

Detailed Design Terms of Reference for  
Reconstruction/Rehabilitation for Public Schools  
Located in Mestia and Tsageri

The World Bank Financed  
Innovation, Inclusion and Quality Project – Georgia  
(I2Q)

Tbilisi

2020

# Introduction

The Municipal Development Fund of Georgia (MDF) established by the Government under the Ministry of Regional Development and Infrastructures (MRDI) is in charge of the reconstruction and rehabilitation of public infrastructure on the whole territory of Georgia. In its work towards supporting the infrastructure development across the country, the Fund actively cooperates with various international donor institutions. The financial support extended by these donors along with the state budget resources are used to finance various infrastructure projects of MDF.

The Government of Georgia has signed (June 18, 2019) Loan Agreement (90 mln Euro) for financing the implementation of Georgia Innovation, Inclusion and Quality Project (Project) with the World Bank (WB). The Project development objectives are to (i) expand access to preschool education; and (ii) improve the quality of education and the learning environments. The project became effective on November 27, 2019 and is scheduled for completion on March 31, 2026.

The Municipal Development Fund of Georgia (MDF) is one of the implementing partners for the project, in charge of the infrastructure related components.

The Project consists of the following key components and subcomponents:

**Component 1- Improving Quality of and Access to Early Childhood Education and Care:** support to facilitate expanded access to quality pre-school education in selected pre-schools.

**Component 2 – Fostering Quality Teaching and Learning in General Education:** Support to provide a learning environment that is conducive to quality education in selected general education schools.

**Component 3 – Strengthening Financing Options and Promoting Internationalization in Higher Education:** Support to improve the quality and international competitiveness of higher education.

**Component 4 – System Strengthening and Stakeholder Communication:** Support to facilitate a shift in attitude towards learning.

**Component 5 – Supporting Project Management, Monitoring, and Evaluations:** Support capacity building for effective management and monitoring of the Project including provision of Operating Costs, Training, outreach and awareness campaigns, consulting services, M & E and Project audits for:

The Project will be implemented over a six-year period by the Ministry of Education, Science, Culture and Sport of Georgia (MESCS) and its subordinate government agencies and by the Municipal Development Fund of Georgia (MDF).

The Project Management Unit (PMU) will be created within MESCS to support the implementation of the Project and Project Management Team (PMT) will be created within MDF to support implementation of infrastructure activities under the Project.

## A brief description of the project and objectives

The objective of the assignment is to develop the detailed design, cost estimation, and tender documentation for rehabilitation and increasing of energy efficiency measures for public schools (and associated facilities/buildings that could be a part of the school complex) in Mestia (Samegrelo - Zemo Svaneti) (3 schools) and Tsageri (Racha-Lechkhumi – Kvemo Svaneti) (2 schools), with the aim of producing a complete set of bidding documents. This will include, but is not limited to, preparing (1) detailed designs (architectural, structural (including seismic strengthening provisions), interior, electrical, plumbing, technological, heating-ventilation, hot water supply (HWS), organization of construction etc.); (2) technical specifications, taking particular account of the seismic characteristics of the project; (3) technical reports; (4) bills of quantities – BoQs (priced and unpriced), (5) work schedule and bidding documents preparation etc. The author (designer) supervision during the execution of the civil works will be considered.

Project designs developed by a consultant should comply with a set of uniform standards established specifically for school rehabilitation project, including any applicable building codes and standards applicable in Georgia. The set of standards includes minimum requirements for building reliability, energy efficiency, seismic and structural stability, planning and modernization.

## A brief description of the project buildings

School existing available data is presented in the Annex 1.

## Scope of works and deliverables

The service consists from the following stages:

I stage - Surveys and investigation activities;

II stage - Preparation of preliminary design;

III stage - Preparation of detailed design;

IV stage - Project approval;

V Stage – Project implementation and the author (designer) supervision during the execution of the civil works.

Note: Consultant has to include all costs, including, but not limited to, fees, documentation, expenses, etc. for preparation of expert opinions by LEPL Levan Samkharauli National Forensics Bureau or by other accredited entity in relevant field and fees of obtaining any and all necessary permits from governmental agencies where required. Expert opinions have to be submitted on the following phases:

- Architectural part, according to Georgian governmental resolution #41;
- Structural part;
- Engineering-geological report;

The requirement for other expert opinions may arise over the course of the project, for which the consultants shall remain fully liable.

## Stage I – Surveys and investigation activities

The first visit to the Site must take place in the presence of an authorized person assigned by the client. During the I stage, the consultant must conduct survey and investigation activities, which consist of the following parts:

- Cadastral information extracted from public registry;
- Topographical survey;
- Geological survey and geotechnical analysis;
- Building survey, including structural/seismic assessment;
- Measurement drawings;
- Walk –through energy audit;

Note: In case the conclusion on structural/seismic stability (provided under the stage I) demonstrates that seismic strengthening and refurbishment of the building is not feasible for the client, the client reserves the right to cancel remaining activities under the contract or negotiate new scope of works. If retrofitting and refurbishment of the building is not feasible, upon agreement with the client, the walk-through energy audit is not required.

## Documents to be delivered at stage I

Project explanatory note should include description of current situation and design solutions (accompanied by reports, conclusions, charts, tables, photographs, etc.). The list of rehabilitation activities, has to be defined class of Buildings according to the Resolution No57 of March 24, 2009 of the Government of Georgia on "Rules of issuing Construction Permit and Permission Conditions". Zoning areas (historical districts) must be defined, and in case of cultural heritage monument recognized by the national agency for cultural heritage preservation of Georgia the relevant documentation should be prepared according to Georgian legislation.

- Cadastral information extracted from public registry;
  1. Cadastral documentation (with projected and current situation indicated on topo plan, plan of registered land plot(s) with cadaster boundaries and code);
  2. Information and schemes of communications to provide the facility with electricity, gas, drinking water and sewage network;
  3. Development of a Global Situational Plan based on the existing surveys on a small scale (1:5000 or 1:10000);
  4. Situational plan of the project site location 1:2000 or 1:1000.

- Topographical survey;
  1. Topographic survey using UTM System;
  2. Local topographic survey of site including all buildings, structures and geodetic marks on the Large scale (1:200 or 1:500);
  3. Topographic survey must include existing underground and overhead communications;
  4. At least two benchmarks have to be physically fixed on site. The photos of the fixed benchmarks have to be provided.
- Geological survey and geotechnical analysis;
  1. Determination of physical and mechanical properties of the soil and preparation of reports on complete geological survey of the project site;
  2. Geological Survey implies determination of depths and physical-mechanical properties of the spread constituting soil types based on field work and laboratory testing of samples, as well as preparation of complete geological survey reports. The survey also should contain hydrogeological conditions of the construction site: level of underground water and laboratory conclusions on the aggressiveness of this water to building material;
  3. Determination of foundation types of the existing building and base soil.
- Building survey, including structural/seismic assessment;
  1. Survey of the overall condition of all existing buildings on the site, including the condition (damage) of existing non-structural elements, including but not limited to walls, ceilings, roofs, stairways etc.
  2. Structural survey of all existing buildings on site, determination of their structural/seismic stability based on further calculations and analysis and preparation of Expert Conclusions on structural/seismic stability, taking particular account of the seismic characteristics of the project. Based on structural survey, the consultant should establish the remaining lifespan for each building on site. For non-essential building(s) the consultant should recommend either of the following: demolition/new construction, rehabilitation, or reconstruction depending on the results of the survey;
  3. Laboratory examination of material samples and nondestructive testing of load-bearing elements. All the parameters to be determined with appropriate equipment and in the manner prescribed by the applicable Georgian codes/standards;
  4. Expert conclusion on structural/seismic stability of existing buildings/structures, which should be based on numerical analysis of buildings using data obtained from geological survey and test results, as well as the year of construction;
  5. Determination of the presence of hazardous materials;
- Measurement drawings;
  1. Detailed Measurement drawings of all existing buildings and structures: Plans, sections, facades, etc.
- Walk-through energy audit;
  1. Energy audit report with recommendations for improvement of heating/ventilation/hot water supply (HWS)/lighting systems and indicative potential for energy savings from energy efficiency measures;
  2. Current (actual) energy consumption and baseline thermal comfort levels;

