

CONSULTANCY FOR DESIGN AND CONSTRUCTION SUPERVISION OF KENYATTA NATIONAL HOSPITAL INFECTIOUS DISEASE UNIT

TERMS OF REFERENCE

Background

1. As a major Africa trade and travel hub, Kenya open and porous borders make the country vulnerable to infectious diseases of public health importance. The country has continued to witness a rapid increase of COVID-19 cases, hence the need for prompt action and strengthening the capacity for preparedness and response to handle public health emergencies. It is projected that highly infectious and life-threatening diseases will become more frequent due to climate and environmental changes. For Kenya to remain vigilant to emerging and re-emerging infectious diseases, there is a need to set up a national infectious disease unit as a centralized model for the management of highly infectious diseases. Patients with highly infectious diseases need effective medical care in a secure high-level isolation unit to prevent the spread and provide quality treatment. Kenya faces a significant burden of infectious diseases including the ongoing COVID-19, cholera, and Multi-Drug Resistant Tuberculosis (MDR-TB); and remains at risk of others such as Ebola.

2. While COVID-19 case management facilities were designated and/or established at the county and national levels in Kenya, the COVID-19 pandemic has highlighted the gaps that exist in the country's capacity to manage infectious diseases in isolated, high-quality settings i.e. infectious disease units (IDU). In the absence of specially designed IDUs, many of the COVID-19 case management health facilities faced challenges including capacity constraints, nosocomial infections of both staff and patients, and strains on other aspects of health service delivery. There were also challenges related to the coordination and quality of clinical care being offered at these facilities in the absence of a health facility specialized in the clinical management of infectious diseases. These challenges replicated those observed with previous disease outbreaks such as cholera. Therefore, there is an urgent need to focus on the establishment of an IDU for providing specialized outpatient and inpatient clinical services for highly infectious diseases in the country. The expanded roles and functional units of the IDU would include: (i) surveillance and epidemiological investigations to infectious diseases; (ii) detecting pathogens and supporting outbreak investigations through specialized laboratory; (iii) coordinating the national response to antimicrobial resistance across sectors; (iv) coordinating and facilitating research, training and education; (v) community engagement functions; and (vi) driving initiatives for prevention and

control of infectious diseases. These integrated functions work effectively together in managing infectious disease outbreaks within a comprehensive clinical and public health infectious disease unit.

3. The World Bank-financed COVID-19 Health Emergency Response Project (CHERP) aims to support Kenya to prevent, detect and respond to the threat posed by COVID-19 and to strengthen national systems for public health preparedness. As part of the activities, the Project seeks to strengthen the country's capabilities in infectious disease management, prevention and control through financing the design, construction and supervision services for building the IDU of the Kenya National Hospital (KNH).

The objective of the Assignment

4. The main objective of the assignment is to provide C-HERP and the project stakeholders with plans, designs including drawings, schedules, computations, bill of quantities, specifications, standards, guidelines, environmental and social assessments and supervision reports for the proposed construction of the IDU building complex including all equipment and complementary facilities fit-for-purpose and the related external works of landscaping and civil works. The deliverables should ensure C-HERP can deliver the Project within the specified time, budget, and quality expectations for all stakeholders.

5. For this purpose, the Ministry of Health (MoH) has secured and set aside five (5) acres of land located at Kenyatta National Hospital in Nairobi for the construction of the IDU.

Scope of Services

6. The successful consultant's scope of the assignment will be in two stages:

- a. conceptual planning, justification of key parameters, and detailed design layout of the IDU building complex involving architectural and building services, structural and civil engineering, quantity surveying, mechanical and electrical engineering information aligned to the budget, environmental and social impact assessment (ESIA) and management plan, land surveying and landscaping, preparation of bid documents, and assistance with the tendering process and selection of the contractor; and

- b. full-time supervision of the construction of the building after successful completion of the design phase and subject to a decision by the MoH to proceed with the works. Each task will constitute a separate contract. The design phase will be under a lump sum contract while the supervision phase will be under a time-based contract following World Bank procurement guidelines and standard documents for this purpose. The supervision contract will be signed subject to the satisfactory completion of the design and procurement phase.

7. The consultant will work closely with MOH to ensure that all government and other external stakeholders have been consulted and their concerns incorporated at all stages of the project. In addition, the assignment shall include the consultant resources to achieve the specified activities and in doing so, the consultant shall execute all prescribed project design and supervision activities.

8. The entire assignment will comprise, but not be limited to the following key stages:

- a. Outline preliminary conceptual design proposals with detailed drawings, including justification of key parameters such as the number of beds, total built-up area, facilities to be included, etc.;
- b. Schematic design;
- c. Detailed design – include cost build-up estimates, procurement plans;
- d. Prepare and develop the design and schedule required for all inbuilt and medical equipment, ICT and other required fixtures;
- e. ESIA, mitigation measures and management plan as per Government of Kenya policies and regulations, World Bank’s Environmental and Social framework and World Bank Group Environment Health and Safety guidelines;
- f. Tendering processes;
- g. Provide technical support and supervision during the construction stage;
- h. Pilot testing and project closure; and
- i. Defects Liability Period.

