader - Senior Civil Engineer/Senior Architect (experience in IFI funded projects and school buildings)

**Construction Supervision Phase**

* Deputy Project Manager Senior Civil Engineer/Senior Architect (experience in IFI funded projects and school buildings) (if PM is Civil Engineer than DPM should be Architect or vice versa)
* Cost and Planning Engineer
* Quality Control and Quality Assurance Engineer
* Senior and junior Architects
* Senior and junior Civil Engineers
* Senior and junior Mechanical Engineers
* Senior and junior Electrical Engineer
* Energy – Efficiency Engineer
* Environmental and Social Expert/Specialist
* Occupational Health and Safety Specialist

This core team shall be supported by other professionals as proposed by the Consultant. These additional profiles must indicate whether they are to be regarded as long-term/short-term and senior/junior so that it is clear which fee rate in the budget breakdown will apply to each profile.

All staff must be independent and free from conflicts of interest in the responsibilities accorded to them. The selection procedures used by the Consultant to select these other staff shall be transparent, and shall be based on pre-defined criteria, including professional qualifications, language skills and work experience. Note that civil servants and other staff of the public administration of Turkey cannot be recruited as experts, unless prior written approval has been obtained from the Client. As the final reports will be produced in both English and Turkish, the Consultant may wish to consider having translators on the team or propose a viable alternative for reliable and high-quality translation.

The list below provides further details on the required qualifications of the core team positions:

**Project Team Leader** will be responsible for the overall management of the project. (i) Bachelor’s degree in Civil Engineering or Architecture (ii) at least 10 years of professional experience (iii) minimum 5 years of working experience in management of projects cooperation with international donors/agencies such as WB/IFC/EBRD/EU/AFD and United Nations

**Deputy Project Manager** (i) Bachelor’s degree in Civil Engineer/Architecture (ii) at least 10 years of professional experience (iii) experience in IFI funded projects and school buildings) (if PM is Civil Eng than DPM should be Architect or vice versa)

**Cost and Planning Engineer** (i) Bachelor’s degree in Civil Engineer (ii) at least 5 years of professional experience (iii) at least two years of similar experience

**QA-QC Engineer** (i) Bachelor’s degree in Engineering (ii) at least 5 years of professional experience (iii) at least two years of similar experience

Energy-Efficiency Engineer (i) Bachelor’s degree in Mechanical/Electrical Engineering (ii) at least 10 years of professional experience (iii) with certificate from Ministry (iV) with experience in EE design of min. 50.000 m2 in max 10 different buildings

**Senior Civil Engineer** - (i) Bachelor’s degree in Civil Engineering (ii) at least 10 years of professional experience (iii) experience in school buildings (preferable)

**Senior Architect** - (i) Bachelor’s degree in Architecture (ii) at least 10 years of professional experience (iii) experience in school buildings (preferable)

**Senior Mechanical Engineer** - (i) Bachelor’s degree in Mechanical Engineering (ii) at least 10 years of professional experience (iii) experience in school buildings (preferable)

**Senior Electrical Engineer** - (i) Bachelor’s degree in Electrical Engineering (ii) at least 10 years of professional experience (iii) experience in school buildings (preferable)

Junior Architect/Civil Engineer/Electrical Engineer/Mechanical Engineer (ii) at least 5 years of professional experience in the related discipline

**Environmental and Social Expert/Specialist** will be responsible for managing and monitoring the implementation of the environmental and social measures in line with national and World Bank guidelines and requirements as well as related ESMPs prepared. The Environmental and Social Expert/Specialist is expected to have; (i) Bachelor's degree in Environmental Engineering, (ii) at least 8 years of professional experience; and (iii) minimum 3 years of field experience on similar projects.

**Occupational Health and Safety Specialist** will be responsible for managing and monitoring the occupational health and safety, the environmental, and social impacts mitigation measures included in the environmental and social management plans (ESMPs) and for carrying out risk assessments to identify and mitigate related OHS risks during construction. This staff will be employed as per the Law 6331 published for Health and Safety regulations and having Class B Certificate. The OHS Specialist is expected to have (i) an advanced degree in a relevant discipline (e.g. civil, environmental, mechanical engineering, OHS, etc), (ii) 5+ years of relevant experience in OHS assessment and management, and (iii) a good understanding of World Bank Group safeguards policies and procedures, World Bank Group General Environmental, Health, and Safety Guidelines or any other relevant internationally acceptable standards.

**Other experts, support staff & backstopping**

The Consultant shall select and hire other experts as required for the supervision of construction works and engineering services (geological engineer, landscaping architecture, etc). The CVs of these experts should also be included in the technical proposal. However, technical evaluation will be conducted based on qualifications of the key experts.

All experts should have as a minimum requirement a university degree, at least five (5) years’ work experience, be good in English, and proven experience in the field(s) relevant for their specific projects, and work experience in Turkey will be an asset.

Costs for backstopping and support staff should be included in the financial offer of the consultant. The Consultant should also provide adequate administrative staff (i.e. secretary, translator, interpreter, accountant, document controller etc.) and technicians/junior engineers needed to support the expert team in order to assure the quality of all its activities and outputs.

**Annex-1**

**List of Buildings covered under the Assignment**

**GROUP-1**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SIRA NO | İL | İLÇE | OKUL ADI | OKUL TİPİ | DERSLİK SAYISI |
| 1 | İZMİR | BAYRAKLI | Ö. İLKOKULU |  | 24 |
| 2 | İZMİR | ÇİĞLİ | S. İLKOKULU/ORTAOKULU | İLKOKUL | 24 |
| 3 | İZMİR | BORNOVA | B. MESLEKİ EĞİTİM | LİSE | 32 |
| 4 | İZMİR | BORNOVA | T.İ. ORTAOKULU | ÖZEL EĞİTİM | 24 |
| 5 | İZMİR | BUCA | A. ORTAOKULU | ORTAOKUL | 32 |
| 6 | İZMİR | BUCA | S. MESLEK LİSESİ | MESLEK LİSESİ | 32 |
| 7 | İZMİR | BERGAMA | O. İLKOKULU | İLKOKUL | 16 |
| 8 | İZMİR | BUCA | Ş. LİSESİ | LİSE | 24 |
| 9 | İZMİR | GAZİEMİR | Ş. LİSESİ | LİSE | 32 |
| 10 | İZMİR | GAZİEMİR | M. İLKOKULU | İLKOKUL | 24 |

**List of Buildings covered under the Assignment**

**GROUP-2**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| SIRA NO | İL | İLÇE | OKUL ADI | OKUL TİPİ | DERSLİK SAYISI |
| 1 | İZMİR | ÇİĞLİ | B. LİSESİ | LİSE | 24 |
| 2 | İZMİR | ÇİĞİLİ | Ç. LİSESİ | LİSE | 32 |
| 3 | İZMİR | KARŞIYAKA | K. LİSESİ | LİSE | 32 |
| 4 | İZMİR | KARŞIYAKA | S. ORTAOKULU | ORTAOKUL | 24 |
| 5 | İZMİR | KONAK | M.Ö. OKULU | ÖZEL EĞİTİM | 16 |
| 6 | İZMİR | KONAK | Z. ORTAOKULU | ORTAOKUL | 24 |
| 7 | İZMİR | MENEMEN | İLKOKULU | İLKOKUL | 24 |
| 8 | İZMİR | SELÇUK | Ş. LİSESİ | MESLEK LİSESİ | 24 |
| 9 | İZMİR | ÇİĞLİ | E. İLKOKULU | İLKOKUL | 24 |
| 10 | İZMİR | ALİAĞA | N. İLKOKULU | İLKOKUL | 24 |