3. Identification of the list of energy efficiency measures;
4. Aggregated target energy savings and target energy savings per usage (heating, HWS, lighting, ventilation);

## Stage II - Preparation of the preliminary design

Preliminary design should be based on information collected in stage I, including planning of existing building and adaptation to modern standards according to client's recommendations and comments. The design should be in line with Resolution Government of Georgia #41, of January 28, 2016, on "Safety Rules of the Buildings/facilities" which also includes requirements for the persons with disabilities (PWD); and also Resolution Government of Georgia #41, of January 6, 2014, "Technical regulations for the special planning and the architectural and planning elements for PWD". Design should be prepared according to client's recommendations and comments. Additionally, the design should be in line with a set of uniform standards established specifically for school rehabilitation project. Class of Buildings must to be defined according to the Resolution No57 of March 24, 2009 of the Government of Georgia on "Rules of issuing Construction Permit and Permission Conditions". The public school rehabilitation project must include classroom for pre-school education. The classroom should be located on the ground floor. Design must comply with the order # 308N of the Minister of Labor, Health and Social Affairs of Georgia.

The preliminary design should envisage the development of the area, landscaping, outdoor lighting, indoor and outdoor sports halls, external and internal communications as well as the arrangement of the outdoor drainage system. As much as practically feasible, the design should incorporate optimal pedagogical layout arrangements.

The scope of work of the second stage envisages design with detailed descriptions of activities related to structural aspect (seismic strengthening or reconstruction), and energy efficiency (dismantling and installation of energy efficiency measures).

Structural design should be based on stage I activities like, measurement drawings, investigation and structural survey, taking into account of the seismic characteristics of the project. Conclusions related to the building's structural stability should be prepared by accredited/certified expert.

The design of energy efficiency measures should take into consideration that the building/facility envelope elements and technical data of engineering technical systems shall comply with either of the following: (i) calculated aggregated (including heating, lighting, ventilation, and hot water) specific energy demand for climatic zone 1 (coastal zone) should not exceed 128 kWh/m<sup>2</sup> per year, for climatic zone 2 (central zone) should not exceed 143 kWh/m<sup>2</sup> year, and for climatic zone 3 (mountainous zone) should not exceed 171 kWh/m<sup>2</sup> year, or (ii) the secondary legislation of Georgia on "Minimum energy performance requirements for buildings" to be adopted before 30 June 2021 according to paragraph 2, article 20 of the Law on "Energy Efficiency in Buildings" approved by the Georgian Parliament in 21.05.2020, if this legislation is adopted by the time of the preparation of the design. These demands should be satisfactory for a minimum indoor temperature of 20°C

during working hours (in wintertime) and maximum 26°C (in summertime). The energy efficiency measure should achieve target aggregated energy savings which should be 40% or the percentage identified by the walk-through energy audit.. The target energy savings for each of the energy usage (heating, ventilation, lighting, and HWS) should also be achieved.

Before submission of the preliminary design to the client, the consultant is obliged to make a presentation and discuss design documentation with the representatives of the client, the Ministry of Education, Science, Culture and Sport of Georgia and with the respective school administration.

## Documents to be delivered at Stage II

During the II stage, the consultant must provide preliminary design, which consists of the following parts:

- Architectural part;
  1. General explanatory note of architectural part, which should include information about master plan and all other buildings/structures;
  2. Situational plan of the building with the adjacent infrastructure (1:5000 or 1:10 000);
  3. Master plan shown in large scale if necessary (1:200 or 1:500);
  4. Three-dimensional high quality visualization of buildings/structures (high resolution renders);
  5. Facades of buildings/structures (1:50 or 1:100);
  6. Measuring drawings of the building: plans, sections, facades, indicating purpose of storehouses (1:50 or 1:100);
  7. Functional plans of the buildings/structures indicating the purpose of the rooms and furniture layout scheme (1:50 or 1:100);
  8. Longitudinal and cross sections of buildings/structures (1:50 or 1:100);
  9. Roof Plans with the organization of water removal (1:50 or 1:100), detailed drawings of water diverters (1:5, 1:10 or 1:20), quantitative specifications of works and materials;
  10. Wall and partition marking plans with the types (1:50 or 1: 100), detailed drawings of of walls and partitions (1:5, 1:10 or 1:20), quantitative specifications of works and materials;
  11. Plans of floor and ceiling, indicating types of finishing (1:50 or 1:100), detailed drawings of floors and ceilings detail types (1:5, 1:10 or 1:20), quantitative specifications of works and materials;
  12. Plans for internal wall finishing (1:50 or 1:100), detailed drawings of wall finishing (1:5, 1:10 or 1:20), quantitative specifications of works and materials;
  13. Plans for the openings, and types of doors and windows (1:50 or 1:100), detailed drawings of types of doors and windows (1:5, 1:10 or 1:20), quantitative specifications of the doors and windows;
  14. Drawings of architectural details (stairs, railings, roof and other details) (1:5, 1:10 or 1:20);
  15. Building evacuation plan (1:50 or 1:100), and
  16. Sheets of internal and external finishing.

- Interior Part;
  1. General explanatory note with the information about the planning area;
  2. Floor Plans, with exact locations of furniture and interior design for various components (1:50 or 1:100);
  3. Ceiling finishing plans, reflective plans of ceilings with precise locations of all the engineering utility elements and other components (1:50 or 1:100);
  4. Wall drawings to reflect the height of furniture, wall finishing materials, the sanitary equipment sites and other design elements that are constantly fixed on the wall (1:50 or 1:100);
  5. Finishing material specifications;
  6. Specification and number of lightings with photos;
  
- Improvement of the territory and vertical planning part;
  1. Plans of territory improvement, transport and pedestrian interfaces, parking, landscaping, playgrounds etc. sections, details (1:100, 1:50, and 1:25). Finishing worksheets and specifications. Small architectural forms (benches, trash bins, outdoor lighting, etc.);
  2. Explanatory note describing the design decisions;
  3. Master plan (1:1000, 1:500 or 1:200) including marking of the existing and design point levels;
  4. Longitudinal and transverse profiles of the territory (1:1000 or 1:500)
  5. Quantitative and qualitative specifications of works and materials.