9. A design presentation will be required at the end of the schematic design phase, the end of the design development phase, halfway through the preparation of construction-related documents phase, and at the end of the preparation of construction-related documents including draft bidding documents to be presented to the World Bank for clearance, before approval to proceed is granted at each stage. At these presentations, the following documentation will be necessary, depending on the phase:

- a. Presentation of drawings including, but not limited to, plans, sections, perspective renderings, preliminary cost information and diagrams illustrating the overall conceptual design, environmental strategies, and programmatic relationships.
- b. An architectural model at a scale to be determined by the Consultant and the Client. A short paper explaining the guiding ideas of the architectural vision and the reasons behind the choices. This paper is mentioned in the appendix of the letter of invitation with the title: “*Approach Paper on the Methodology Proposed for Performing the Assignment*”. Detail drawings showing proposed usage of materials and design motifs.
- c. Technical drawings are needed for the full evaluation of the construction plausibility. The stages are detailed below.

10. **Stage 1: Feasibility Planning**

- a. The Consultant shall study and ascertain the current and future needs of medical facilities and all the other facilities and amenities requirements of the IDU at KNH.
- b. The Consultant shall visit the site and familiarize him/herself with the present situation and general conditions of the site and the services therein to determine the requirements for access, site clearance, connections to services and any required demolitions and removals.
- c. The Consultant shall carry out a topographic and cadastral survey of the plot to confirm the boundaries of the plot, size of the plot, existing ground profiles, position of existing buildings and features and the location of existing services. Where adjustments to the boundaries are found necessary, the Consultant shall recommend the appropriate action.
- d. The Consultant shall carry out geotechnical investigations to ascertain and identify the soil conditions and characteristics of the site. The soil investigations will include and not be limited to:
 - i. *Geology of the area and field investigations:* drilling boreholes, standard penetration;
 - ii. Tests, undisturbed samples, and determination of groundwater; and
 - iii. *Laboratory tests:* sieve analysis, Atterberg limits, moisture content, shear strength, specific gravity, consolidation, chlorides, soleplates, PH values, bearing capacities, etc.
- e. Undertake an Environmental and Social screening of the site.
- f. The Consultant shall prepare a preliminary project brief for the architectural, engineering, socio-economic, environmental, and other requirements of the

proposed building development, and submit the brief to C-HERP for approval before proceeding any further.

- g. Based on the preliminary brief approved, the Consultant shall prepare concept designs for the proposed building development. The concept designs shall be submitted to the Client for selection of the preferred concept before proceeding. Each concept presented shall include an evaluation and comparison of parameters such as:
 - i. General arrangement and layout of the proposed building;
 - ii. Elevations, perspectives and aesthetics of the proposed building;
 - iii. Performance characteristics of the proposed building and its elements and components (sound, light, heat levels);
 - iv. Costs, based on a life cycle approach;
 - v. Implementation schedule; and
 - vi. Environmental, public health and safety, and socio-economic impact of the proposed development.
- h. Based on the concept selected, the Consultant shall develop a final project brief for the approval of the Client before adoption. After approval and adoption of the final project brief and the selected concept, the Consultant shall prepare and submit for approval a comprehensive plan (CP) for implementing the construction of the proposed building.
- i. The Consultant shall obtain the approval of the Client for the CP before proceeding with the activities in the plan or the subsequent stages of the consultancy assignment. If the plan submitted by the Consultant is found unsatisfactory or unacceptable, the Consultant shall submit a revised or alternative plan for approval and at no additional cost.
- j. The Consultant shall prepare and submit a Feasibility Planning Report containing findings and recommendations from the above tasks for the approval of the Client.

11. Stage 2: Outline (Preliminary) Design Proposals

Based on the approved Feasibility Planning Report and the concept adopted, the Consultant shall prepare the following for the approval of the Client before proceeding with the next stage:

- a. Outline (Preliminary) drawings at appropriate scale showing:
 - i) A master plan for the plot;
 - ii) A site plan showing the proposed works: building, roads and drives, footpaths, parking, drainage, fencing, power and water supply, a communications connection, landscape and other infrastructures;

