

Terms of Reference

Architectural and engineering consulting services for the Design & Supervision survey of four Category D Hospitals

INTRODUCTION:

The Government of Pakistan, through the support of the World Bank i.e. Khyber Pakhtunkhwa Human Capital Investment Project (Health Component), is intending to improve primary healthcare services (PHC) in the province. The Khyber Pakhtunkhwa Human Capital Investment Project is an International Development Association (IDA) Project funded by the World Bank.

The project's objective is to improve the availability, utilization, and quality of primary healthcare services in selected districts in Khyber Pakhtunkhwa (KP), namely Haripur, Nowshera, Peshawar, and Swabi; in order to ensure the quality of health care and a continuum of services. The project will also support the strengthening of secondary health care facilities and referral systems.

The Project includes three components:

- Component 1. Improving Delivery of Quality Primary Health Care Services
- Component 2: Improving Availability and Quality of Education Services
- Component 3: Strengthening Community Engagement and Accountability

Project Results Chain

Inputs	Outputs
Physical Infrastructure Construction, repair, up-gradation of renovation of health facilities	Readiness of health facilities to deliver high-quality primary health care services and respond to the COVID-19 crises
Equipment and Commodities Adequate supply of drugs, commodities, and equipment for health facilities	
A System for Managing Human Resources and Contracts Adequate human resources with appropriate skill-mix for managing health facilities as well as a system for managing HR including contracts	
Data Management Capacity building of the health workforce in data management and analysis	
Outsourcing of services Improve quality of clinical (e.g., Referral & EMR) & non-clinical service (e.g., janitorial & Security) via private sector engagement	
Hospital Mgmt. Information system (HMIS)	

Automate hospital processes (e.g., HMIS) and improve monitoring/data collection via IT solutions	
Establishment & Strengthening of ICU facilities for COVID-19	

A. BACKGROUND

The Government of Pakistan intends to improve primary health care services in Khyber Pakhtunkhwa Province through the Khyber Pakhtunkhwa Human Capital Investment Project, Health Component (KP-HCIP-Health Component) funded by the World Bank.

The project's objective is to improve the availability, utilization, and quality of primary healthcare services in selected districts in Khyber Pakhtunkhwa Province (Haripur, Nowshera, Peshawar, and Swabi) in order to ensure the quality of health care and a continuum of services. The project will also support the strengthening of secondary health care facilities and referral systems.

Project interventions will focus on improving the utilization of primary healthcare services as the first point of entry in close proximity to where people live and work, including women and refugees. More specifically, the project intends to:

- I. Strengthen the infrastructure, equipment, human resources, medicines, and healthcare commodities at Basic Health Units and Rural Health Centers according to the KP Minimum Health Services Delivery Package, Essential Health Services Package, and Infrastructure Standards through the adoption of climate-resilient and environmentally friendly designs (including the use of solar panels to promote energy efficiency) as well as disabled-friendly (universal access including ramps, guard rails, etc), and female-friendly access. Standardized signage and branding templates will improve access to the facilities and information dissemination to the patients.
- II. In order to ensure the continuum of care for Maternal, Newborn and Child Health (MNCH) services, the project will support (i) establishing a network of health care facilities – Basic Emergency Obstetric and Neonatal Care (BEmONC) and Comprehensive Emergency Obstetric and Neonatal Care (CEmONC) based on geographic distribution, and strengthening referral systems and transportation arrangements and (ii) upgrading selected secondary health care facilities of the network to provide CEmONC services, including life-saving health services such as caesarean section and blood transfusion.
- III. Enhance the competency of PHC service providers as one of the key pillars of quality service delivery, by providing necessary training using standard clinical protocols and training packages as applicable for PHC service delivery.
- IV. Strengthen governance and regulatory mechanisms and provide the necessary support to the provincial government to adopt/implement appropriate policies, standards,

guidelines, and clinical protocols for PHC service delivery; and promote community engagement and accountability to motivate demand for PHC services.

For upgrading category D hospitals to CEmONC facilities it is proposed to select one hospital per district for fast-track renovations and for the provision of CEmONC services. The selected hospitals will be prioritized for renovation, extension and equipping.