As for accessibility / universal access, the design should be in line with Resolution Government of Georgia #41, of January 6, 2014, “Technical regulations for the special planning and the architectural and planning elements for PWD”.

- Energy efficiency;
  1. Determination of baseline and actual energy consumption and energy efficiency indicators;
  2. Under the document baseline and actual (measured) energy consumption data for each energy usage, data for energy consumption after rehabilitation, and target energy savings should be presented. The energy efficiency measure should achieve target energy savings for heating, ventilation, lighting, and HWS which should be at least 40% or percentage identified by the energy audit whichever is greater. The rehabilitation should achieve an aggregated energy saving of at least 40%.
  3. The design of energy efficiency measures shall take into consideration that the building/facility envelope shall comply with either of the following: (i) calculated aggregated (including heating, lighting, ventilation, and hot water) specific energy demand for climatic zone 1 (coastal zone) should not exceed 128 kWh/m<sup>2</sup> per year, for climatic zone 2 (central zone) should not exceed 143 kWh/m<sup>2</sup> year, and for climatic zone 3 (mountainous zone) should not exceed 171 kWh/m<sup>2</sup> year, or (ii) the secondary legislation of Georgia on “Minimum energy performance requirements for buildings” to be adopted before 30 June 2021 according to paragraph 2 article 20 of the Law on “Energy Efficiency in Buildings”



approved by the Georgian Parliament in 21.05.2020, if this legislation is adopted by the time of the preparation of the design. These demands should be met for the minimum indoor temperature of 20°C during working hours (in wintertime) and maximum temperature of 26°C (in summertime).

4. Energy efficiency measures with corresponding calculations and explanatory notes (schemes, details, specifications) (1:100, 1:50, 1:25);
- Structural/seismic part;
    1. Structural/seismic part should be performed in compliance with the applicable Georgian building codes and standards;
    2. Report describing i) alternative seismic strengthening and/or reconstruction solutions, taking into consideration available materials and construction skills as well as the associated costs, and ii) proposed solution for a specific school and justification of decision in the context of local conditions;
    3. Summary of the results of design calculations containing applicable design criteria, loads, seismic analysis and design results;
    4. Preliminary structural drawings, showing the existing building and details of strengthening for the existing structural elements and any new structural elements that need to be constructed as a part of the project, as well as any non-structural building components that need to be replaced or repaired, including but not limited to ceilings, walls, roofs, stairways etc.
    5. Cost estimates, construction specifications and other information to describe the scope, quality and cost of the project in sufficient detail.
  - Electrical part;
    1. Explanatory Note with power requirements for the entire site, as well as for individual buildings/structures (installed and required capacity), category and type of planned electrical networks, wiring rules; calculation of grounding (basic and secondary);
    2. Internal lighting network plans, using energy efficient lighting and fittings (1:50, 1:100), quantitative specifications of works and materials;
    3. School evacuation plan and fire action plan;
    4. Fire detection and fire alarm system, plans, flow charts, quantitative specifications of works and materials;
    5. Evacuation lighting network, plans, flow charts, quantitative specifications of works and materials;
    6. Internal power network plans (1:50, 1:100), quantitative specifications of works and materials;
    7. Schemes of distribution and electric service panels, quantitative specifications of works and materials;
    8. Schemes of critical parts of Internal power network;
    9. Block-scheme of connecting main and electric service panels, and continuous power sources;

10. Drawings of grounding of metal parts (potential equalization) and quantitative specifications of works and materials;
  11. Schemes of systems in power supply using renewable sources (if any);
  12. Site internal power network plans (power network, area lighting, secondary grounding network), sections of cable tunnels, cable log, quantitative specifications of works and materials;
  13. Secondary grounding drawings, quantitative specifications of works and materials;
  14. Scheme of main electric service panel, quantitative specifications of works and materials;
  15. General Block-scheme of power supply (connection scheme of main feed line, main electric service panel of the site, site internal power networks, and distribution panel of buildings/facilities etc.);
- Weak current systems;
    1. Explanatory note with all requirements, describing design solutions, and presenting necessary documentation regarding required capacity for obtaining technical conditions;
    2. Quantitative specifications of all equipment, works, materials, network architecture and flow charts for the video surveillance, telephone, computer, internet, television, school electric bell and fire alarm systems.
  - Plumbing system;
    1. Explanatory note containing the characteristic of the planned networks. Demand for drinking water, cold and hot water of entire site and separate buildings/facilities (consumption per day, minute and second), volume of waste water, requirements on technical water required for fire extinguishing, characterization of existing communications, and the possibilities for connection;
    2. Technological drawings of the facility, with an explanatory note whose technical requirements must be in compliance with the Decree No. 17 of the Government of Georgia;
    3. Layout of plumbing equipment in buildings/structures (1:50 or 1:100), quantitative specifications of works and materials;
    4. Plans of Internal cold water networks in buildings/structures (1:50 or 1:100), quantitative specifications of works and materials;
    5. Axonometric schemes of internal cold water networks in buildings/structures;
    6. Plans of internal hot water networks in buildings/structures (1:50 or 1:100), quantitative specifications of works and materials;
    7. Axonometric schemes of internal hot water networks in buildings/structures (1:50 or 1:100);
    8. Plans of Internal fire pipeline networks of buildings/structures (1:50 or 1:100), quantitative specifications of works and materials;
    9. Axonometric schemes of Internal fire pipeline networks of buildings/structures;
    10. Plans of Internal sewage networks in buildings/structures (1:50 or 1:100), quantitative specifications of works and materials;
    11. Axonometric schemes for Internal sewage networks in buildings/structures;

12. Hot water preparation tank (boiler) plan and scheme; quantitative specifications of works and materials (as appropriate);
  13. Site Internal plans for plumbing networks (Drinking Water, Fire Water, Irrigation System, Sewage, Drainage) (1:200, 1:500). Quantitative specifications of works and materials;
  14. Site Internal Longitudinal profiles of plumbing networks, trench sections, control and communication well drawings and charts, scheme of water flow meter, quantitative specifications of works and materials;
  15. Drawings and schemes of drinking and fire water (as appropriate). Quantitative specifications of works and materials;
- Technological part;
    1. General explanatory note of the technological part;
    2. Technological plans according to floors or functional zoning with precise layout of furniture, inventory, equipment;
    3. Specifications for necessary inventory, equipment and devices; (If any)
    4. Layouts of passenger and freight elevators (or escalator), sections, technological schemes and specifications (if any).
  - Heating-ventilation and HWS part;
    1. In order to reduce the heat loss of the building, the project should include energy efficiency measures for heating, ventilation, HWS and lighting systems.
    2. Roofing and wall insulation - should be advised in accordance with climatic conditions. The thermal insulator should not be flammable and fire transmitter.
    3. An explanatory note containing the characteristic of the systems; information on meteorological conditions of the construction site, thermal insulation properties of floors, walls, roof, doors and windows etc., and general demand of the building in terms of the thermal energy (heat, cold) and clear air. Calculation tables for the school building heat losses, thermal insulation and clean air should be presented as explanatory note.
    4. Plans of building heating systems (1:50, 1:100), quantitative specifications of works and materials;
    5. Axonometric or 3D schemes of school building heating systems;
    6. Schemes of distribution collectors for the school building heating systems;
    7. Plans of school building ventilation system (1:50, 1:100), quantitative specifications of works and materials;
    8. Axonometric or 3D schemes of school building ventilation system;
    9. Heat supply plan (1:50 or 1:100), quantitative specifications of works and materials (equipping the platform of boiler and chiller);
    10. Drawings of internal site heating network (as appropriate), quantitative specifications of works and materials;
    11. Calculations of heat and cool losses;
    12. List of the electric supplies for heating, and ventilation systems.