- iii) Floor plans showing the proposed layout, partitioning, relevant equipment, fixed fittings, loose furniture, etc.; and
 - iv) Elevations, sections, perspectives to fully illustrate the finishes and fittings.
- b. A report on the outline (preliminary) design and containing (a) above as well as describing the following as applicable:
 - i. the structural system;
 - ii. finishes (internal and external), including proposals for alternatives and the resulting impact on costs;
 - iii. internal fittings;
 - iv. sun shading and ventilation methods;
 - v. electrical, mechanical and IT installations proposed, including linkages and connections to the existing;
 - vi. special provisions for the physically challenged persons;
 - vii. radioactive and other toxic waste disposals;
 - viii. water supply and wastewater management;
 - ix. fire prevention proposals; security measures for the building and premises;
 - x. maintenance (low cost) proposals for the building;
 - xi. cost estimates and cost control measures; and
 - xii. update on items in the comprehensive plan, in particular, the project implementation schedule.
- c. Environmental and Social scoping: as part of the Inception Phase, the environmental and social consultants shall undertake scoping of key environmental and social issues based on the preliminary design concepts report of the IDU with a view to determining the key issues and questions. The scoping study will be required to also assess the key concerns that might affect the design requirements of the different options of the proposed project. This will include a preliminary analysis of potential key direct and indirect impacts of the Project, environmental and social conditions in the potentially affected areas, utilizing the relevant project design information available for the specific projects. The findings from the environment and scoping report should inform the updates of the preliminary designs. The Consulting firm shall use this as a starting point to further refine the scope of the ESIA through a consultative process. Scoping report/Terms of Reference for the ESIA shall be submitted to NEMA for review and advice as an initial step in carrying out detailed ESIA, as necessary.

12. Stage 3: Scheme Design Stage

- a. Following approval of the Stage 2 Report, the Consultant shall prepare:
 - i. Scheme design drawings presented in the appropriate scales, showing in more detail (architectural and engineering) the site layout and the spatial arrangements and appearances of the proposed building;
 - ii. The site plan should show the proposed water source, drainage, electricity, communications and other services, the vehicular circulation and parking, pedestrian circulation, fencing, landscaping, and other infrastructure;
 - iii. Draft technical specifications, architectural and engineering, for the proposed building;
 - iv. Schedules of the proposed finishes, fixtures, fixed and moveable fittings and furniture;
 - v. Draft Bills of Quantities and Cost estimates; and
 - vi. Updates on items in the approved proposal.
- b. The Consultant shall seek and obtain planning permission from relevant authorities on the scheme designs.
- c. The Consultant shall prepare and submit a Scheme Design Report (SDR) for the approval of the Client before proceeding.

13. Stage 4: Detailed Design Stage

- a. Following approval of the Scheme Design Report, the Consultant shall prepare:
 - i. Final and detailed design drawings (architectural, structural, mechanical, and electrical engineering and landscape) of the proposed works, sufficient detail to enable construction and installation works to be undertaken;
 - ii. Final specifications;
 - iii. Final Bills of Quantities (provisional sums shall not be used except as essential and with the prior approval of the Client);
 - iv. Cost estimates based on the final bills of quantities; and
 - v. Updates on items in the approved comprehensive plan, in particular the program for implementation based on the detailed design.

- b. The Consultant shall prepare and submit a Final Design Report (FDR) for the approval of the Client before proceeding. The Consultant FDR shall include a Gantt chart format, or as otherwise specified implementation plan/schedule for all design activities. The schedule should have a project work breakdown structure with activities and timeframes. The schedule shall provide information on the sequence of design activities, milestone dates and activity periods. The consultant shall maintain the design Gantt chart and provide monthly progress reports.

14. Stage 5: Detailed Equipment identification and Specifications

- a. Determine and review key technology, equipment, materials or systems to be incorporated in the permanent works for the treatment of COVID-19 and other infectious diseases.
- b. Define the specifications of each piece of equipment.
- c. Establish a cost estimate of each technology, equipment, material or system.
- d. Perform in advance inspection test and verification on each technology, equipment, material or system.
- e. Carry out ESIA in line with the approved TORs to identify significant environmental and social impacts associated with the proposed project and recommend appropriate mitigation measures for integration in all project phases (planning and design, construction, operation and decommissioning). Finally, after the ESIA study, prepare Environmental and Social Management Plan (ESMP) report compliant to the relevant authorities. Finalised ESIA should be submitted to the client and the Bank for review and approval before final submission to NEMA for review, approval and licensing.

15. Stage 6: Tendering Process Stage

- a. Preparation of bid/tender documents

Based on the approved Final Design Report, the Consultant shall prepare and submit to the Client, bid/tender documents containing bid notice, instructions to bidders, bid data, evaluation methodology and criteria, bidding forms, statement of requirements, conditions of contract (general and special), contract forms, ESMP and/ Environmental Social health and safety conditions. These documents should follow the standard bidding document from the World Bank and the MOH. The bid/tender documents shall be approved by MoH and cleared by the World Bank.

b. Activities of the Consultant during the bidding process

i *Invitation of Bids:*

The Client will issue the Bid Notice inviting the Contractors and equipment suppliers to bid. The bidders will be required to prepare and submit their bids within a specified period

ii *Pre-bid conference*

The Consultant shall organize and assist the Client to conduct a pre-bid conference at the site and an agreed conference facility. The Consultant shall make all the necessary reservations and invitations for the conference, conduct the proceedings of the conference, clarify issues and answer questions raised on any matter at the conference, prepare and distribute a record of the conference.