The Project Management Unit (PMU) of the KP-HCIP (Health Component) therefore requires the services of a qualified and experienced architectural and engineering consultancy firm (the Consultants) to carry out rapid surveys of four existing category C & D hospitals, one in each district, to establish what work is required at each hospital to renovate the existing buildings and provide any additional facilities that will be required to provide CEmONC services all as set out in these terms of reference (TORs). These Hospitals are;

- Peshawar District: Emergency Satellite Hospital Nahaq
- Nowshera District: Cat-D Hospital Akura
- Swabi District: Cat-D Hospital Kalu Khan
- Haripur District: Cat-D Hospital Ghazi

These TORs set out the details of the assignment together with the duties and responsibilities of the Consultants and should form the basis for the formulation of Technical and Financial Proposals.

B. QUALIFICATIONS OF CONSULTANTS

The Client requires the services of a Consulting Firm (the Consultants) that has experience in Planning, Designing, Costing, Procurement, Project Management, Construction Supervision, Construction Management, Quality Control/Assurance, Health Safety and Environmental Management. The Consultants shall also be able to manage and process invoices, soft skills, and manage social issues to carry out this assignment. The Consultants should have the required PEC codes and PCATP license/s.

The Consultants should have extensive experience in the design of health facilities and of works of a similar nature to those set out in these TORs.

They should have the necessary personnel required to carry out the services i.e. an architect with extensive experience of the design of health facilities, an experienced structural engineer and an experienced surveyor and they should have the financial and technical resources required to undertake the assignment.

The Consultants should ensure that adequate resources are available to complete the work within the shortest time possible and shall not engage in any assignment that may place them in the position of not being able to carry out the specific services described in these TORs.

C. OBJECTIVES OF CONSULTANCY

The objective of this consultancy is to carry out a rapid assessment of four category D hospitals, one in each of the four project districts of Khyber Pakhtunkhwa Province (Peshawar, Nowshera, Swabi & Haripur).

The four hospitals are as follows:

- Peshawar District: Emergency Satellite Hospital Nahaq
- Nowshera District: Cat-D Hospital Akura
- Swabi District: Cat-D Hospital Kalu Khan
- Haripur District: Cat-D Hospital Ghazi

All four districts are in active seismic zones and the existing buildings must be checked to ensure that they meet local regulations for earthquake resistance and that they comply with the requirements of the Building Code of Pakistan in particular the seismic provisions 2007 and the Fire Safety provisions 2016 (available at https://www.pec.org.pk/building_code_pakistan.aspx).

The objective of the assessment is to establish whether it will be possible and cost-effective to renovate (and if necessary extend) the existing buildings or whether it will be necessary to demolish the existing buildings and construct new ones.

The completed facilities must be capable of providing the education services defined by KP MHS DP for the individual locations and the Consultants will be expected to work closely with KP-HCIP PMU in achieving this and in providing appropriate and cost-effective designs for any new buildings. The designs should be fit for purpose and child-friendly and should provide an environment conducive for healthcare service provision. The resulting buildings should be safe for their intended use, resilient to earthquakes, floods and other hazards and compliant with all applicable building codes and local legal requirements. Emphasis should be placed upon safety, durability, reliability, simplicity and economy in the design and the construction of the facilities while taking into account the climate and local conditions. The designs for the buildings should also reduce the need for maintenance to the minimum.

The climate in the four districts ranges from very cold winters to extremely hot summers and the design of the new buildings should accommodate these variations and provide comfortable conditions for staff and patients throughout the year.

D. SCOPE OF SERVICES

The Consultants will therefore visit all four hospitals and assess the existing buildings in terms of their general condition and in particular whether they comply with the latest regulations for earthquake resistance and report back with their findings to the PMU.

The Consultants will assess the existing buildings in terms of the facilities available to provide the services required of them and they will also assess the size of the site to establish whether it will be large enough to accommodate any additional facilities that may be required.

The Consultants will report back to the PMU with their initial findings and if the buildings are in such a condition that they can be renovated and if there is adequate space on the site for any additional facilities that may be required, then the Consultants will proceed to carry out surveys of the existing buildings and of the site.

The consultant will submit yearly work plans (and resource plans) for approval to PMU. The work plans will also be used to manage any changes to the scope of works which will be approved by the PMU. First work plan will be submitted within 14 days of award of contract and will cover the period to 30 June 2023. No staff input shall be reimbursed if it is not part of an approved work plan or unless specifically approved by the PMU.