- External networks connection (Technical building);
  1. Technical building, where all the communications will be interconnected before entering in main school building.
  2. Relevant reports to obtain technical terms for engineering utilities (water-sewage-drainage, natural gas, electricity, etc.);

### Stage III - Preparation of detailed design

Based on the activities carried out in previous stages, using the preliminary design agreed with the client and other involved parties, final detailed design, including BOQ and cost-estimation documentation should be prepared. Detailed calculations for safe management of inert, non-hazardous and hazardous waste should be included in the project budget (BOQ).

Detailed Design should include all works required with the aim of producing a completed set of bidding documents, including but not limited to (1) detailed designs (architectural, structural/seismic, interior, electrical, plumbing, technological, heating--ventilation, organization of construction etc.) and technical specifications including all necessary data collection, surveys and analysis to cover all aspects of detailed design; (2) technical specifications, taking particular account of the seismic characteristics of the project; (3) technical reports; (4) bills of quantities (BOQs), both priced and unpriced, indicating resource and sum up versions, (5) work schedule and bidding documents preparation etc.

The design should include general instructions and recommendations for the construction tender participants/contractors; including detailed specifications (indicating all necessary standards) for quality control of materials and equipment used, methodology of work performance and testing.

The design should also include:

- (1) detailed specifications for safe management (removal, demolition, temporary storage, transportation and final disposal) of hazardous waste and toxic materials, which include but are not limited to asbestos, toxic paints, noxious solvents, removal of lead paint, etc.
- (2) Information about the amounts of inert waste, non-hazardous waste and hazardous waste (including asbestos contained waste) to be produced due to the project implementation.
- (3) Brief description (including cadastral information) and maps of suggested sites (potential sites) for disposing excess material (mud, soil, rocks) and construction waste. Information on nearest landfills for disposing asbestos-contained waste should be provided in accordance with Rules and Norms for the Arrangement and Operation of Solid Waste Landfills (Governmental Decree # 421, August 11, 2015) if needed.

### Documents to be delivered at Stage III

In the third stage, the consultant must provide all the documentations listed in “Full set of project documentation”.

All drawings should be prepared in accordance with the applicable Georgian norms and standards required for the work documentation, in appropriate scale and detail. The drawings should include the situational and master plans of the project site, the detailed architectural and structural drawings of buildings/structures, the schemes for placement and connection of electrical appliances and technological devices, indicating sizes, indicators and technical characteristics. The drawings should include tables with the volume of works and the material specifications. The design should include renders as well.

Engineering part needs to take particular account of the seismic characteristics of the project, and include engineering and technical system for improving energy efficiency, including (1) Internal and external power supply, sewerage, cold and hot water supply, gas supply, drainage, heating-ventilation and heat recovery from ventilation system (if any), fire protection and alarm systems, etc. (schemes, details, specifications); (2) Specifications of all technological and electrical equipment / machinery. The design should include loads of all systems indicated with appropriate normative. The consultant should obtain approval of basic engineering designs by relevant services, as required. All necessary documentation should be provided regarding the required capacity for obtaining technical conditions–electricity, gas, water and sewage network.

### **Environmental Requirements**

The consultant shall perform the proposed activities under the project in accordance with the Georgian legislation/the donor policy and submit the following information:

- Topographic, geological and hydrogeological information (description of relief, geology and soil, based on archive data and as a result of visual survey; information regarding existence or probability of hazardous geological processes, necessity for conducting of explosive works; depth of location of ground water etc.);
- Vicinity to the river or other surface waters (lakes, channels etc.);
- Potential sites for disposing excess material (mud, soil, rocks) and construction waste, brief description (including cadastral information) and maps of suggested sites; which shall be agreed with the relevant authorities accordingly.
- Location and distance to the nearest licensed borrow pit and landfills.
- Review all existing underground and surface communications;
- Land ownership and land utilization issues: a) Cadastral data on the project implementation site, b) Formally attested information whether the project impacts on privately owned, or leased land plots or not (temporal disturbance; loss of the part of the land plot or whole land plot by the owner; loss of the property being on the land plot; loss of income etc.
- Brief socio-economic information on surrounding area;
- Description of vegetation and flora species in the SP area, and identification existence of Red Listed species based botanical and zoological surveys. If cutting of trees/bushes will be required, name of tree species (Georgian and Scientific) and quantity should be specified;

Based on the submitted information, the consultant must prepare relevant environmental documentation (English/Georgian versions). The consultant shall revise the documents in

accordance with the provided comments and suggestions (if any). All site-specific safeguard documents must meet requirements set forth in the Environmental and Social Management Framework and the WB policy.

### **Social Requirements**

If needed, the Consultant will correct/prepare the safeguards' (Social and Resettlement) documents for Reconstruction/Rehabilitation in compliance with the Georgian legislation, Resettlement Policy Framework (RPF), the Environmental and Social Management Framework (ESMF) and the WB policy. Relevant social documents shall be prepared in accordance with MDF's responsibilities/requirements envisaged under RPF. The consultant shall reflect the provided comments and suggestions in the documents accordingly and prepare responses to the remarks, etc. The consultant will prepare / update the relevant social documents and carry out any other activities required by MDF as per ESMF, RPF, WB policy and Georgian legislation.

The consultant shall carry out the following activities:

- 1) Preparation of Social Due Diligence Report in accordance with Environmental and Social Management Framework and the WB policy and National Government's Resettlement Policy. Social Due Diligence Report shall cover at least an analysis of project stakeholders, potential direct and indirect impacts and social risks including differential gender impacts and issues in project design with possible social consequences, e.g. effects on livelihoods, disruption of social life and effects on pedestrian safety, etc. A social due diligence needs to be conducted on the design to determine any impacts if there are none, this will be the conclusion of the due diligence. Otherwise, should be done a Social Impact Assessment or RAP. The Consultant will describe the available design alternatives considered to avoid or minimize social and environmental impacts and provide justification as to why the chosen alternative is the optimal one taking into account social and environmental considerations. Activities that require physical resettlement and the ones that are categorized as High or Substantial environmental and social risk (Category A environmental risk) will not be eligible for financing under the project.
- 2) Conduct meetings, workshops with stakeholders and organize public consultations in order to ensure the engagement of all interested parties and reflect the relevant changes in the detailed design and prepare minutes of meeting and attached photo materials and list of attendees.
- 3) Prepare a draft Resettlement Action Plan (RAP) and Addendums (if needed), for each project area and/or ROW. The plan shall fit the requirements of the Environmental and Social Management Framework and the WB policy "Land Acquisition, Restrictions on Land Use and Involuntary Resettlement" and relevant Georgian laws/regulations. For this purpose, the Consultant will procure the following expertise:
  - (i) a survey team with sufficient personnel/capacity to carry out the needed surveys, and;
  - (ii) A certified assets evaluator to assess the market value/replacement cost of affected items.