iii *Preparation, submission and opening of bids:*

The Consultant shall assist the Client to respond to any requests for clarification that are received from bidders before the deadline set in the bidding documents. The Consultant shall prepare and issue any addendum required during the period of bidding. The bids will be submitted to and opened publicly. The Consultant will attend the bid opening and assist the Client to prepare and distribute the record of the bid opening.

iv *Engineer's Estimate:*

The Engineer's Estimate and the average of bid prices obtained after excluding outliers may be used in the evaluation and comparison of the bids as appropriate. Special attention will be paid to evaluate what may be deemed as Abnormally Low Bids following World Bank guidelines and rejected if found not tenable. However, the Consultant will be expected to have prepared a confidential pre-bid cost estimate and submitted the same to the Client together with the bidding documents.

v *Evaluation of bids and recommendations:*

The Consultant will be appointed and shall participate in the membership of the evaluation committee. Evaluation of bids received shall be based on the World Bank and MoH procedures. The Consultant will make recommendations for the consideration of the Evaluation Committee of the Client. The Client will be responsible for awarding the contract and for issuing a notice of the award.

vi *Contract documents:*

Following the award, the Consultant shall prepare the issues for pre-contract discussions and participate in the discussions with the selected Contractor, equipment suppliers and other service providers. The Consultant will subsequently prepare the relevant contract documents to be approved by the

Client for the signing of the contract. The construction contract will be between the successful Contractor/Supplier and the Client.

vii *The signing of the contract, implementation schedule*

Signing the contract with all the contractual provisions in the place stipulated in the bidding documents (i.e., guarantee for advances, performance bond, etc.) will take place between both parties and thereafter the Contractor will be given possession of the site. The Consultant shall coordinate and assist the parties in signing the contract.

viii *Commencement and duration of services and project*

The consultant shall commence the services within 7 days following signing the contract with MoH. The contract duration as per the contract shall be 18 months (excluding the Defects Liability Period) by which time all construction works and services required through this TOR should be completed to the satisfaction of MoH and World Bank.

16. Stage 7: Construction Stage

This stage involves the handing over/possession of the site to the Contractor, administration of the contract and supervision of the works to ensure quality control as well as cost control. The Consultant will undertake several responsibilities and not limited to those listed hereunder:

- i To ensure that works on the building complex are completed within eighteen (18) months;
- ii The quality and quantity assurance shall be the sole responsibility of the consultants being the ones in charge of the Project;
- iii Full-time detailed supervision of the scheme from the start of the work till final satisfactory completion of all components including commissioning of equipment as mentioned in the scope of the work;
- iv Review and respond to request for information from MoH and World Bank to the contractor in a timely manner and as required;
- v Review and address variations within the works and assist MoH in cost evaluations;
- vi Develop and ensure Quality Assurance mechanisms are in place as per engineering/ Architectural standards;
- vii Ensure specialised engineering disciplines are onsite for inspection and quality assurance of all elements of works;
- viii Expediting progress at the site as per work plan for timely completion of the project.
- ix Preparation and presentation of monthly progress reports or any review/report to the Client;

- x Take measurements of work carried out by the contractor, preparation, submission and verification of interim payment certificates (IPC) including final bill, security and any other advances extended to the contractors / sub-contractor (if any) as per contract terms and provisions;
- xi Submit reviewed quality control test reports to MOH by the contractor;
- xii Perform a test of specialised areas of work including detailed engineering supervision i.e., planning, guidance, programming, inspection, monitoring of construction activities, contractor's performance, quality /quantity control, implementation of work plans, drawings, design and specifications, preparation and verification of variation orders including drawings/sketches, correspondence with the contractor in the capacity of the engineer in charge, and to maintain a good liaison with C-HERP office including all other duties pertinent to the construction phase of the project with the prime objective to complete the work following the contract terms and scope of works;
- xiii Perform a test of specialised areas of work;
- xiv On completion, submission of As-built drawings/inventories / Project Completion report;
- xv The Consultant will be accountable for any defects or losses or damages arising from professional negligence, proven faults, errors or omissions on the part of the Consultant during or after the completion of the work being the Engineer In-charge;
- xvi With support of the C-HERP environmental and social specialists, the consultant specific technical team shall before any works begin induct the contractor on environmental and social safeguards, ensure the contractor complies to the environment, social, health and safety requirements and guide the contractor to prepare the contractor ESMP (C-ESMP) in line with the project ESIA, the CHERP ESMF, World Bank Environment and Social Framework(ESF) and the World Bank Group Environment Health and Safety guidelines; and
- xvii Ensure contractor's environment, social and health experts are on site to oversee the implementation of environmental and social mitigation measures.

The consultant should be available at 2 days' notice from C-HERP Project Management Team (PMT) to attend the works at the site, with the expected frequency of technical support, which will be on need-basis for onsite inspection during the works implementation stage, and material or equipment review.

