


## Request for Expression of Interest (REOI)

ESTABLISHMENT OF RANGAMATI SCIENCE AND TECHNOLOGY UNIVERSITY (1 <sup>ST</sup> REVISED)		
DESCRIPTION:		
1	Ministry/Division	Ministry of education
2	Agency	University Grants Commission of Bangladesh
3	Procuring Entity Name	Project Director, Establishment of Rangamati science and Technology University (1 <sup>st</sup> revised)
4	Procuring Entity District	Rangamati
5	Expression of Interest (EOI) for	Selection of Consultant to Prepare Detailed Master Plan for Rangamati Science and Technology University
6	EOI Ref. No.	রাবিপ্রবিস্বাপ্ত/পিডি/পওউ/কনসালটেশন ফর মাস্টার প্ল্যান/২০২১/৩৯(১)
7	Date	12 March 2023
8	EOI Closing Date & Time	27 March 2023 at 12.00 PM
Procurement Information:		
9	Procurement Method	National Competitive Bidding
10	Procurement Sub-method	Quality and Cost Based Selection (QCBS)
Funding Information:		
11	Budget and Source of Fund	GOB
Particular Information:		
12	Brief Description of the Assignment	<ul style="list-style-type: none"> <li>a) Examine the RMSTU campus site, conduct digital survey and prepare an inception report;</li> <li>b) Carry out necessary site analysis, topographic survey, sub-soil and hydrological investigation followed by an inception report;</li> <li>c) Preparation of feasibility study, EIA SIA report, master plan report;</li> <li>d) Preparation of detailed master plan, land-use plan, zoning plan, phasing plan and infrastructure and utility plan, road network, drainage system etc.;</li> <li>e) Preparation of design plan including design of site development scheme and design of common infrastructures like academic, administrative, institutional, residential facilities, structural and utility services design and all other designs in the approved master plan;</li> <li>f) Preparation of 3D perspective views, animation and 3D Diorama model of the whole master plan;</li> <li>g) Preparation of technical specification, cost estimation with BoQ</li> </ul>
Information for Applicant:		
13	Qualification and Experience of the Firm	<ul style="list-style-type: none"> <li>a) The interested consulting firm should have at least 15(fifteen) years of general experience in the field of consultancy services with qualified experts, engineers and other technical key personals (in case of JV, each member shall meet the requirements). Previous experience in university/educational institute master planning will be preferred.</li> <li>b) The consulting firm must have at least 07 (seven) years of specific or relevant experiences in similar assignment (in case of JV each member shall meet the requirements).</li> <li>c) The response should include descriptions of similar assignments conducted, experience in similar conditions, and availability of appropriate staff.</li> <li>d) The consulting firm should have a team of architects, engineer professionals as per scope of services in ToR;</li> <li>e) Award winning consulting firm will be given preference;</li> <li>f) Consulting firms may associate to enhance their qualifications, but should mention whether the association is in the form of a “joint-venture” or of “sub-consultancy”. All members of such association should have real and well-defined inputs to the assignment and it is preferable to limit the total number of firms/institutes in the association of three.</li> </ul>



14	Contract Execution Period	The duration of the contract is expected to be 12 months
15	The Criteria for Shortlisting	The criteria for shortlisting of firm will be: a) Firm history, specifically age of the firm/ year of registration/ incorporation; b) Previous specific experience of the firm for handling similar assignments; c) Quality and experience of team leader and key experts; d) Experience in hilly region as well as extensive working experiences of the qualified experts and other key experts in hilly areas/region; e) Financial health of the firm;
16	Documents Comprising the Expression of Interest (EOI)	a) Brochure /company profile; b) Experience details; c) Income tax certificate (for the last 2 Fiscal Year); d) Up to date trade license, TIN and VAT/BIN certificates etc. e) List of professionals.
17	Place of Receiving the EOI	RANGAMATI SCIENCE AND TECHNOLOGY UNIVERSITY Rangamati-4500
	<b>Procuring Entity Details:</b>	
18	Name & Designation of the Official Inviting EOI	Professor Dr. Shelina Akhter Project director
19	Address of Official Inviting EOI	Office of the Project director <i>Establishment of Rangamati science and Technology University (1<sup>st</sup> revised)</i> Rangamati-4500
20	Contact Details of Official Inviting EOI	Assistant Engineer, RMSTU Mobile- 01841-811622 (during office hour 9pm-5pm)
21	Particular Instruction	a) Procuring entity reserves the right to accept or reject any or all EOIs for any reason whatsoever; b) The Expression of Interest must be delivered in a written form in a sealed envelope in 3 (three) copies; 01(one) marked as "ORIGINAL" and other 2 (two) as "COPY" in separate envelope, both the "ORIGINAL" and "COPY" shall have to cover within a single envelope clearly marked as "EOI for consulting services for RMSTU Master Plan" to the address of the undersigned (in person or by postal mail) by 12.00pm, 27/03/2023. c) Consultant will be selected in accordance with the procedure set out in Public Procurement Act (2006) and Public Procurement Regulation (2008); d) This EOI notice and Details of Terms of Reference are available in the website: <a href="http://www.rmstu.ac.bd">www.rmstu.ac.bd</a>
NB - Those who sent EOI before don't need to send again.		