Note: the services to be provided in the renovated and upgraded category D hospitals are set out in Annex 1 and a preliminary list of the facilities to be provided is given in Annex 2.

It will be the Consultants' responsibility to ensure that this engagement is managed and completed within the agreed fee and within the agreed time frame.

The Consultancy will be carried out in one or two phases:

- Phase 1 will include: visits to the four district hospital sites and the carrying out of detailed structural and condition surveys of the existing buildings. The Consultants will report back to the PMU as to whether it will be possible and cost-effective to renovate (and if necessary extend) the existing buildings, whether it will be necessary to demolish the existing buildings and construct new ones and if so whether there is space on the site for all of the new facilities or whether additional land will be required. Preliminary E&SS screening shall also be carried out to ascertain the level of E&S risks associated with the proposed activity.

Activities under Phase 1 will be carried out under a lump-sum contract.

- Phase 2 will include: surveys of the sites, services, and the buildings selected for renovation and extension and preparation of detailed drawings of the sites, services, and existing buildings such that designs for the renovation and possible extension of the hospitals' facilities can be carried out under a separate contract.

Activities under Phase 2 will be carried out under a time-based contract.

Note: Phase 2 will only go ahead if, after considering the Consultant's preliminary reports, the KPHCIP PMU considers that it will be possible to renovate and if necessary extend the existing buildings at one or more of the hospitals.

E. ACTIVITIES

The Consultants will provide planning, surveying, design, documentation, construction management and supervision services for the renovation/revamping/extension and upgradation of the four hospitals and the rehabilitation of other buildings as set out above. The work will be carried out in two stages: Phase-I & Phase-II.

These services to be carried out under this consultancy for all of the designated facilities will include: surveys and assessments of the sites, utility services, and existing buildings; development of site layouts; preparation of designs for rehabilitated and extended buildings and any new buildings that are necessary; cost estimates; architectural and engineering working drawings; specifications and bills of quantities etc. It will include support to the PMU in procurement of civil works, provision of solar power systems to Hospitals and of furniture. The Consultants will conduct an assessment (screening) of environment and social impacts using a

checklist (sample enclosed in Annexure 02). However, if subproject screening will identify the potential environmental or social impacts of adverse nature, then a more detailed document i.e. Environmental and Social Management Plan (ESMP) will be prepared for that subproject. Where possible, there can be unified ESMPs for facility, so there could be 2 ESMPs for each District; one for rehabilitation work and one for new construction. However the screening activity may require some site specific ESMPs for particular sites.

The services will also include construction management and supervision of the construction and rehabilitation works which will be packaged into a number of contracts that are necessary to complete the work within the life of the project. The Consultants will also provide support to the PMU in the procurement and delivery of equipment, goods and furniture. The Consultants will be responsible for compliance with all health and safety, environmental and social measures. The Consultants will sign off the buildings as complete after the end of the defect's liability period for each contract and support the PMU in project closeout.

It will be the Consultants' responsibility to ensure that this engagement is managed and completed within the agreed fee and time frame to the required specifications. The Consultants will be required to absorb reasonable client-initiated changes to the designs while remaining within the agreed fee.

The Consultants are to ensure that the designs and the final documentation for all the designated facilities are complete and to the satisfaction of the PMU and any relevant authorities and in accordance with the agreed design briefs.

The Consultants' Quality Assurance and Quality Control (QA/QC) Program is to be applied to the documentation of this project and the Consultants' team is to adopt a Computer-Aided Design system facilitating the transfer of information in such a way that the maximum benefit can be derived by all parties.

Phase 1: Detailed Assessments

In Phase 1 the activities of the Consultants will include:

- Visits to each hospital, the carrying out of comprehensive structural and condition assessments of the existing buildings to establish whether it will be possible and cost-effective to renovate them and the preparation of preliminary reports on the condition of the hospital facilities.

The preliminary reports will be used by the KPHCIP PMU in deciding whether it will be possible to renovate and if necessary extend the hospitals or whether it will be necessary to demolish the existing buildings and construct a new hospital.

If the KPHCIP PMU decides that it will be possible and cost-effective to renovate the existing buildings at one or more of the hospitals, the Consultants will proceed with Phase 2 of the activities.