17. Stage 8: Pilot Testing and Project Closure Stage

a. Managing project closure activities generally

In addition to the specific responsibilities set out above and below, the Consultant shall manage the project closing activities by carrying out the following:

- i. Establish and agree with the Client and document the criteria to be used for confirming completion of the contract (tasks finished, deliverables finished, testing completed, training requirements finished, equipment installed, tested and operating, document manuals submitted, etc.);
- ii. Document and agree with the Client on the acceptance process and procedures, the checklist of activities that must be completed before acceptance is confirmed;
- iii. Convene and hold a project close-out meeting attended by the Client, stakeholders, end-users and Contractors at which the completion report is among other items approved and signed off; and
- iv. Carry out a post-project evaluation of the technical work, ESMP implementation, achievements, the project processes, and the management of the project and prepare and submit a final report.

b. Rectification of Defects

The Consultant will carry out a detailed inspection of possible defects during and at the end of a six-month defects liability period and arrange follow-up meetings to confirm that remedial work has been fully completed. Interim visits and inspections or testing during the defect's liability period will be required where remedial measures are necessary to ensure the safety or continued normal use of the buildings.

c. Completion Certificates

The completion certificates, defects correction certificate and final payment certificate will be prepared and issued following the works contract and to signify full completion of the works.

d. Final Accounts

The Consultant shall prepare two separate final accounts for the client's approval as follows:

- i. The final account for the construction contract will be prepared soon after the issue of the defects correction certificate and issued to all parties for agreement; and
- ii. The project final report, acceptance whereof will signify the end of the Consultant's assignment on the consultancy contract.

18. Implementation Timeframe

The consultant will be expected to produce a full detailed programme based on the implementation timeframe indicated in Table 1. The Consultant is required to submit with the proposal in a Gantt chart format or as otherwise specified implementation plan with applicable lead timelines, precursor events and dependencies. The Gantt chart/implementation plan will then be revised for approval after on-boarding. The Consultant's proposal for the assignment should therefore be based on this period of engagement.

Table 1: Summary of implementation timeframe

	Phase	Activity	Time for Completion
1	Design Deliverables	Design and technical studies of IDU	24 weeks (6 Months)
2	Construction contract	Construction works	72 weeks (18 Months)
3	Defects Liability Period	Contractor fixing (at their cost) any defects arising in the infrastructure	24 weeks (6 Months)

19. Key project personnel and evaluation criteria

Under the assignment, the consultant will mobilize the following key experts as presented in Table 2. However, the consultant may propose any other staff consider as a beneficiary to carrying out the assignment. Key Staff with a score below 75% shall be replaced at the negotiations stage with more qualified personnel. The key experts for this assignment will need to have a proven adequate academic and professional background as follows:

Table 2: Key staff and minimum qualifications

Staff and role description	Minimum Qualification and professional experience
<p>1. Project Director/Project Manager / Team leader</p> <p>Responsible and accountable for the management and successful delivery of all design's stages, construction, testing and commissioning of the project.</p> <p>The Project Director/manager will be the main contact person for MOH and World Bank.</p>	<ul style="list-style-type: none"> ▪ Degree in Engineering, Architecture, building science or relevant field from a recognized institution ▪ Registered with the relevant professional body ▪ Minimum of 15 years' proven experience as a construction project manager of a similar size and nature ▪ Extensive experience in design, site inspection, testing and commissioning ▪ Excellent communication and interpersonal skills ▪ Demonstrates sound work ethics

<p>Coordinate with the project team in the development of designs and shall possess knowledge in all stages of the project</p>	
<p>2. Architect</p>	<ul style="list-style-type: none"> ▪ Degree in Architecture from a recognized institution ▪ Registered with the relevant professional body ▪ Minimum 15 years' experience in site work, site measurements, architectural design and drawing, site work supervision
<p>3. Structural Engineer</p> <p>Shall be responsible to deliver required structural designs services</p> <p>Supervise structural works during the construction phase</p> <p>Inspection and testing of materials and equipment for the project</p>	<ul style="list-style-type: none"> ▪ Degree in Structural Engineering from a recognized institution ▪ Registered with the relevant professional body ▪ Min 15 years' experience in the design of civil engineering works of similar size and nature ▪ Professional knowledge of Building code/ Eurocodes; ▪ Experience in site inspection, testing and Commissioning
<p>4. Quantity Surveyor</p> <p>Responsible for estimating and cost planning activities of the project</p> <p>Assist in the procurement process; pre-qualification, enquiry, Bills of Quantities, analysis, selection, and contract preparation</p>	<ul style="list-style-type: none"> ▪ Degree in Quantity Surveying / Building Economics from a recognized institution ▪ Registered with the relevant professional body ▪ Minimum 15 years' experience in projects of similar size and nature ▪ Experience in using estimating software's
<p>5. Mechanical Engineer</p> <p>Responsible to deliver the required design services and supervision for mechanical works under this contract.</p>	<ul style="list-style-type: none"> ▪ Degree in Mechanical Engineering from a recognized institution ▪ Registered with the relevant professional body ▪ Minimum 15 years' experience in projects of similar size and nature as a principal mechanical engineer ▪ Professional knowledge of national and international standards applicable in the mechanical engineering design. ▪ Experience in site inspection, testing and commissioning