  
12-03-2023

Professor Dr. Shelina Akhter  
Project director  
Establishment of Rangamati science and Technology University (1<sup>st</sup> revised)



# **RANGAMATI SCIENCE AND TECHNOLOGY UNIVERSITY ESTABLISHMENT PROJECT**

**(1<sup>st</sup> revised)**

## **TERMS OF REFERENCE**

**FOR**

**PREPARATION OF MASTER PLAN FOR  
RANGAMATI SCIENCE AND TECHNOLOGY  
UNIVERSITY**



## 1.0 INTRODUCTION

### 1.1 Background of the project

Rangamati Science and Technology University (RMSTU) is the first public university in Chittagong Hill Tracts (CHT) region with a vision of expanding quality scientific and technical education, ensuring harmony and achieving progress in the country.

In order to offer modern scientific and technical education in higher education sector the government undertook an umbrella project titled as “Establishment of One Science and Technology University in each of 12 old greater districts (where there is no university)- 6 Universities during First Phase” in 2001. As a part of this project the Government of the People’s Republic of Bangladesh passed an Act on July 8, 2001 for “Establishment of Rangamati Science and Technology University”. The Act was approved (and signed) by the then Honorable President of the Government of the People’s Republic of Bangladesh on 15 July, 2001. But the development activities of the University were abandoned by the then government in 2003. The government again took initiative to resume activities of the university when it came to power again in 2008.

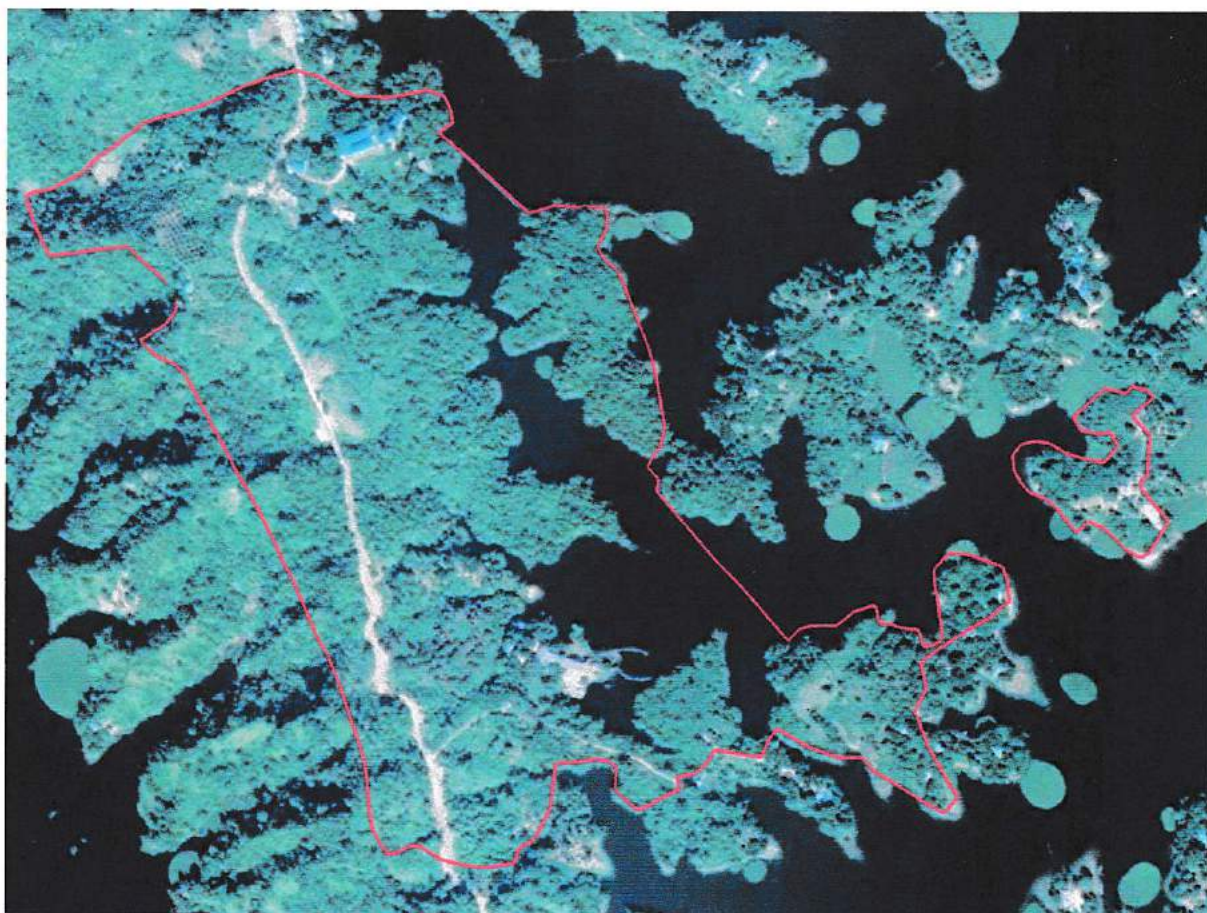
In line with this decision the “Rangamati Science and Technology University Establishment Project” was approved at the Executive Committee of the National Economic Council (ECNEC) on February 19, 2013. The Honorable Prime Minister Sheikh Hasina formally inaugurated the university on February 23, 2013 with a view to expanding modern scientific and technical education in the CHTs as well as to cater the demand of the country. The Honorable Prime Minister put forward a line of directives and guidelines to follow in upgrading the physical infrastructure of the university. Directives include construction of buildings preserving the natural environment and ecology keeping the hills undamaged and the architectural design should be framed as per Bhutan’s architectural sculpt.