Phase 1a: Detailed Surveys

In Phase 1a the activities of the Consultants will include:

- Visits to each hospital selected for renovation and the carrying out of detailed surveys of the sites, services and buildings. The Consultants will also review the availability and adequacy of the water supply, soil and waste-water facilities, energy supply, universal access and other features required for persons with disabilities (PWDs), waiting areas and toilets (segregated for men and women). and prepare a final report for each hospital.

Phase 2: Construction Phase will include:

Construction management and supervision of the construction works to ensure that the works are carried out in accordance with the contract drawings and specifications, on time, within the contract amounts, and to the specified standards. It will also include monitoring the works during the defect's liability period and signing off the buildings at the end of this period. Activities under Construction Phase will be carried out under a time-based contract. As stated above, the construction work will be packaged, ideally geographically into a number of packages are necessary to get the work completed within the life of the project.

- Please Note: The Construction Phase contract will only be executed after the successful completion of the Pre-construction Phase contract.

Activities to be carried out by the Consultants in Phase-1 and Phase 1a

The activities of the Consultants will include:

Site, Building and Services Surveys (hereinafter called Surveys)

The Consultants will visit each site, carry out a comprehensive survey and needs assessment and prepare a site plan for each site showing the site boundaries and all of the existing buildings. The Consultants will also review the availability and adequacy of the water supply, soil and waste-water facilities, energy supply, etc.

Surveys will be carried out such that:

- The information collected for each building to be constructed/rehabilitated/renovated is in sufficient detail so that any parts of the buildings that require demolitions are clearly shown together with the requirements for renovation of walls, floors, roofs, ceilings, doors and windows, electrical and plumbing services, etc. and so that any necessary re-planning and re-arrangement of rooms and renovation of the buildings can be carried out

The Consultants will also carry out environment screenings for each site and based on the screening results, they will prepare the necessary environmental and social safeguards instruments.

Preliminary Designs and Reports

The Consultants will prepare a preliminary report for each site containing: a description of the site, site conditions and services, and a site layout; floor plans, elevations, sections of all buildings and estimates of the bearing capacities for each site. For rehabilitation, this will include condition of each building (with photos) noting any problems and what work is required to bring

them up to an acceptable standard. The site layouts should show the location of the new buildings and the proposed new services such as water supplies, drainage systems, electricity supplies, etc. The reports should include a preliminary cost estimate of the works that are proposed at each site.

The drawings and preliminary reports will be used by the KPHCIP PMU in finalizing what work and if necessary, new buildings, will be funded at each facility.

Final Designs and Reports

After approval of the preliminary reports and final decisions are made by the KPHCIP PMU on what renovations and new buildings, services, etc. are to be carried out and/or provided at each site, the Consultants will prepare a final report for each site containing: final site layouts; designs for all of the new buildings (if required) and the buildings to be renovated and extended; detailed cost estimates for the renovation and construction work at each site and environmental and social safeguard instruments (ESMPs) for each site.

Contract Documentation, Preparation of Bids and Bid Evaluation

When the final reports for each site have been agreed with the KPHCIP PMU, the Consultants will prepare, taking into account any comments on the designs and any changes that are requested by the KPHCIP PMU, architectural and engineering working drawings, specifications, bills of quantities and ESMPs for the new, existing and extended buildings and site works at each of the designated sites. The ESMPs will form part of the bidding documents and will provide guidance to the contractors in preparing their C-ESMPs. The Consultants will also prepare final cost estimates for the work at each site. It should be noted that the work at the various sites will be grouped according to their locations for bidding and contractual purposes. The Consultants will also assist the KPHCIP PMU in the bidding process for all the sites and the evaluation of bids.

Services to be provided by the Consultants in Phase 1 & Phase 1a

The consultants will review and update the designs as necessary. Standardized designs are encouraged, however each activity (site) will require a site specific layout/design for all the buildings, grading, services and infrastructure.. Site specific BoQs and cost estimates will also be prepared. Where required, consultants will be required to undertake new designs as given in the following services.

Architectural Services

The Consultants will provide all necessary architectural services necessary to complete the project including:

- designs for the renovation of all buildings such that they can provide the standard of service required of them;

- designs for any new buildings that the KPHCIP PMU requires to be constructed at any of the designated facilities;
- site layouts and landscaping as required;
- Working drawings including all necessary detailed drawings and contract documentation.

