

[Section 5]

TERMS OF REFERENCE (TOR) FOR

**Design and Construction Supervision Consulting Services for
the Ex-Post Management Project of Enhancing the Vocational
Training Program of TTC, Chittagong.**

(Bidding No.: KOICA- Bangladesh -2026-03)

09, 2026

KOICA Bangladesh Office

TERMS OF REFERENCE

ARTICLE 1 DEFINITIONS

- 1.1 **Addendum.** A supplement to the bidding documents.
- 1.2 **Variation (Change) Order.** A variation order is a written change in the contract term, other than as specifically provided for in that contract, which authorize an addition, deletion or revision in the work or necessitates any increase or decrease in the cost of contract or the time of completion.
- 1.3 **Contractor.** The contractor is any individual, firm, partnership, corporation, joint venture or other entity who has entered into contract with the Employer.
- 1.4 **Bidding Documents.** The bidding documents are the documents prepared or to be prepared by the Consultant which are necessary to bidding the Works.
- 1.5 **Construction Contract Documents.** The construction contract documents are the documents which comprise the construction works agreement signed by the Employer and the contractor.
- 1.6 **Construction Manager (CM).** The Construction Manager means an entity which shall manage the Project through all stages as a representative of the Employer (KOICA).

ARTICLE 2 OBJECTIVES:

The objectives of this local consultant services and the delegation of the CM to the local consultants are:

- 2.1 To ensure that the works are carried out in a timely manner and that the funds are disbursed as planned with no delay.
- 2.2 To prepare detailed design and bidding documents and provide the full supervision and consulting services during commencement of this project;
- 2.3 To assist the Employer in the evaluation of biddings received and the selection of contractors to execute the works;
- 2.4 To ensure that the project is implemented in accordance with the conditions of the Agreement.
- 2.5 To ensure that the cost of construction contract is controlled without exceeding the allocated budget.
- 2.6 To assist the CM in establishing a general maintenance program for the project and provide the data bank to the Employer with necessary details and data about the buildings to facilitate future maintenance works;
- 2.7 To provide the CM with frequent technical and financial reports (daily, weekly, final, etc.) regarding the progress of the works and the conditions of site, investigate the obstacles and recommend practical remedies.
- 2.8 To strengthen the contractual and legal relations among the CM, the Consultant and the Contractors;
- 2.9 To strengthen the principal of the shared and cross legal and contractual obligations and responsibilities between the Consultant and the Contractors for the works executed.

- 2.10 To ensure that the coordination among and with other parties involved is carried out according to the TOR and the contract conditions of each individual party for the benefit of the project.

ARTICLE 3 EMPLOYER'S RIGHTS AND RESPONSIBILITIES

- 3.1 **Contact Person.** The CM shall be assigned as a contact person who will be the Employer's representative in the administration of the contract. If so, the Consultant shall report to the CM.
- 3.2 **Employer Review.** The Employer shall have the right to review and approve the Consultant submittal of the respective phases of design and consulting services for conformance with the provision of the contract and to require a written response to all questions raised regarding such services, while CM shall provide his technical advice for the related Employer's review and approval.
- 3.3 **Interpretation.** The Employer shall have the authority to determine questions of fact that arise in relation to the interpretation of the Consultant performance hereunder.
- 3.4 **Data, Services and Facilities Provided by the Employer.** The Employer may upon its convenience, make the following documents and services available to the Consultant (the provision of these services is not mandatory):
- A. Study reports, including appendix and any other available relevant information, which are necessary for the proper and timely execution of the detailed design and supervision of the construction works.
 - B. Assist the Consultant in obtaining formal consent from outside authorities or persons having rights or power in connection with the works or the site thereof.
 - C. Assist in obtaining ministerial orders, sanctions, licenses and permits in connections with the works.
 - D. Furnish data, documentation available and may give assistance as shall reasonably be required by the Consultant in discharging his duties.

ARTICLE 4 CONSULTANT RESPONSIBILITIES

- 4.1 **Project Manager:** The Consultant shall designate a project manager to whom the Employer will address all questions and concerns about the Consultant contract and the Consultant performance of its duties.
- 4.2 **Consultant Personnel:** The Consultant shall appoint qualified technical and administrative personnel who have the capability to design, manage and supervise the implementation of the project according to the conditions of the Agreement. The Consultant shall provide the Employer for his approval through the CM, with a detailed list of the personnel and their C.Vs and authorities.
- 4.3 **Laws and Regulations.** If required in the Construction Contract Documents all applicable laws and the rules and regulations of all authorities having jurisdiction over the design of the project shall apply to the Consultant contract throughout, and they will be deemed to be included in the Agreement the same as though written therein in full.

- 4.4 **Project Codes, Standards and Regulations.** If required in the Construction Contract Documents, the Consultant shall prepare the bidding documents in accordance with all applicable codes, standards, and regulations.
- 4.5 **Construction Supervision.** The Consultant shall manage and supervise the construction works in accordance with the Agreement and the construction contract.
- 4.6 **Legal Responsibilities.** Notwithstanding any provision herein, the Consultant shall perform all of its services in conformity with the standards of reasonable care and skill of the profession. The Consultant shall be responsible for the performance of persons retained by the Consultant and states that its consultants, sub-consultants agents and employees shall possess the experience, knowledge and character to properly perform their duties.
- 4.7 **Contractor Performance Evaluation.** The Consultant will, at the completion of the construction, participate in the evaluation of the contractor's performance. The Consultant may also prepare interim evaluations as necessary and upon the request of the Employer.