### 1.2 Location and Target Area

As per the provision of the act the university is established at Jhagarabil mouza of Rangamati Sadar Upazilla located to 8-9 kilometers south of Rangamati township. The official target area for master plan is approximately 63.725 acres of land. But in practice, exact land area may vary from the official record. The exact boundaries of the land shall be specified by the concerned committee of the university. The target land area identified after land survey must be taken into consideration for subsequent master plan assignment. It is important to note that currently **a number of temporary structures are constructed in specified land to meet the urgent academic and administrative needs.** Academic activities are being carried out in two buildings built on temporary basis to fulfil the needs of academic activities.







**FIGURE:RANGAMATI SCIENCE AND TECHNOLOGY UNIVERSITY, RANGAMATI-4500**

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## 2.0 OBJECTIVE OF THE SERVICES

The objectives of the services are, but not limited to;

- a) Prepare a visionary and aesthetic master plan design of existing 63.725 acres of land (exact land area may vary) showing present and future integrated infrastructure requirements;
- b) Serve support to the university's vision, mission academic strategy and environmentally sustainable concepts;
- c) Provide flexibility in responding to changing campus needs;
- d) Provide details for implementation of master plan including layout plan of utilities and road network as well as detailed design of necessary infrastructures.

## 3.0 KEY ISSUES

- a) The proposed master plan needs to be prepared considering substantial time span in line with provisions of academic plan of the university. This service is to affirm and enhance the framework of the existing campus and assess the configuration, program and quality of campus precincts. In doing so, this service seeks to identify, emphasize and strengthen the attributes that make university campus unique from other institutions and which communicate a consistent unifying vocabulary surrounding environments and landscapes. The selected consultant team shall respond to the requirements of the university and provide implementation strategies or solutions which establish a comprehensive master plan, elaborate on campus design standards, and recommend a process by which the master plan and design guidelines can be enforced.
- b) In the context of an analysis of future enrolment, the service will continue to identify the infrastructures that will be required to accommodate anticipated growth. The academic activities of RMSTU from 2014-15 sessions began in November, 2015. At present there are 6 batches of students enrolled in five departments with 582 students in total. The projected academic plan of the university will help ascertain present and future infrastructures.
- c) The master plan will continue to examine the location and massing of new buildings, their relationships to each other and to existing campus facilities. The plan will emphasize pedestrian access and cross campus circulation road networks and confirm minimum parking needs, vehicular routes and utility or infrastructure requirements associated with anticipated new development plans.
- d) The architectural design is required to be framed as per Bhutan's architectural sculpt and buildings to be constructed would remain confined to **three stories structures only**.

## 4.0 COORDINATION OF THE SERVICES

A Campus Planning Review Committee (CPRC) that represents a cross section of people of the university has been established to ensure coordination with the consulting firm. The committee is assigned with the duties of guiding the work related of master plan process and to monitor the progress the work. In addition, this committee will:

- a) Assist the consultant team in identifying landscape of acquired land;
- b) Review the plan progress and deliverables;
- c) Provide the consulting team with required counsel and guidance;
- d) Report the competent authority about the progress;
- e) Ensure that the work plan meets the specific needs, issues and so on.

Implementation process will require consultation and review of CPRC of the university. The committee will provide recommendations to the university authority at key stages for approval.



## 5.0 THE ASSIGNMENT INCLUDES BUT NOT LIMITED TO:

- Carry out necessary site analysis, topographic survey, sub-soil and hydrological investigation followed by an inception report.
- Feasibility study, master plan report integrating existing campus and proposed extension design of total campus area showing present and future infrastructure requirements.
- Design plan including architectural, structural, electrical and utility services design of all infrastructures.
- Preparation of BOQ and cost estimation of all works like proposed buildings, internal road, boundary wall, approach road, connecting bridges, site development and so on.
- Preparation of conceptual 3D rendering whole target area showing overview of all infrastructures to be built and provide a 3D diorama model of the whole master plan.

It is worth mentioning that a digital survey of land was conducted through the Public Works department to help formulate the master plan of the university properly.