Civil & Mechanical Engineering Services

The Consultants will provide all necessary civil and mechanical engineering services including the design of:

- the site works including roads, paths, retaining walls, boundary walls, etc.;
- soil and wastewater drainage;
- storm and rainwater drainage;
- plumbing installations;
- water supplies;
- Soil Bearing Capacities
- hot and cold water services;

Structural Engineering Services

The Consultants will provide all necessary structural engineering services including:

- advice on excavation, construction, and structural engineering including designs for earthquakes and other disasters;
- identifying and designing simple and economic structural systems;
- checking workshop drawings prepared by subcontractors or suppliers;
- Providing certificates of structural adequacy.

Electrical Engineering Services

The Consultants will provide all necessary electrical engineering services including the design of:

- solar power supplies, lighting and storage systems;
- consumers mains, sub-mains, distribution boards;
- switchboards, earthing, and metering;
- general lighting and power circuits;
- emergency lighting and exit signs;
- power to specific items of fixed plant and equipment;
- Lightning protection systems.

For Solar power, the preference will be to use existing standardized designs and the consultant will only review and sign off on drawings.

Quantity Surveying and Procurement Services

The Consultants will provide all necessary quantity surveying services including:

- Preparation of cost estimates based on the latest KP MRS (market rate system).
- preparation of bills of quantities and specifications;
- Preparation of a priced bill of quantities for each facility or contract.

Environmental and Social Safeguards

The Consultants will carry out environmental screenings at each site using the checklist provided in the ESMF (sample enclosed in Annexure 02), and prepare the necessary environmental and social safeguards instruments (ESMPs). The ESMPs will form part of the bidding documents and will provide guidance to the contractor to prepare C-ESMP.

ACTIVITIES TO BE CARRIED OUT AT CONSTRUCTION PHASE: CONSTRUCTION MANAGEMENT & SUPERVISION

The Consultants will be required to supervise the construction of the buildings to ensure that they meet the required cost, schedule, specifications and ESMP requirements and to certify payments to the contractors.

The Consultants should provide for the regular supervision of the construction contracts by qualified personnel (Key and non-key Staff) for the duration of the contract, including the 12 months defect's liability period. The Consultants will be nominated as the contractual Engineer's Representative with the authority and duties as defined in the works contract and will execute all required actions in accordance with the contract.

The Consultants should also allow for: inspections of the buildings at practical completion, periodically during the defect's liability period and at final completion, the preparation of a final account for the contract, and a final report on the implementation of the construction work.

Contract management and supervision will include monitoring and reporting on the implementation of ESMP requirements outlined in the approved C-ESMPs and working with the contractors to adequately address non-compliances and/or grievances in a timely manner.

The Consultants shall not, except with the prior approval of the Client sublet the Consultancy Services or any part thereof, to any other agency.

The activities of the Consultants in Construction Phase will include, but not be limited to the following:

- providing adequate and functional facilities for the Field Engineers of KPHCIP PMU in the 4 districts and transport for the Field Engineers as necessary to carry out routine inspections of the works.
- making any changes or alterations to the design of the facilities if required by the Client during the construction/supervision phase without any additional charges and time extension.

- preparing an implementation program before construction starts for all construction activities over the lifetime of the project showing how the construction can be completed within the project period (Note: if the Consultants consider that the construction program cannot be completed within the project period then they must alert the KPHCIP PMU to this fact as soon as possible);
- reviewing the contractors' construction programs;
- preparing a clear environmental, health and safety, and social monitoring and reporting program before construction starts;
- assisting the contractors with the preparation of the Contractor's Environmental and Social Management Plans (C-ESMP) for each site and ensuring that these documents are finalized/approved by the KPHCIP PMU and the World Bank before the commencement of the works;
- assisting the contractors with the preparation of their quality assurance and quality control (QA/QC) documentation including the quality management plan, checklists, etc.;
- preparing financial, progress, and other reports as required;
- liaising with the KPHCIP PMU and advising on areas of concern, potential delays, or cost increases;
- maintaining site diaries recording the daily weather conditions, instructions issued to the contractors, problems occurring, deliveries of materials, progress on-site, workers on-site, visitors, etc.;
- checking that the buildings are correctly located and that the works are correctly set out;
- inspecting and supervising the construction works to ensure that the buildings are constructed in accordance with the drawings and specifications and within the contract amount;
- measuring the work as completed;
- supervising the testing of materials as specified in the contract documents and ensuring that the materials used are in accordance with the specifications;
- arranging the testing, commissioning, acceptance, and handover of the works on completion;
- monitoring the progress of the works against the Consultants' implementation program and the construction programs provided by the contractors;
- supervising and reporting on, the implementation of the approved C-ESMPs during construction and providing guidance to the contractors on any necessary corrective actions in the case of non-compliance with the plans;
- advising the contractors on any necessary measures to ensure the completion of the construction works in accordance with their construction programs;
- advising the KPHCIP PMU of any deviations from the contract drawings and documents by the contractors;
- advising the KPHCIP PMU of any likely delays to the construction works;