<p>6. Electrical Engineer</p> <p>Responsible to deliver the required design services and supervision for electrical works under this contract.</p>	<ul style="list-style-type: none"> ▪ Degree in Electrical Engineering from a recognized institution ▪ Registered with the relevant professional body ▪ Minimum 15 years' experience in projects of similar size and nature as a principal electrical engineer ▪ Professional knowledge of national and international standards applicable in the electrical engineering design and works. ▪ Experience in site inspection, testing and commissioning
<p>7. Interior Designer</p> <p>Support Preliminary design plans, including partition layouts.</p> <p>Oversee construction and coordinate with general building contractors to implement the plans and specifications for the project</p>	<ul style="list-style-type: none"> ▪ Degree in interior design and/or extensive experience and training in a design field from a recognized institution ▪ Minimum 15 years' experience in projects of similar size and nature ▪ Experience with 2D and 3D space planning
<p>8. Landscape architect</p> <p>Responsible to deliver the required design services and supervision for landscape works under this contract.</p>	<ul style="list-style-type: none"> ▪ Degree in landscape architecture from a recognized institution ▪ Registered with the relevant professional body ▪ Minimum 15 years' experience in projects of similar size and nature as a chief landscape architect ▪ Technical proficiency in CAD and knowledge of environmental regulations ▪ Experience in site inspection, testing and commissioning
<p>9. Land Surveyor</p> <p>Responsible for administration and supervision of all survey technical works</p>	<ul style="list-style-type: none"> ▪ Degree in any of the following fields: Land Survey, Surveys and Mapping, Cartography, Geo-Informatics or equivalent qualification from a recognized institution ▪ Registered with the relevant professional body ▪ Minimum 15 years' experience in projects of similar size and nature as a land surveyor ▪ Experience in site inspection, testing and commissioning

<p>10. Civil Engineer / Resident Engineer</p> <p>Responsible to deliver the required design services and supervision of civil works under this contract</p>	<ul style="list-style-type: none"> ▪ Degree in Civil Engineering from a recognized institution ▪ Registered with the relevant professional body ▪ Minimum 15 years' experience in projects of similar size and nature as a principal civil engineer ▪ Professional knowledge of Building code/ Eurocodes; ▪ Experience in site inspection, testing and commissioning
<p>11. Geotechnical Engineer</p> <p>Responsible for preparation of geological/geotechnical investigation design reports for project</p> <p>Management of geological/geotechnical investigation</p> <p>Carry out geological/geotechnical assessment analysis and design.</p>	<ul style="list-style-type: none"> ▪ Degree in Geotechnical Engineering, Geotechnics, Soil Mechanics or Engineering Geology from a recognized institution ▪ Registered with the relevant professional body ▪ Minimum 15 years' experience in projects of similar size and nature as a Geotechnical engineer ▪ Experience in site inspection, testing and commissioning
<p>12. Hydraulic Engineer (Hydro engineer)</p> <p>Responsible to deliver required hydraulic engineering systems design services and supervision of works under this contract</p>	<ul style="list-style-type: none"> ▪ Degree in Hydraulic Engineering (Hydro-Engineering) from a recognized institution ▪ Registered with the relevant professional body ▪ Minimum 15 years' experience in projects of similar size and nature as a Hydrologist ▪ Professional knowledge of national and international standards applicable in the hydraulic engineering design and works. ▪ Experience in site inspection, testing and commissioning
<p>13. Equipment Specialist</p> <p>Responsible for specifying, installing and commissioning each batch of medical equipment under this contract</p>	<ul style="list-style-type: none"> ▪ Degree in Medical Engineering from a recognized institution ▪ Registered with the relevant professional body ▪ Minimum 15 years' experience in projects of similar size and nature as Equipment Specialist ▪ Experience in site inspection, testing and commissioning