## 6.0 MASTER PLAN PREPARATION PROCESS

### a) Setting up vision

At the onset of preparing the concept master plan, the consultant team will visualize an idea to accommodate the vision and mission of the university. As the plan will serve as the framework of the university's future strategy for long range development, it must respond to academic and research program, students and faculty needs and harmonization with environmental health. It will encourage innovation and leadership among students. To set up the vision for the master plan of RMSTU, the consultant will analyze in detail the history and background of development of the university.

### b) Preliminary Concept Master Plan

At this stage the consultant team will prepare the preliminary concept master plan and translate the vision into an outline. The Plan will focus on the primary survey of the target area, academic plan of the university and consultation with CPRC. At the same time the plan will consider the existing structures, their location and impending uses.

## 7.0 SCOPE OF SERVICES

The services to be provided by the consultant is as follows:

- a) Preparation of integrated master plan of Rangamati Science and Technology University at Rangamati Sadar for academic building, administrative building, integrated road network, connectivity layout, drainage system, sewerage system, water line etc.
- b) The master plan will include the provision showing present and future infrastructures requirements, landscaping with 3D perspective of all features like buildings, boundary walls, development of existing lakes with walkways, RCC culverts, bridges, use of renewable energy like solar panel and so on.
- c) As per provision of approved DPP there are few infrastructures which need to be implemented on priority basis. These include **one Academic building, one Administrative building, one student hall (male), one student hall (female) with boundary wall** with other ancillary





works. So, design, detailed estimate and cost estimates with BOQ of these infrastructures have to be prepared immediately with the purpose of beginning implementation process. In addition, there are also few establishments as mentioned in DPP like setting up of sub-station, pump-house, internal road, afforestation etc. to be implemented in project period.

- d) In order to use land effectively, a land use development plan need to be outlined. The target area or total land should be divided into a number of **zones like administrative, residential, academic, mixed use zones etc.** to facilitate land use property as planned wise.
- e) The consultant team shall submit a number of deliverables within fifteen days after the commencement of service till the end of service. The deliverables will include inception report, EIA report, SIA report, preliminary master plan report, draft final report, final report etc.

In Brief: The consultant's scope of services shall include, but not limited to as follows:

**Study phase:**

- Preparation of inception report.
- Topographic survey followed by survey report.
- Geotechnical investigation report.
- Feasibility study report.
- EIA & SIA report.
- Masterplan report.

**Design phase:**

- Zone distribution of different facilities (academic zone, administrative zone, residential zone etc.).
- Detailed architectural, structural and electrical design of all the infrastructures and utility services of different facilities as mentioned in the approved master plan.
- Design of site development scheme.
- Design of drainage system, liquid and solid waste management system.
- Land-use plan.
- Road network and connectivity.
- Prepare cost estimation, technical specifications with BOQ.

**8.0 DURATION OF CONSULTANCY SERVICES IS EXPECTED TO BE**

PHASE		DURATION
i)	Study phase	4(four) months
ii)	Design phase	8(eight) months



## **9.0 SPECIFIC SCOPE OF SERVICES**

### **Phase I: Study phase**

#### **9.1 Site analysis**

The consultant team will visit the site and carry out preliminary site analysis to determine the best possible location for the construction of the infrastructures considering topography, soil characteristics and location of site. The possible need of site development must be taken into consideration by the consultant.

#### **9.2 Topographic survey**

The consultant team will carry out topographic survey including contour survey of the site showing existing structures, site services, vegetation and other topographic details. The consultant shall identify the limitations of the sites and shall recommend suitable and economic solutions.

#### **9.3 Sub-soil investigation**

The consultant team shall conduct sub-soil investigation to determine the bearing capacity and settlement characteristics of the surface and sub-surface strata of the soil in order to select the most suitable type of foundation and cost-effective safe foundation design for the buildings and other infrastructures.

#### **9.4 Feasibility study report**

Analysis and design feasibility for integrated utility services and layout like electrical, fiber optic, telephone/ intercom, water supply, drainage connectivity, land connectivity, and road network.

#### **9.5 EIA and SIA report**

In order to understand the environmental and social implication of the RANGAMATI SCIENCE AND TECHNOLOGY ESTABLISHMENT PROJECT, Environmental Impact Assessment and Social Impact Assessment will be done for the project area.

#### **9.6 Master plan report**

The master plan report will include the following

- Analysis of existing physical conditions.
- Summary of topographic survey, geotechnical investigation report.
- Architectural design principles, design and planning concept.
- Formation of space programs for further development and placement of major infrastructures.
- Land use planning concept.
- Access and connectivity.
- Summary on structural systems and design criteria.
- Summary of mechanical, electrical, plumbing, drainage, waste management system etc.
- Methodology of estimation and summary of cost.