- chairing site meetings at fortnightly or monthly intervals with representatives of the KPHCIP PMU and the contractors to discuss the progress of the works and any problems;
- preparing and circulating agendas and minutes of all site and other meetings arranged to discuss the progress of the construction;
- advising the KPHCIP PMU on any possible problems or necessary changes as they arise that will incur extra costs and on ways to avoid these costs if at all possible;
- advising the KPHCIP PMU on any possible claims by the contractors or on any other contractual problems arising during the works;
- Reviewing and certifying the contractors' interim payment certificates (IPCs), endorsed by the Resident Engineer to the Client through established payment mechanism.
- preparing and submitting to the KPHCIP PMU monthly progress reports on the /progress of the works including progress photographs of the works at each site;
- Preparing accurate 'as-built' drawings of the facilities showing the existing building and new building after completion of the works.
- preparing lists of defective and outstanding work at the times of practical completion of the buildings;
- checking the condition of the works at the end of the defect's liability period and signing off the works when any outstanding or defective works have been completed or rectified;
- Issuing a completion certificate stating that the work has been completed in accordance with the designs, specifications and ESMPs and the contract agreement.
- carrying out any other tasks related to the supervision of the works as may be requested by the KPHCIP PMU and
- Preparing maintenance plans and maintenance handbooks for the buildings.
- Managing and supporting the closeout of projects.
- Preparing and updating an action tracker to track all open actionable items till closure.

The contractors will make available a vehicle for the use of the KPHCIP PMU Procurement Specialist/PD in carrying out routine site inspections, attending site meetings, etc together with a monthly fuel allowance of 300 litres of fuel.

Note: the written approval of the Client as "Employer" is required before the Consultants, designated under the contract as 'Engineer' take any action which will change the contract.

F. OUTPUTS

Phase 1

The Consultants will prepare a preliminary report for each hospital containing: a site layout, a description of the site, site conditions and services, and a description of the condition of each building (with photos) stating whether they are structurally sound and comply with the latest regulations for earthquake resistance and if so, noting any problems and what work is required to bring them up to an acceptable standard. If the Consultants consider that the buildings are not structurally sound and do not comply with the latest regulations for earthquake resistance then

they should state this. The reports should also state whether there is sufficient space on the sites for new facilities if they are required or whether additional land will be required.

Phase 1a

If the Consultants and the PMU consider that it will be possible to renovate and if necessary extend one or more of the hospitals (and if there is sufficient land available for any extensions, the Consultants will prepare a final report for each hospital selected for renovation/extension containing: a site layout showing levels, existing buildings, services and soil and storm water drainage. The report should also contain detailed drawings (and photos) of all buildings to be retained in sufficient detail so that any parts of the buildings that require demolitions are clearly shown together with the requirements for renovation of walls, floors, roofs, ceilings, doors and windows, electrical and plumbing services, etc so that any necessary re-planning, renovation and extension of the buildings can be carried out at a later date.

Final Design Reports

Final reports will include for each site, architectural and engineering working drawings at scales necessary to clearly show the contractors the work that is required, specifications, and bills of quantities for all buildings, site works, etc. including:

- site layouts showing the new and renovated/extended buildings, roads and parking, major civil works, landscaping, and any major external elements;
- soil investigation reports for each site
- foundation plans and details;
- general floor plans for new, renovated, and extended buildings showing room arrangements, room areas, floor levels, and any major internal design elements;
- electrical, mechanical, plumbing, and sanitation layouts and details;
- details of all fixtures and fittings;
- elevations showing the general arrangement of the building forms, windows, and any major design elements to the facades;
- cross-sections for all buildings;
- roof and ceiling plans;
- construction details;
- schedules of internal and external materials, finishes, and colors;
- structural, civil, mechanical, and electrical engineering drawings and details;
- detailed specifications for all materials, fixtures, and fittings;
- Bills of quantities including a priced bill of quantities.
- Final cost estimates to be agreed with the PMU and the World Bank.