<p>14. Environmental and Social Specialists</p> <p>Responsible for preparation of Environmental and social instruments, ESMP implementation and monitoring, grievance management and surveillance of project's investment to ensure compliance with the environment and social requirements.</p> <p>These specialists will also orient the contractors and their workers on key instruments including the infection prevention and control – waste management plan (IPC-WMP), Labour management procedures (LMP), stakeholder engagement plan (SEP), grievance mechanisms, Sexual Exploitation and Abuse/Harassment (SEAH) Prevention and Response Plan, among others as necessary.</p>	<p>The environmental and social consulting team should have the following minimum expertise:</p> <ul style="list-style-type: none"> ▪ Environmental Expert; Degree in Environmental Studies, Environmental Health or its equivalent with a minimum of 15 years in undertaking Environment and Social Impact Assessment (ESIA) studies including where possible Health Impact Assessment (HIA) studies in similar assignments. The expert must be an EIA/EA lead expert. Registered with National Environmental Management Authority (NEMA) with a valid expert licence and a member of the Environment Institute of Kenya. ▪ Health Expert: Degree in Environmental Health or Public Health with a minimum of 15 years' experience in healthcare waste management, Occupational Health and Safety, or any related public health specialization with experience in undertaking community health diagnosis, health risk assessment for communities exposed to health risks and hazards from and in the environmental health sub-sector. Registered with the Public Health Officers and Technicians Council ▪ Social Expert: Degree in Development Studies, Sociology, Anthropology or any other related social science discipline. Should have a minimum of 15 years of relevant professional experience in the areas of social impact assessments, social risk management, community development, compliance monitoring, stakeholder engagement and public consultations.
<p>15. Clerk of Works / Inspector of works</p> <p>Responsible for overseeing the quality and safety of works on a construction site</p>	<ul style="list-style-type: none"> ▪ Degree or diploma level qualification in the relevant discipline preferably in Building Construction or Civil Engineering.

Performing regular inspections of the work on-site and comparing completed work with drawings and specifications.	<ul style="list-style-type: none"> ▪ Minimum of 10 years' experience in supervision of building construction works ▪ Experience in site inspection, testing and commissioning
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20. Estimated Key Staff Inputs

A total of 157 man-months of key staff inputs are estimated for the entire task, broken down as shown in Table 3. The Consultant shall provide for adequate support staff as appropriate.

Table 3: Key staff inputs

NO.	Personnel	Design Phase	Construction Supervision period	
			Construction Supervision	Defects liability supervision.
		(Man months)	(Man months)	(Man-months)
1	Project Director /Project Manager / Team leader	6	18	1
2	Structural Engineer	4	6	1
3	Quantity Surveyor	5	6	0
4	Architect	4	6	1
5	Mechanical Engineer:	2	6	1
6	Electrical Engineer	2	6	1
7	Interior designer	2	2	1
8	Landscape architect	1	2	0
9	Land surveyor	1	1	0
10	Equipment Specialist	1	3	1
11	Civil Engineer/Resident Engineer	2	18	1
12	Geotechnical Engineer	2	3	0
13	Hydrologist	2	0	0
14	Environmental, health and social experts	3	18	0
15	Clerk of works	0	18	1
	Total	37	113	9

21. Reporting Requirements and Schedule

Reporting during the various phases of the project shall be regular and different from the project output as described in the scope of services. Monthly progress reports and the final narrative report should be submitted to MOH and World Bank as per the details indicated in Table 4.

Table 4: Type of Reports

Type	Content
Design Phase Reports	<ul style="list-style-type: none"> a. Inception report <ul style="list-style-type: none"> i. Consultant detailed work programme ii. Design methodology iii. Preliminary design data iv. Relevant survey procedures b. Concept design report <ul style="list-style-type: none"> i) Background and Introduction ii) Problem statement / justification iii) Proposed solution iv) Conceptual design solution v) Cost estimates vi) Conclusion c. ESIA report to include: <ul style="list-style-type: none"> i Environment and Social Scoping status ii Final Report ESIA and ESMP to include information on land ownership documentation, Historical /archaeological issues, utility requirements such as water sources, electrical, drainage, waste management, underground storage tanks, sanitary sewer connections, fire protection, internet / communication lines iii Health and Safety provisions and to include a certificate of registration of a construction site from the Directorate of Occupational Safety and Health Services (DOSHS) d. Detailed Design Report <ul style="list-style-type: none"> i) Mechanical plans ii) Electrical systems plan iii) Architectural plans iv) BOQs

	<ul style="list-style-type: none"> v) Structural plans vi) Special systems (communication, fire and security) <p>e. Ad-hoc reports – when required to submit</p>
Construction supervision monthly progress report	<ul style="list-style-type: none"> a. Summary b. Project progress <ul style="list-style-type: none"> i. Targets verse milestones achieved ii. Challenges, risks and mitigation measures iii. Lessons learned and recommendations c. Environmental and social monitoring reports including accidents, incidents and grievance logs. d. Detailed implementation plan (DIP) for next 1 month – Gantt Chart e. Annexes (pictorial evidence, test results, sub-contracts etc.)
Final narrative report	<ul style="list-style-type: none"> a. Introduction b. A detailed narrative of activities implemented in a sequence format including achievements. Tasks under the scope of services shall be listed and mapped c. Lessons learned and recommendations d. Annexes <p>The final narrative report shall be submitted 30days upon completion of contract deliverables</p>

22. In addition, the Consultant and the Client will agree on the dates for regular meetings. It is estimated that at least one such meeting per month will occur throughout the assignment. An indicative timeline of completing each key task is shown in Table 5.