The RAP will be based on a final project alignment, provide final compensation budgets and require the following:

(i) Definition of compensation entitlements and eligibility provisions fitting the WB Environmental and Social Standard 5 (ESS5) and relevant Georgian law/regulation of a land privatization/legalization scheme acceptable to WB and Government

(ii) Carry out detailed measuring works within the affected corridor: identify project affected land plots; verify status of land parcels (registered in Public Registry; unregistered legalizable; unregistered non-legalizable; state owned and other); Recheck/verify land status and request land status recognition document as with representatives of local government as well as at National Agency of Public Registry to recognize exact size of land plot. Prepare measurement cadastral drawings and divide drawings in case of partial acquisition of the land. Conduct the first stage registration of impacted land parcels and divide (and register) them according to the original ROW or Project area. Already divided and properly registered land parcels shall be provided to the MDF stage by stage. Additionally provide to MDF cadastral drawings for state land registration.

(iii) A detailed measurement survey of all impacts;

(iv) Census of all Affected Families (AF) and Affected People (PAP) including full identification of all vulnerable and severely affected AF and of all PAP by gender and ethnic group. Identify/verify project affected land owners/tenures. Identification/verification process shall be carried out in close collaboration with contractor and the representatives of local government. It should be based on information and materials furnished by them about land owners/tenures.

(v) In the presence and with the participation of identified land owners/tenures, representatives of local government (and contractor if any) (confirm with signature) carry out inventory/census of each project affected land parcel and attached buildings/structures (if any) by utilization of preliminary worked out Inventory Form. Prepare measurement drawing for each building/structure. Relevant photo feature (project affected land plot, building/structure, annual and perennial plants of assessed property) for each affected land plot shall be provided. Photos taken by digital camera have to be provided with a time stamp.

(v) A socio-economic census of the affected population based on a 50% sample of the AF

(vi) A full survey of the market rates/replacement cost of affected assets. Independent IVS licensed valuator (expert-audit) shall process data obtained during field survey/inventory. Perform on-site study/survey of data through field visits and verify/calculate unit price as well as total price for each land category, annual/perennial plants and timber trees, plantings and building/structures. Land shall be assessed based on market prices. During assessment of land parcels calculation of market value have to be based on sales comparison approach. Building/Assets have to be assessed based on cost approach” methodology.

(vii) Provide cadastral drawings for each landowner and inventory forms including divided land parcels during preparation and implementation of social/ resettlement documentation.

(viii) A schedule action plan for implementation and land privatization (if privatization of land plots is needed);

(ix) An intense information and consultation campaign with the AF through meetings to be held in each group and through the disclosure of information materials to be prepared in Georgian and English.

(x) The establishment of a complaints and grievances mechanism fitting the RAP and acceptable to WB and Government.

The consultant will draft the all Documents in English and Georgian.

### **Gender Requirements**

The consultant should consider and submit the following:

1. Meeting the needs of women and girls of all ages and abilities.
2. Consider women separately from other beneficiaries. Gender inclusion means actively bringing the voices of women, girls and gender minorities into critical decision-making, ensuring their input as high quantity and quality as men's.
3. Engage women, girls and gender minorities of all ages and abilities in the design process, not just as stakeholders, but as true partners with shared decision-making power.
4. Engage men and boys in advancing gender inclusive school planning and design

### **Stage IV - Project Approval**

Stage IV envisages approval of the design (prepared in stage III after taking into consideration comments and feedbacks of the client) by city governing bodies and the Ministry of Education, Science, Culture and Sport of Georgia in accordance with the applicable legislation for the territory of municipality. For buildings of special significance/grade, appropriate documentation should be prepared for design approval from relevant agencies and expertise.

### **Documents to be delivered at Stage IV**

- Design approval letter from municipality;
- Design approval letter from the Ministry of Education, Science, Culture and Sport of Georgia;
- In case of special significance/grade building, design approval letter from the Ministry of Economy and Sustainable Development of Georgia.



## Stage V - Reconstruction/Rehabilitation project implementation/author's supervision

Under the stage V, a consultant is obliged to take part into the consultations for technical solutions raised during the rehabilitation/construction works and author's supervision. Additionally, in course of project implementation (rehabilitation/reconstruction works), if required (due to omission and/or inaccuracy of the detailed design and relevant project documentation), the consultant is obliged to make adjustments in the design solutions, adjustment or amendment of detailed design and preparation and approval of working documents, construction volumes and other relevant changes to the contract.

At the end of stage V the consultant should submit report on project implementation, stating the information related to the changes in design, the reasons behind the design amendments and relevant technical solutions achieved, information about the challenges and the lessons learned through the project implementation. The author's (designer's) supervision during the execution of the civil works is required.

### Documents to be delivered at stage V

- Reconstruction/Rehabilitation project implementation report, which states the information regarding the changes in design, the reasons behind design amendments and relevant technical solutions achieved, information about the challenges and the lessons learned through the project implementation.

## Full set of project documentation

In accordance with the requirements, the following project documentation is compulsory:

- Cadastral information extracted from public registry;
- Topographical survey;
- Geological survey and geotechnical analysis;
- Structural survey;
- Measurement drawings;
- Architectural part;
- Interior Part;
- Improvement of the territory and vertical planning;
- Walk-through energy audit;
- Energy efficiency;
- Structural/seismic part;
- Electrical part;
- Weak current systems;
- Plumbing system;
- Water well installation design (if necessary);
- Technological part

- Heating, and ventilation part;
- Construction organization project;
- External networks connection (Technical building);
- BOQ (for each part) and Cost estimation;
- Technical specifications;
- Relevant Social/Resettlement and Environmental Documents<sup>1</sup>
- Standard bidding documents;

#### Cadastral information extracted from public registry

1. Cadastral documentation (with projected and current situation indicated on topo plan, plan of registered land plot(s) with cadaster boundaries and code);
2. Information and schemes of communications to provide the facility with - electricity, gas, drinking water and sewage network;
3. Development of a Global Situational Plan based on the existing surveys on a small scale (1:5000 or 1:10000);
4. Situational plan of the project site location 1:2000 or 1:1000.

#### Topographical survey

1. Topographic survey using UTM System;
2. Local topographic survey of site including all buildings, structures and geodetic marks on the Large scale (1:200 or 1:500);
3. Topographic survey must include existing underground and overhead communications;
4. At least two benchmarks have to be physically fixed on site. The photos of the fixed benchmarks have to be provided.

#### Geological survey and geotechnical analysis

1. Determination of physical and mechanical properties of the soil and preparation of reports on complete geological survey of the project site;
2. Geological Survey implies determination of depths and physical-mechanical properties of the spread constituting soil types based on field work and laboratory testing of samples, as well as preparation of complete geological survey reports. The survey also should contain hydrogeological conditions of the construction site: level of underground water and laboratory conclusions on the aggressiveness of this water to building material;
3. Determination of foundation types of the existing building and base soil.