The final reports should also include the necessary environmental and social safeguards instruments that will form part of the bidding documents.

CONSTRUCTION PHASE

Construction Management and Supervision

Outputs will include:

- monthly progress reports;
- site meeting minutes;
- environmental, health, safety, and social safeguards monitoring and closeout reports;
- test results for all materials;
- monthly certificates of payment;
- a final completion report, including photos and a full set of 'as-built drawings;
- checks of and commissioning of all buildings and systems;
- final accounts;
- lists of defective or outstanding work at practical completion;
- lists of defective or outstanding work at the end of the 12 month defect's liability period and
- Signed-off certificates of completion upon final completion of the works.
- A complete set of contract management files on completion of works the works
- Defects liability and project closeout

Maintenance of Facilities

When the buildings are completed, the KPHCIP PMU must be made aware of what is required to operate and maintain them in good condition.

The Consultants will therefore produce operation and maintenance plans for all of the buildings and equipment and simple maintenance manuals to be used in the maintenance of the buildings.

Outputs will include:

- maintenance plans and annual budget requirements for buildings and equipment;
- Maintenance manuals for buildings and equipment.

G. DELIVERABLES

3 hard copies and 1 electronic copy of all documents should be provided to the KPHCIP PMU.

H. REPORTING

The Consultants will report to the Project Director of the KPHCIP PMU.

I. STAFFING REQUIREMENTS

Phase 1: Key Staff

The Consultants should provide the following key staff together with any additional staff necessary to complete the work defined under Phase 1 of these TORs.

Team Leader/Project Architect

The Team Leader/Project Architect will provide overall management of the assessments and surveys and should provide sufficient time inputs to effectively manage and coordinate team members' inputs and deliver the outputs in the specified time. He/she will be a senior architect with the following qualifications, skills, and experience:

Qualifications: Master's degree or higher in architecture from a recognized university and a recognized professional qualification from the country of origin or residence together with:

- Proven project management skills;
- Fluency in English;
- Computer skills – AutoCAD, MS Office, etc.

Professional experience

At least 15 years of professional experience which should have included:

- Design of health facilities including the design of hospitals;
- Experience of carrying out building condition surveys;
- Experience of the preparation of survey reports.

Structural Engineer

The Structural Engineer will provide his/her assessment of the structural integrity of the buildings at each site and whether they meet the latest regulations for earthquake resistance.

Qualifications

Bachelor's degree or higher in structural engineering from a recognized university and a recognized professional qualification from the country of origin or residence.

Professional experience

At least 10 years of professional experience with a good knowledge of structural engineering and the requirements of the Building Code of Pakistan in particular the seismic provisions 2007.

Phase 1a: Key Staff

If the Consultants are required to proceed with Phase 2 of the assignment then the Team Leader/Project Architect and Structural Engineer will be required to provide their inputs to the detailed surveys and final reports and additional key staff as set out below will also be required together with any additional staff necessary to complete the work defined under Phase 2 of these TORs.

Surveyor (or surveyors)

The surveyor (or surveyors) will carry out the site, building, and services surveys and provide their inputs to the final reports and will have the following qualifications and experience:

Qualifications

A Bachelor's degree or a diploma in surveying or an associated discipline and a recognized professional qualification from the country of origin or residence.

Professional experience

At least 10 years of professional experience.

Construction Phase: Key and non-key Staff

The staff as set out below will be required for ConstructionPhase of the work.

Key Staff

S. No	Personnel Description	Unit	Input
1.	Team Leader/ Project Manager	Monthly	Full time
2.	Material Engineer	Monthly	Full time
3.	Electrical Engineer	Monthly	Full time
4.	Field Engineer/Inspector	Monthly	Full time
5.	Assistant Resident Engineers	Monthly	Full time
6.	Health, Safety & Environmental Engineer/Officer/Social Officer	Monthly	Full time
7.	Other Staff		
8.	Quantity Surveyor	Monthly	Full time
9.	CAD Operator	Monthly	Full time
10.	Office Supporting Staff	Monthly	Full time