### **PHASE II Design phase**

#### **9.7 Preliminary design**

On completion of site analysis, topographic survey and sub-soil investigation the consultant shall preliminary design on the basis of requirements of the CPRC and on the basis of survey and investigation results of site, the consultant shall prepare necessary architectural design in sufficient details to reflect the client's requirements and submit preliminary architectural design of the master plan for approval of CPRC. This submission shall show all essential dimensions and include:

- Prepare, review and update the master plan considering all requisite facilities.
- Land use plan including all proposed components of the site.
- Site plan showing the proposed location of buildings, internal roads, service lines, drainage lines, sewerage disposal/ treatment system, water supply system, power supply system, waste management system, transport facilities etc.
- Schematic design of infrastructures proposed.
- Incorporate sufficient flexibility in the architectural plan so that the project may be split into a number of phases for its total completion.
- Any other information/ proposal considered appropriate by the consultant.

## **9.8 Design development**

The consultant shall prepare final drawings of the buildings, sub-station, boundary wall, retaining wall, internal roads, bridges and culverts, electrical installations, waste disposal and treatment system, water supply system etc. from the approved preliminary architectural drawings. Proposal submitted at this stage shall include but not limited to:

### **9.8.1 Architectural design and working drawings**

- Site plan
- Lay out plan showing all dimensions
- Elevation, section and detail drawings of infrastructures
- Walkway pavement details
- Drainage system
- Electric and solar power distribution system
- Water supply, liquid and solid waste management system
- Transportation system
- 3D model
- 3D animation and view

### **9.8.2 Structural design and working drawings**

Information to be provided in structural drawings submitted by the consultants:

- To use appropriate loading in the model following latest BNBC.
- To carry out the foundation designs based on the sub-soil investigation report.
- Final plans, elevations, sections etc. of the building.
- Detailed drawings of doors, windows, grills, railings, stairs etc.
- Detailed structural drawings of foundation, e.g. piles, rafts, pile caps, footings, grade beams, tie beams etc.
- Detailed structural drawings of superstructures member such as columns, beams, slabs, stairs, shear walls, sunshade, drop walls etc.
- Detailed design drawings and specification for fire detection and protection system for the buildings.

In addition to general structural viz. infrastructure and sectional drawings with its necessary details, the following information should be submitted in written form

- Bearing capacity of soil.
- Ultimate strength of reinforcement
- 28 days concrete strength  $f_y = ?$
- Clear over, hooks, lapping details.

### **9.8.3 Water supply system, water treatment system, Drainage system, waste management system, rain water harvesting system and working drawings**

- Deep tube well, pump house and water supply system design and drawings.
- Internal and external drainage system design and drawings

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- Drainage lay out plan showing underground pipelines invert level, sectional dimensions etc.
- Waste disposal/ treatment system design and drawings (solid waste, liquid waste, medical waste)
- Details of surface drain.
- Position and details of outfall.
- Layout and details of inspection pit, soak-pit/ soak-well and septic tank.
- Rain water harvesting system design and drawings.

#### **9.8.4 Electrical design and working drawings**

- Detailed drawings of building electrification (internal and external).
- Site plan/ lay out plan showing HT/ LT distribution line(underground/pole).
- Cable route with size.
- Detailed design drawings and specification for area lighting and security lighting.
- Sub-station equipment layout plan and detail with lightening arrestor.
- Solar power system design and drawings.
- Service connection.
- Stand by generator.
- Earthing details.

#### **9.8.5 Transport facilities and working drawings**

- Detailed structural drawings of roads, bridges, culverts and dockyards.
- Campus accessibility, campus gate design and drawings.
- Campus accessibility for physically disabled people.
- Internal road circulation vehicular network design and drawings.
- Internal Pedestrian network and cycle lane.
- Parking facilities design and drawings.

#### **9.8.6 Prepare cost estimates and specification**

This will include

- a) Quantities of various items including the structural (foundation and superstructure), sanitary and plumbing, electrical as well as mechanical and other relevant items to be included in the bill of quantities.
- b) To prepare the engineering estimates for the contract documents for the construction of the infrastructures based on the current schedule of PWD.
- c) To carry out the rate analysis for the items which are based on the market rates not available in PWD schedule of rates.
- d) To prepare appropriate specifications for all the items/elements necessary for the entire construction.

### **10.0 TEAM COMPOSITION AND REQUIRED QUALIFICATION FOR THE EXPERTS**

The consultant will propose a comprehensive team composition with task assignments for each key staff along with sufficient support staff to meet the objectives and scope of the services. Whenever the intending consulting firms feel that necessary skills and expertise are not fully available with them, they are encouraged to make association with other consulting firms either in the form of joint venture or sub-consultant. The number of consulting firms in the consortium shall not be more than three including the lead firm.

Indicative list of the positions of key professionals who will be evaluated during the technical evaluation process is given below (note that the list does not include support staffs for field work and other activities such as field survey, data collection, documentation etc.).

Non-key professionals along with the support staffs will not be evaluated individually. However, they will be considered collectively along with the key-professionals.