#### Building survey

1. Study of all existing buildings on site, determination of their structural/seismic stability based on further calculations and analysis and preparation of Expert Conclusions on structural/seismic stability, taking particular account of the seismic characteristics of the project. Based on structural survey, the consultant should establish the remaining lifespan for each building on

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<sup>1</sup> See Environmental, Social and Gender Requirements

site, for non-essential building(s) the consultant should recommend either of the following: demolition/new construction, rehabilitation, or reconstruction depending on the results of the survey;

2. Laboratory examination of material samples and nondestructive testing of load-bearing elements. All the parameters to be determined with appropriate equipment and in the manner prescribed by the applicable Georgian codes/standards;
3. Expert conclusion on structural/seismic stability of existing buildings/structures, which should be based on numerical analysis of buildings using data obtained by geological survey and test results and the year of construction;
4. Determination of the presence of hazardous materials;
5. Determination of the overall condition of the buildings, including the condition (damage) of existing non-structural elements, including but not limited to walls, ceilings, roofs, stairways etc.

#### Measurement drawings

1. Detailed Measurement drawings of all existing buildings and structures: Plans, sections, facades, etc.

#### Architectural part

1. General explanatory note of architectural part, which should include information about master plan and all other buildings/structures;
2. Situational plan of the building with the adjacent infrastructure (1:5000 or 1:10 000);
3. Master plan in large scale if necessary (1:200 or 1:500);
4. Three-dimensional high quality visualization of buildings/structures (high resolution renders);
5. Facades of buildings/structures (1:50 or 1:100);
6. Measuring drawings of the building: plans, sections, facades, indicating purpose of storehouses (1:50 or 1:100);
7. Functional plans of the buildings/structures indicating the purpose of the rooms and furniture layout scheme (1:50 or 1:100);
8. Longitudinal and cross sections of buildings/structures (1:50 or 1:100);
9. Roof Plans with the organization of water removal (1:50 or 1:100), detailed drawings of water diverters (1:5, 1:10 or 1:20), quantitative specifications of works and materials;
10. Wall and partition marking plans with the types (1:50 or 1: 100), detailed drawings of fragments of walls and partitions (1:5, 1:10 or 1:20), quantitative specifications of works and materials;
11. Plans of floor and ceiling facing, indicating types of finishing (1:50 or 1:100), detailed drawings of floors and ceilings fragment types (1:5, 1:10 or 1:20), quantitative specifications of works and materials;
12. Plans for Internal wall finishing (1:50 or 1:100), detailed drawings of wall finishing (1:5, 1:10 or 1:20), quantitative specifications of works and materials;
13. Plans for the openings, and types of doors and windows (1:50 or 1:100), detailed drawings of types of doors and windows (1:5, 1:10 or 1:20) quantitative specifications of the doors and windows;

14. Drawings of architectural details (stairs, railings, roof and other details) (1:5, 1:10 or 1:20);
15. Building evacuation plan (1:50 or 1:100);
16. Sheets of internal and external finishing;

#### Interior Part

1. General explanatory note with the information about the planning area;
2. Floor Plans, with exact locations of furniture and interior design various components (1:50 or 1:100);
3. Ceiling finishing plans, reflective plans of ceilings with precise locations of all the engineering utility elements and other components (1:50 or 1:100);
4. Wall drawings to reflect the height of furniture, wall finishing materials, the sanitary equipment sites and other design elements that are constantly fixed on the wall (1:50 or 1:100);
5. Finishing material specifications;
6. Specification and number of lightings with photos;

#### Improvement of the territory and vertical planning;

1. Plans of territory improvement, transport and pedestrian interfaces, parking, landscaping, playgrounds etc. sections, details (1:100, 1:50, and 1:25). Finishing work sheets and specifications. Small architectural forms (benches, trash bins, outdoor lighting, etc.);
2. Explanatory note describing the design decisions;
3. Master plan (1:1000, 1:500 or 1:200) including marking existing and design point levels;
4. Longitudinal and transverse profiles of the territory (1:1000 or 1:500)
5. Quantitative and qualitative specifications of works and materials.
- 6.

#### Energy efficiency

1. Consolidated proposed energy efficiency improvement measures to achieve target energy savings. This should include but not be limited to: (i) thermal insulation, (ii) upgrade of heating, HWS, and AC systems, (iii) installation of heat recovery ventilation systems (iv) upgrade of lighting system. Baseline actual (measured), baseline (calculated) and energy consumption data after energy efficiency measures along with the energy efficiency indicators should be presented. This should include target energy saving for each energy usage and energy saving percentages.
2. The design of energy efficiency measures shall take into consideration that the building/facility envelope shall comply with either the following: (i) calculated aggregated (including heating, lighting, ventilation, and hot water) specific energy demand for climatic zone 1 (coastal zone) should not exceed 128 kWh/m<sup>2</sup> per year, for climatic zone 2 (central zone) should not exceed 143 kWh/m<sup>2</sup> year, and for climatic zone 3 (mountainous zone) should not exceed 171 kWh/m<sup>2</sup> year, or (ii) the secondary legislation of Georgia on “Minimum energy performance requirements for buildings” to be adopted before 30 June 2021 according to paragraph 2 article 20 of the Law on “Energy Efficiency in Buildings” approved by the Georgian Parliament in 21.05.2020, if this legislation is adopted by the time of the preparation of the design. These

demands should be based a meeting a minimum indoor temperature of 20°C during working hours (in wintertime) and maximum 26°C (in summertime).

3. Energy efficiency measures with corresponding calculations and explanatory note (schemes, details, specifications) (1:100, 1:50, 1:25);

#### Structural/seismic part

1. Design calculations containing applicable loads and a summary of the analysis and design input/output information;
2. Detailed construction drawings, showing the existing building and details of strengthening for existing structural elements and any new structural elements that need to be constructed as a part of the project, as well as any non-structural building components that need to be replaced or repaired, including but not limited to ceilings, walls, roofs, stairways etc.
3. Specifications – precise descriptions of products, materials, standards, equipment, services, construction systems, construction methods and processes, and workmanship.
4. Final cost estimates with the level of accuracy such that no more than a 5% contingency is required.
5. Schedule of construction works including milestones.

#### Electrical part

1. Explanatory note with power requirements for the entire site, as well as for individual buildings/structures (installed and required capacity), category and type of planned electrical networks, wiring rules; calculation of grounding (basic and secondary);
2. Internal lighting network plans, using energy efficient lighting and fittings (1:50, 1:100), quantitative specifications of works and materials;
3. School evacuation plan and fire action plan;
4. Fire detection and fire alarm system, plans, flow charts, quantitative specifications of works and materials;
5. Evacuation lighting network, plans, flow charts, quantitative specifications of works and materials;
6. Internal power network plans (1:50, 1:100), quantitative specifications of works and materials;
7. Schemes of distribution and electric service panels, quantitative specifications of works and materials;
8. Schemes of critical parts of Internal power network;
9. Block-scheme of connecting main and electric service panels, and continuous power sources;
10. Drawings of grounding of metal parts (potential equalization) and quantitative specifications of works and materials;
11. Schemes of systems in power supply using renewable sources (if any);
12. Site internal power network plans (power network, area lighting, secondary grounding network), sections of cable tunnels, cable log, quantitative specifications of works and materials;

13. Secondary grounding drawings, quantitative specifications of works and materials;
14. Scheme of main electric service panel, quantitative specifications of works and materials;
15. General Block-scheme of power supply (connection scheme of main feed line, main electric service panel of the site, site internal power networks, and distribution panel of buildings/facilities etc.);

Weak current systems:

1. Explanatory note with all requirements, describing design solutions, also should be given all necessary documentation regarding required capacity for obtaining technical conditions;
2. Quantitative specifications of all equipment, works, materials, network architecture and flow charts for the video surveillance, telephone, computer, internet, television, school electric bell and fire alarm systems.