Table 5: Schedule per deliverable

Deliverable	Client's Proposed Timeline – No. of Weeks									
	0-2	3-5	6-8	9-10	11-13	14-17	18-20	21-23	24	6 Months
Inception Report										
Master plan report										
Preliminary Sketch Design Reports										
Environment and Social Scoping report										
Final Design Stage Report										
Final ESIA Report										
Design details, Production Drawings and Tender Documents Stage										
Final Report/Final Design BOQs Tender Action										
Sub-total Design/Procurement Documents										
Construction supervision monthly progress reports										
Defects Liability Period										

22. The Consultant shall submit schedule and/or ad-hoc reports and documents related to the scope of services to MoH and/ or World Bank at the relevant stage for the necessary review, comments and approval of the Client. As a minimum, the deliverables submission is as shown in Table 6.

Table 6. Deliverable submission schedule

Deliverable	No Soft copy reports (in CD or flash disks)	No hard copy reports
Inception Report	6	2
Master plan report	6	2
Preliminary Sketch Design Reports	6	2
Environment and social scoping report	6	2
Final Design Stage Report	6	2
Final ESIA Report	6	2
Design details, Production Drawings and Draft Tender Documents	6	2
Final Report/Final Design, BOQs, Tender Documents	6	2
CONSTRUCTION SUPERVISION		
Construction supervision monthly progress reports	1 every month	2 every month
Project Completion Report and as-built drawings	6	2

23. Key resources provided by Client

Table 7 indicates resources the consultant will be provided with by the client including technical support from personnel in relevant ministries. The Consultant shall review all relevant available documents on the project activities and components including standards and guidelines. In addition, the Consultant, where applicable, will reference national and county level documents for purposes of the assignment.

Table 7. Client key resources

	Resource	Description
1.	Personnel	<ul style="list-style-type: none"> a. MOH C-HERP Project Management Team b. World Bank c. Staff from the Ministry of Transport, Infrastructure, Housing and Urban Development and Public Works d. National Construction Authority e. Other Government agencies e.g., NEMA, Directorate of Occupational Safety and Health Services (DOSHS), Social Risk Management Unit (at the Department of Social Development)
2.	Data Sources	<ul style="list-style-type: none"> a. Kenya C-HERP Labour Management Procedures b. Kenya C-HERP Security Management Plan c. Kenya C-HERP ESMF and ESMP d. Kenya C-HERP Infection Control and waste management plan (ICWMP) e. Kenya C-HERP Project Appraisal Documents f. Kenya C-HERP progress and mission reports g. Kenyatta National Hospital –land ownership documentation h. National Health Care Waste Management Plan 2015-2020 and the WHO National Guidelines on Safe Disposal of Pharmaceutical Waste Occupational health and safety guidelines i. World Bank Group Environment Health and Safety guidelines j. Occupational Safety and Health and Work Injury Benefit ACTs – Directorate k. Standard Tender document for procurement of works (Building and Associate Civil Engineering Works) l. Standard Tender document procurement for Design and Build – Turnkey Contractors m. Standards Tender Document for procurement of management n. Standards Tender Document for procurement of supply and installation of plant and equipment

		<ul style="list-style-type: none"> o. Standards Tender Document for purchase of immovable assets and property p. Standards Tender Document for the request for quotations q. Standards Tender Document proposal evaluation report for procurement of goods and works
3.	Facilities	<ul style="list-style-type: none"> a. Introductory letters / notifications b. Meeting / training / induction facilities / rooms c. Regular COVID-19 screening

24. Measuring performance

To facilitate monitoring the performance of the contract and to ensure that successful outcomes are achieved, Table 8 provides key performance indicators (KPIs) that the Consultant should report against.

Table 8. Key Performance Indicators

KPI	Description
Quality	<ul style="list-style-type: none">▪ Delivery of services and works shall comply with and exceed local set standards and international best practices
Budget	<ul style="list-style-type: none">▪ Delivery of services and works within the agreed budget and provides the best value for money
Time	<ul style="list-style-type: none">▪ Delivery of services and works within the agreed timeframe▪ Indicate and communicate in advance expected delays
Satisfaction	<ul style="list-style-type: none">▪ The project outcome is to the desired satisfaction of project stakeholders, end-users and target beneficiaries
Communication and Reporting	<ul style="list-style-type: none">▪ Provide information of outputs including responding to a request, complaints, clarifications etc.
Inclusion of vulnerable and disadvantaged groups	<ul style="list-style-type: none">▪ Contribute to the agenda for inclusion (gender, youth, children, older persons, persons with disability, the poor, etc.) mainstreaming during the project lifecycle
Sustainability	<ul style="list-style-type: none">▪ Consider strategies that reduce projects' lifecycle cost▪ Institute measure that reduces negative environmental impact during the construction stage and when in use▪ Demonstrate long term project sustainability and longevity through a partnership with similar institutions▪ Promote equality and fairness to end-users and project beneficiaries