The minimum required Qualification and area of expertise of key professionals staff are as follows:

Key Professionals					
S/L NO.	Position	Consultant Number	Man month (study phase)	Man month (design phase)	Qualification, area of experts and task assigned
01	Team Leader	01	3	5	The team leader should have a Master's degree in Architecture/Civil Engineering/Urban Design and 20 years of general experience including planning and design of large area development project, management, and improvements of infrastructure related to Master Plan & Basic Infrastructure facilities. He/she should have 15 years of specific experience in a relevant position as a team leader or deputy team leader for Master plan with relevant infrastructure development projects and also have experience in design and implementation of buildings in hilly region. The team leader shall also have good knowledge of project management systems, and experience of managing a large-scale development project. He/she is preferred to have good communication skills, be familiar with participatory approaches to project design. The team leader will also be responsible for preparing inception, midterm, and draft final and final reports. Previous experience in University master planning will be preferred.
02	Chief design architect	01	0	6	The Chief Design Architect is preferred to have a Bachelor's degree in architecture and 15 years of general experience in designing buildings, including 10 years of specific experiences in planning and designing building facilities. Chief design architect shall also have good knowledge of project management systems, and experience of managing a large-scale development project. Major responsibilities include conceptualization of the layout plan of facilities, architectural plans, and design of all building works and infrastructures.
03	Deputy team leader	01	3	5	The Deputy team leader is preferred to have a Master's degree in Architecture/Civil Engineering and 10 years of general experience in the relevant field and 6 years of specific experience related to preparation of planning and design (provision for utilities and logistic facilities), management, and improvements of University Master Plan & Basic Infrastructure facilities; prepare graphic representations of proposed plans using computer-aided design and drafting software, analyze reports on land conditions, such as students gathering spots, drainage systems and energy usage etc. Inspect design and implementation work to ensure that it adheres to original plans if any and all other works necessary for proper consultancy to the proposed project.



S/L NO.	Position	Consultant Number	Man month (study phase)	Man month (design phase)	Qualification, area of experts and task assigned
04	Architect	01	2	3	The expert is preferred to have a Bachelor's degree in Architecture and 10 years of general experience in the relevant field and 5 years of specific experience in design of architectural projects. The expert will work with the team leader and other relevant experts and prepare the architectural design of the facilities. Major tasks include preparation of the layout plan of the facilities, architectural plans, and design of all building works and infrastructures to be constructed.
05	Senior Structural design Engineer	01	0	4	The Engineer is preferred to have a Bachelor's degree in Civil Engineering with at least 15 years of general experience in the relevant field and 10 years of specific experience in structural design, management, and improvements of urban infrastructure related to large area development and building facilities. Senior Structural Design Engineer will review Architectural design and suggest structural feasibility. Formulate criteria prepare design method and design analysis of various structures of the project.
06	Senior structural engineer (bridge expert)	01	0	3	The Engineer is preferred to have a Bachelor's degree in Civil Engineering with at least 15 years of general experience in the relevant field and 10 years of specific experience in structural design, management, and improvements of roads, bridges, culverts etc. and other building facilities. Senior Structural Design Engineer (Bridge Expert) will review Architectural design and suggest structural feasibility, formulate criteria, prepare design method and design analysis of designated structures of the project.
07	Geo Technical/ Foundation Engineer	01	1.5	2	The Engineer is preferred to have a Bachelor's degree in Civil Engineering, expert in Geotechnical / Soil Engineering and 15 years of general experience including soil analysis, foundation design and management. The Engineer is preferred to have at least 10 years of specific experience in designing of Foundation as Geotechnical Engineer or Foundation Engineer. The engineer will be responsible to (i) Analysis of Sub-Soil Investigation Report, ii) Providing Earth Cutting & Slope protection Methodology iii) Foundation Design, iv) coordinate and guide all activities in connection with the structural design of the project; (v) formulate criteria to prepare design method and design analysis of various structures of the project; (vi) maintain liaison with project Architect and other Architects and concern for coordinated effort in arriving at economical & sustainable design solution.

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S/L No.	Position	Consultant Number	Man month (study phase)	Man month (design phase)	Qualification, area of experts and task assigned
08	Senior electrical engineer	01	0	3	The Engineer is preferred to have a Bachelor's degree in Electrical Engineering or similar discipline and 15 years of general experience in area development and the design of electro-mechanical devices, of which preferably 10 years of specific experience in electrical design for Infrastructures & buildings. He/she will be responsible for sub-station & solar power design & Cable layout. Service Drops, Underground/pole Cable routes, etc. Design and prepare drawings of External & Internal electrical network distribution system for the project including service line from BPDB supply; Guide to carry out all types of electrical survey works at site. Any and all other works necessary for proper consultancy. He/she will closely work with the team leader and others Expert.
09	Sanitary and plumbing design engineer	01	0	3	The expert is preferred to have minimum of Bachelor's Degree in Civil Engineering / Water Resources Engineering / Environment & Disaster Management. He / She should have at least 15 years of general experience in the relevant field and 10 years of specific experience in plumbing design, water supply source selection, treatment plant and network design, water quality assessment and preventive maintenance, operation and maintenance plan, and cost estimates of water supply system. He/she will be responsible for site analysis, identification of feasible water source, water supply network and treatment plant design. He/she will closely work with the team leader and others Expert.
10	Environmental Specialist	01	2	0	The expert is preferred to have 15 years of general experience in relevant field and 10 years of specific experience in environmental management or impact assessment, and a graduation degree in environmental engineering or related fields, with previous experience. He/she will undertake (i) preparation of a diagnostic assessment of applicable and relevant laws, regulations, rules and procedures for managing and mitigating the urban development; (focusing on GOB's Safeguard Policy Statement, policy principles that are likely to apply to the project; (ii) determine the potential environmental impact of the proposed design and assess risk, hazard associated with project activities; iii) identification of measures for monitoring and environmental safeguard systems performance; and (iv) preparation of environmental assessment and environmental management plan report of the project.