Plumbing system part

1. Explanatory note containing the characteristic of the planned networks. Demand for drinking water, cold and hot water of entire site and separate buildings/facilities (consumption per day, minute and second), volume of waste water, requirements on technical water required for fire extinguishing, characterization of existing communications, and the possibilities for connection;
2. Technological drawings of treatment facility with an explanatory note whose technical requirements must be in compliance with the Decree No. 17 of the Government of Georgia;
3. Layout of plumbing equipment in buildings/structures (1:50 or 1:100), quantitative specifications of works and materials;
4. Plans of Internal cold water networks in buildings/structures (1:50 or 1:100), quantitative specifications of works and materials;
5. Axonometric schemes of internal cold water networks in buildings/structures;
6. Plans of internal hot water networks in buildings/structures (1:50 or 1:100), quantitative specifications of works and materials;
7. Axonometric schemes of internal hot water networks in buildings/structures (1:50 or 1:100);
8. Plans of Internal fire pipeline networks of buildings/structures (1:50 or 1:100), quantitative specifications of works and materials;
9. Axonometric schemes of Internal fire pipeline networks of buildings/structures;
10. Plans of Internal sewage networks in buildings/structures (1:50 or 1:100), quantitative specifications of works and materials;
11. Axonometric schemes Internal sewage networks in buildings/structures;
12. Hot water preparation tank (boiler) plan and scheme; quantitative specifications of works and materials (as appropriate);
13. Site Internal plans for plumbing networks (Drinking Water, Fire Water, Irrigation System, Sewage, Drainage) (1:200, 1:500). Quantitative specifications of works and materials;

14. Site Internal Longitudinal profiles of plumbing networks, trench sections, control and communication well drawings and charts, scheme of water flow meter, quantitative specifications of works and materials;
15. Drawings and schemes of drinking and fire water (as appropriate). Quantitative specifications of works and materials;

#### Technological part

1. General explanatory note of the technological part;
2. Technological plans according to floors or functional zoning with precise layout of furniture, inventory, equipment;
3. Specifications necessary inventory, equipment and devices; (If any)
4. Layouts of passenger and freight elevators (or escalator), sections, technological schemes and specifications (if any).

#### Heating, lighting, ventilation and HWS

1. In order to reduce the heat loss of the building, the project should include energy efficiency measures for heating, ventilation and lighting systems.
2. Roofing and wall insulation - should be advised in accordance with energy efficiency measures and consistent with the climatic conditions.
3. An explanatory note containing the characteristic of the systems; information on meteorological conditions of the construction site, thermal insulation properties of floors, walls, roof, doors and windows etc., and general demand of the building on thermal energy (heat, cold) and clean air. Calculation tables for the main building heat losses, thermal insulation and clean air should be presented as explanatory note.
4. Plans of main building heating systems (1:50, 1:100), quantitative specifications of works and materials;
5. Axonometric or 3D schemes of main building heating systems;
6. Schemes of distribution collectors for the main building heating systems;
7. Plans of main building ventilation system (1:50, 1:100), quantitative specifications of works and materials;
8. Axonometric or 3D schemes of main building ventilation system;
9. Heat supply plan (1:50 or 1:100), quantitative specifications of works and materials (equipping the platform of boiler and chiller);
10. Drawings of internal site heating network (as appropriate), quantitative specifications of works and materials;
11. Calculations of heat and cool losses;
12. List of the electric supplies for heating, ventilation systems.

#### Construction organization project

1. An explanatory note, which provides information on duration of the construction project, energy, material and labor resources, required area of storage and training facilities. Additionally, in the explanatory note should be included safety techniques and environmental measures;
2. Construction master plan (1:500), with temporary buildings/structures (administrative and household, temporary closed and open air warehouses, roads and of maneuvering squares for construction techniques, temporary electricity and water networks, lighting etc.). Details of on-site worker welfare facilities (toilets, canteen, drying rooms, etc.);
3. Timeline and financial schedule of construction;
4. Phasing drawings, indicating proposed sequencing of works and associated timing;
5. Site access drawings, and vehicular routes to and from the site.

#### External networks connection (Technical building)

1. Technical building, where all the communications will be collected together before entering in main school building.
2. Relevant reports to obtain technical terms for engineering utilities (water-sewage-drainage, natural gas, electricity, etc.);

#### BOQ (for each part) and Cost estimation

1. Cost Estimation/BOQ (priced and unpriced) should consist of two sections:
2. Energy efficiency costs;
3. The School rehabilitation costs, territory renovation and improvement, safe management of inert, non-hazardous and hazardous waste.
4. The cost of increasing the capacity of communications (Gas, electricity, water and etc).
- 5.

#### Technical specifications

1. Detailed design should include general instructions and recommendations, detailed specifications (indicating all the necessary standards) for quality control of materials and equipment used, methodology of work performance and testing.

#### Standard bidding documents

1. Full set of standard bidding documents for procurement of small works (issued by WB) including FIDIC contract forms, ready to tender in line with the CEB Guidelines for Procurement (2011 edition).

## Consultants' staff and requirements

In order to provide quality services consultant should mobilize qualified personnel (key and non-key experts).



Until the Expression of Interest deadline, consultant for the last 5 years should have successfully completed at least 2 detailed design projects (contracts) for educational buildings construction/rehabilitation (including energy efficiency measures).

List of required experts and their inputs

N	Expert Position	Quantity	Time input Person/Month	Total Person/Month
	<b>Key Experts</b>			
K-1	Team Leader	1	9	9
K-2	Chief Architect	1	9	9
K-3	Chief Structural Engineer	1	7	7
K-4	Energy efficiency specialist	1	7	7
Key Experts Person/Months: 32				
	<b>Non-Key Expert</b>			
NK-1	Architect	3	4	12
NK-2	Geodetic Engineer	2	3	6
NK-3	Geologist	2	3	6
NK-4	Electrical Engineer/ <u>Weak current systems</u>	2	4	8
NK-5	Plumbing Engineer	2	4	8
NK-6	Structural Engineer	2	4	8
NK-7	Thermal (HVAC) Engineer	2	4	8
NK-8	Cost Estimator	2	2	4
NK-9	Vertical planning expert	2	2	4
NK-10	technologist (furniture and equipment layout expert)	1	3	3
NK-11	Construction organizing expert	1	3	3
NK-12	Hydrogeologist expert	1	2	2
Non-Key Experts Person/Months: 72				
Total Person/Months: 104				

Note: The requirement for other expert opinions may arise over the course of the project, for which the successful consultant shall remain fully liable. Tenderers may therefore wish to add additional Key or Non-Key experts with subsequent inputs as deemed necessary.