S/L No	Position	Consultant Number	Man month (study phase)	Man month (design phase)	Qualification, area of experts and task assigned
11	Sociologist	01	1.5	0	The expert is preferred to have 15 years of general experience in relevant field and 10 years of specific experience in social safeguard and a graduation degree in social science or related fields. He/she will be responsible for (i) explain the socio-economic dynamics and assess potential social impacts associated with project activities (ii) conduct public consultation meetings, FGD etc. and prepare necessary document on social aspects of the project (iii) preparation of social assessment and social management plan of the project.
12	Senior Urban planner	01	2	2	The expert is preferred to have a Master's degree in Urban and Regional Planning, or similar discipline and 15 years of general experience in relevant field and 10 years of specific experience in Urban Planning, master planning, university development and design. He/she is also preferred to have working experiences in hilly region with proven proactive university planning capability. He/she will lead all aspects in the design of the master plan, so, having broad understandings of university planning, design, land-use planning, transport & environment, social & institutional aspects will be an advantage. He/she is preferred to have good communication skills, familiar with participatory approaches to project design.
<b>Non-key Professionals</b>					
01	GIS Expert	01	2	2	The expert is preferred to have a Bachelor Degree in Urban and Regional Planning/ Geography/ Geo-informatics/ Computer Science, or similar discipline with 8 years of general experience in relevant field and 5 years of specific experience in urban planning, master planning, campus design, and infrastructure design as a GIS expert. Advance Knowledge in mapping with GIS, Remote Sensing and Geo- database modeling and experience in planning and implementation of field mapping logistics as well as advance knowledge in the use of ArcGIS 10, RTK GPS for gathering field data.
02	Junior architect	01	3	6	The Jr. Architect will have a Bachelor's degree in architecture and 5 years of general experience in designing buildings and other infrastructure, including 03 years of specific experiences in planning and designing building facilities. He/she will work with the team leader, Senior Architect, and other relevant experts and prepare the architectural design of the infrastructures. Major tasks include preparation of the layout plan of the infrastructure, architectural plans, section, elevation and design of all building works and infrastructures to be constructed.

S/L No.	Position	Consultant Number	Man month (study phase)	Man month (design phase)	Qualification, area of experts and task assigned
03	Junior Structural Engineer	01	0	4	The Engineer is preferred to have a Bachelor's degree in Civil Engineering with at least 7 years of general experience in structural design, management and improvements of urban infrastructure related to road, pavements, shore protection and building facilities. He /she should have 5 years of specific experience in relevant works. The Junior Structural Design Engineer shall Co-ordinate and guide all activities in connection with the structural design of the project.
04	Cost Estimator (Civil)	01	0	4	The Cost Estimators should have a Bachelor's degree in civil engineering with 10 years of general experience in relevant field and 6 years of specific experience; or, have a Diploma in civil engineering with 15 years of general experience in relevant field and 10 years of specific experience. He/she will be responsible for appropriate cost estimate about civil works in the project. She/he should be able to read, operate & calculate the AutoCAD drawings and able to calculate the measurements in the excel sheets. He should be skilled in preparing Rate Analysis as per standard practice following the rates Govt. approved schedule of rates (PWD) & Market rates (Analyzed as applicable).
05	Cost Estimator (Electrical)	01	0	3	The Cost Estimators is preferred to have a diploma in Electrical Engineering with 15 years of general experience in relevant field and 10 years of specific experience in electrical estimation work. She/he should be able to read, operate & calculate the Auto CAD drawings and must be able to calculate the measurements in the excel sheets with proper name of destinations. He should be skilled in preparing Rate Analysis as per standard practice following the latest Govt. Approved schedule of rates & Market rates (as applicable). His/her familiarity in cost estimation with the government requirements for preparing and implementing Large Area/ Lake/ Building development would be an advantage. Electrical estimators will prepare Bill of Quantities with Technical specifications and perform related work as required.
06	Survey Expert	01	2	0	The Survey Expert should have a Diploma in Civil Engineering / Associate Degree program at a technical school and 15 years of general experience in relevant field and 10 years of specific experience in topographic survey work. She/he shall also have good knowledge of benchmark referencing, measurement checking and demarcation of large-scale development project. He/she is preferred to be able to read architectural and construction drawings etc.