Narrative of Minimum Qualification Requirements

Expert Position	Minimum Specific Experience (Years)	Area of Minimum Specialization, Qualification
Team Leader	10	Experience in design and management of similar size and type of project implementation.  Minimum Masters degree in engineering field.
Chief Architect	10	At least 10 years of specific experience for similar size and type project implementation. From 10 years specific experience, Minimum Masters degree in architecture.
Chief Structural Engineer	10	At least 10 years of specific experience for similar size and type project implementation. From 10 years specific experience, at least 5 years in Georgia. At least 5 years' specific and verifiable experience in the design of new buildings and seismic retrofit of existing buildings (masonry and reinforced concrete).  Minimum Masters degree in engineering field.
Energy efficiency specialist	10	At least 10 years of specific experience for similar size and type project implementation. From 10 years specific experience, at least 5 years in Georgia. Trained in energy efficiency and at least 5 years of specific experience with energy auditing of public buildings.  Minimum Masters degree in engineering field.
Architect	5	At least 5 years of specific experience for similar size and type project implementation.

		Minimum Bachelor`s degree in Architecture.
Geodetic Engineer	5	Specific experience for similar size and type project implementation and topo-geodetic surveys Minimum Bachelors degree in engineering field.
Geologist	5	Preparation of geological surveys. Specific experience for similar size and type project implementation. Minimum Bachelors degree in geology.
Electrical Engineer/ <u>Weak current systems</u>	5	Specific experience for similar size and type project implementation. Minimum Bachelors degree in engineering field.
Plumbing Engineer	5	Specific experience for similar size and type project implementation. Minimum Bachelors degree in engineering field.
Thermal Engineer (HVAC engineer)	5	Specific experience for similar size and type project implementation. Trained in energy efficiency and energy auditing of public buildings. Minimum Bachelors degree in engineering field.
Cost Estimator	5	Specific experience for similar size and type project implementation. Minimum Bachelors degree in engineering field.
Construction organizing expert	5	Specific experience for similar size and type project implementation. Minimum Bachelors degree in engineering field.

Hydrogeologist expert	5	Specific experience for similar size and type project implementation. Minimum Bachelors degree in engineering field.
Vertical planning expert	5	Specific experience for similar size and type project implementation. Minimum Bachelors degree in engineering field.
Technologist (furniture and equipment layout expert)	5	Specific experience for similar size and type project implementation. Minimum Bachelors degree in engineering field.

## Service delivery dates

For each stage from I to V, the consultant should submit the documents according to the TOR that will be reviewed by the client and in case of approval will be signed hand-over agreement between the client and the consultant. Consultant will be paid in each stage: I -20%, II-20%, III -20%, IV-30%, V -10% of contract value.

Stage #	Service delivery	Timeline
Stage I	The consultant delivers to the client the set of documents requested by the Stage I.	Within <i>6 (six)</i> weeks after the signature of the contract.
	The client and/or clients' authorized person will review the set of documents requested by the Stage I and provide feedback and/or comments to the consultant in writing and/or by e-mail within <i>1 (one) week</i> . After the receipt of notification, the consultant delivers to the client and /or clients' authorized person final Stage I set of documents based on the feedback and /or comments received.	within <i>1 (one) week</i>
	After approval of stage#1, Consultant provides Client with preliminary Architectural Design of interior rooms layout and facades, indicating functional purpose of rooms.	

	Preliminary design should be reviewed by Client/Client's authorized person with respective Public School's authorized repetitive and during one week feedback with comments (if any) must be sent to the consultant.	
Stage II	After receiving comments on the Stage I set of documents and written notice by the client, the consultant shall commence preparation of Stage II documents.	<i>8 (eight) weeks</i>
	The client and /or clients' authorized person will review draft final set of documents requested by the Stage II and provide feedback and /or comments to the consultant in writing and/or by e-mail within <i>2 (two) weeks</i> . After the receipt of notification the consultant delivers to the client and /or clients' authorized person final Stage II set of documents based on the feedback and /or comments received.	<i>within 2 (two) weeks</i>
Stage III	After receiving comments on the Stage II set of documents and written notice by the client, the consultant shall commence preparation of Stage III documents (draft final detailed design, cost estimation and tender documents).	<i>12 (twelve) weeks</i>
	The client and /or clients' authorized person will review draft final set of documents requested by the stage III - draft final detailed design, cost estimation and tender documents and provide feedback and /or comments to the consultant in writing and/or by e-mail within <i>2 (two) weeks</i> . After the receipt of notification, the consultant delivers to the client and /or clients' authorized person final set of documents requested by the stage III - final detailed design, cost estimation and tender documents.	<i>within 1 (one) week</i>
Stage IV	After receiving comments on the Stage III set of documents and written notice by the client, the consultant shall commence preparation of Stage IV documents. After approval of the Stage III set of documents - final detailed design, cost estimation and tender documents by the client, the consultant has to provide of services under the	<i>5 (five) weeks</i>

	Stage IV, after which the consultant should submit to the client and /or clients' authorized person approved design by the municipalities and the Ministry of Education, Science, Culture and Sport of Georgia and expertise.	
Stage V	Project implementation and the author (designer) supervision during the execution of the civil works. After completion of reconstruction/rehabilitation works and signing of hand-over agreement between client and construction company, the consultant has to deliver within <i>2 (two) weeks</i> to the client draft final document requested by the stage V .	<i>Duration of the civil works implementation as per the Project Implementation Plan (PIP)</i>
	The client and /or clients' authorized person will review draft final document requested by the stage V and provide feedback and /or comments to the consultant in writing and/or by e-mail within <i>1 (one) week</i> . After the receipt of notification, the consultant delivers to the client and /or clients' authorized person final document requested by the stage V.	

## Service delivery form and place

- a) Reporting and all deliverables documents must be submitted to the client in English and Georgian writing. The Consultant must possess high-level English and Georgian Language skills to ensure effective communication with the Client.
- b) Documentation under I, II, III and V stages should be prepared in Georgian and English languages with 2 hardcopies each. In case of discrepancies between the two versions, the English language version shall prevail. Presented materials shall be accompanied by electronic versions (textual and quantitative parts in Word and Excel files, and drawings - in AutoCAD / ArchiCAD (with ability to edit) and PDF formats).
- c) Final detailed design and cost-estimation documentation should be presented in Georgian and English languages in electronic versions (textual and quantitative parts in Word and Excel files, and drawings - AutoCAD/ArchiCAD/Lira and PDF formats recorded on CD or DVD), as well as in printed form (A4 and A3 formats). Final detailed design and cost-estimation documentation shall be presented in the form of Architectural Album, in 4 (four) hardcopies in each language Georgian and English. In case of discrepancies between the two versions, the English language version shall prevail.
- d) All the documentation should be submitted to the following address: 150, Agmashenebeli Avenue, Tbilisi, LEPL Municipal Development Fund of Georgia.