S/L No.	Position	Consultant Number	Man month (study phase)	Man month (design phase)	Qualification, area of experts and task assigned
07	<b>CAD operator Architectural- 1 Structural and MEP-1</b>	02	2	6	<p>It is preferable that the CAD operators will have completed at least a two-year associate's degree program at a technical school or community college. They will have 10 years of general experience in relevant field and 6 years of specific experience in CAD drafting in relevant fields.</p> <p>CAD operators will provide the guidelines and technical details of the product especially over Structural and MEP drawings for facilities that is being built. Structural and MEP drafters will prepare drawings in accordance with architectural design. Design and draw installation diagrams. Compile and organize blocks, parts and specific details. Update equipment and building drawings and document.</p>
08	<b>Computer Operator</b>	01	2	4	<p>Computer Operator is preferred to have completed at least a bachelor's degree from any recognized University. Computer operators will have minimum 10 Years of experience on documentation work with MS word, MS Excel, MS office, MS Project etc. He/she will have familiar with computation of Bill of Quantities, any kind of letter writing etc. He/she will closely work with the team leader, Concern Engineers and others specialist.</p>

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**11.0 Deliverables:**

Sl.	Description	No. of copies	Timeline of submission
Study Phase			
01	Inception Report	3 copies	Within 15 days of signing contract agreement
02	Site Survey Report (with Topographic survey data and Geotechnical Survey data)	3 copies	Within 30 days after submission of Inception report.
03	Draft Feasibility Study report	3 copies	Within 55 Days after submission of site survey report
	Draft EIA and SIA Report	3 copies	
	Draft Master plan Report	3 copies	
04	Final Feasibility Study Report	3 copies	Within 20 Days after review of draft feasibility study
	Final EIA and SIA Report	3 copies	
	Final Master plan Report	3 copies	
Sub-total time period		120 days (4 months)	
N.B. :- within these days the consultant must have to determine the zone area and provide the architectural, structural working drawings, detailed cost estimation with BoQ of the four buildings as mentioned before, sub-station and pump house etc. as per RDPP.			
Approval of the Authority			
Design Phase			
05	Draft Development plan	3 copies	Within 15 Days after completion of Study Phase
06	Master plan Design, incorporating review of the Project Authority	3 copies	Within 15 Days after submission of draft development plan
Approval of the Authority			
07	Geotechnical investigation reports	3 copies	30 days after approval of project authority
08	Site development design, drawing, and cost estimation	3 copies	
09	Comprehensive Drawings of Common Infrastructures	3 copies	
10	Preliminary Architectural design and drawing of different facilities	3 copies	50 days after submission of site development design
11	Design development with engineering drawings of different facilities	3 copies	50 days after submission of preliminary architectural drawing
12	Preliminary Cost Estimation of different facilities	3 copies	
13	Structural Drawings of different facilities	3 copies	50 days after submission of design development and preliminary cost estimation
14	MEP Drawing of different facilities	3 copies	
15	Final Cost Estimation and Bill of Quantities of different facilities.	3 copies	30 days after submission of structural and MEP drawings
The consultant must have to provide all the soft copies (.dwg file, excel file, pdf file etc.)and blue print copies of architectural and structural design drawings, cost estimation, BOQ and all other deliveries along with hard copies.			
Sub-total time period		240 days (8 months)	






## 12.0 PAYMENT SCHEDULE

<b>Study Phase</b>			
<b>Payment Schedule</b>	<b>Deliverable</b>	<b>Time</b>	<b>Payment%</b>
1 <sup>st</sup> Payment	Inception Report	After approval	10% of study phase amount
2 <sup>nd</sup> Payment	Site survey report	After approval	30 % of study phase amount
3 <sup>rd</sup> payment	Draft Feasibility study Draft EIA & SIA Report Draft Master plan Report	After approval	35 % of study phase amount
4 <sup>th</sup> Payment	Final Feasibility Study Final EIA & SIA Report Final Master plan Report	After approval	25 % of study phase amount
<b>Sub-total=</b>			<b>100% of Study Phase amount</b>
<b>Design Phase</b>			
5 <sup>th</sup> Payment	Draft Development Plan	After approval	20% of design phase amount
6 <sup>th</sup> Payment	Master plan Design	After approval	15% of design phase amount
7 <sup>th</sup> Payment	Geotechnical investigation reports, Site development design, Preliminary Architectural Design	After approval	35% of design phase amount
8 <sup>th</sup> payment	Preliminary Cost Estimation, Structural Drawings, MEP Drawings	After approval	20% of design phase amount
9 <sup>th</sup> payment	Final Cost Estimation, bill of quantity	After approval	10% of design phase amount
<b>Sub- total=</b>			<b>100% of Design Phase amount</b>

**NOTE: Reimbursable payments of each phase will be made on submission of invoices.**

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