ARTICLE 5 DESCRIPTION OF WORK :

- 5.1 The assignment consists of the services for the design and construction supervision of the project.
- 5.2 Project Summary

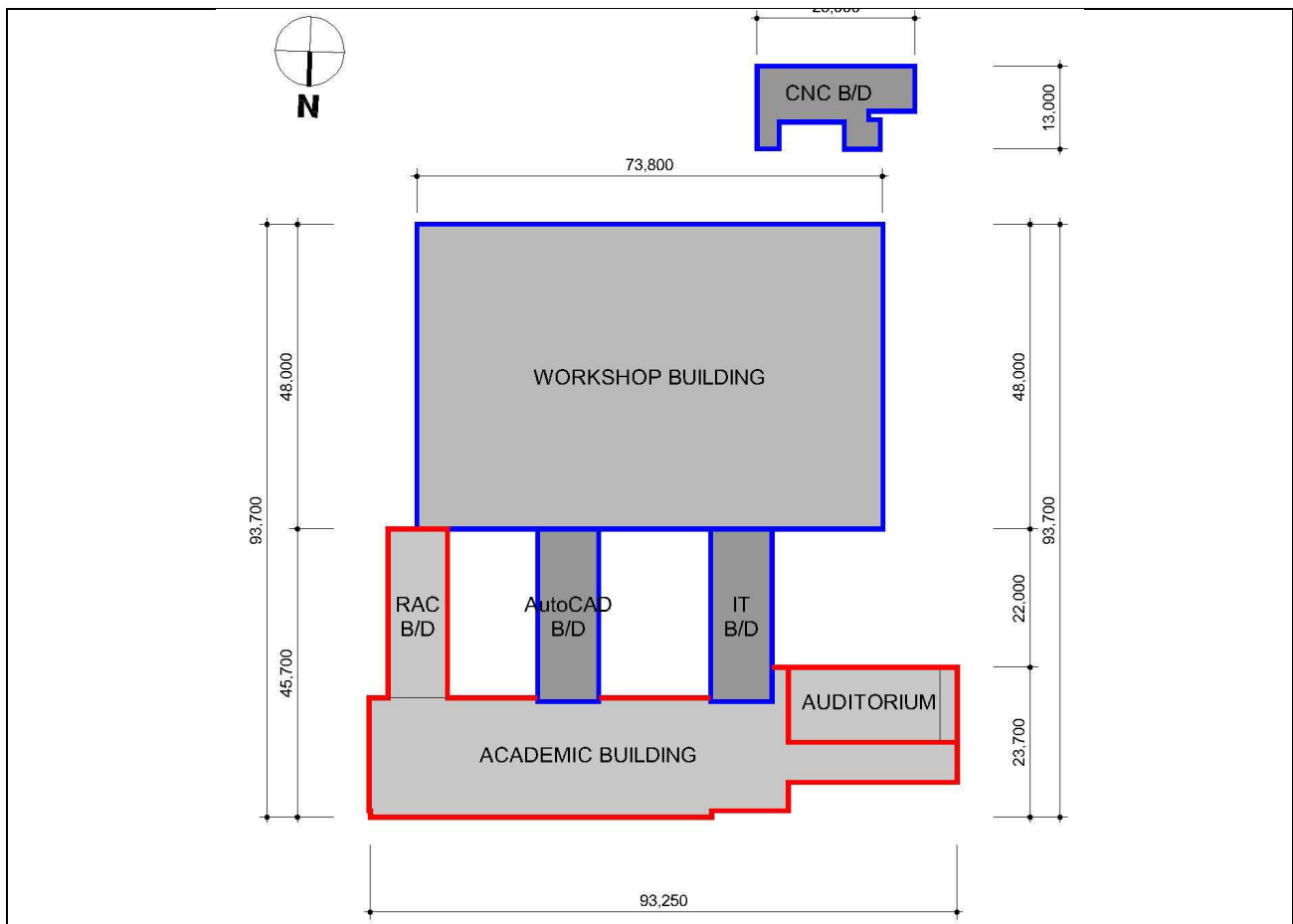
. Site location	Polytechnic Road, Nasirabad, Chattogram, Bangladesh
. Scope of Service	1. Design and supervision services for the reconstruction of the existing Academic Building (excluding the RAC building and Auditorium) at BK TTC (Soil Investigation, Design for SD/DD/CD, Construction Bid Documents, Construction Supervision for Academic building) 2. Structural review of the demolition edge line of the existing Academic Building 3. Utilization of the existing floor plan of the Academic Building / Additional design for internal public restrooms 4. Total Gross Floor Area (2 floors) of Academic Building : Approx. 2,088m² (GF: 1,044m² / 1F: 1,044m²) ※ Please refer to the attached design reference report.

- Site plan for academic building

: The scope of service applies only to the academic building.

: On the site plan, the red line indicates the scope of demolition.

However, the RAC Building and the auditorium are excluded from the reconstruction plan; only the Academic Building will be rebuilt at the same scale.



5.3 The Design Service comprises all of the followings:

- A. Soil Investigation and Required surveys
- B. Design and Construction Document Services (SD, DD, CD)
 - Preparation of all the developed construction documents including the Drawings, Specifications (technical and general), Bill of Quantities, and Cost Estimate for the construction works including civil engineering works, structural works, Architectural, Plumbing, Sanitary, Mechanical, Electrical, HVAC, information and communication, firefighting works, soil investigation reports and other necessary interior and exterior works in accordance with the furnished design criteria.
 - The building should be designed to resist earthquake forces.
- C. Design should include(or specify in the drawing) the below:
 - All the connection works of the utility lines to the building site.
 - Landscaping and Pavement works
 - Interior finish according to the consultation with the Employer (KOICA CM, etc.)
 - The undertakings by others (e.g. Recipient country undertakings, etc.) in the design drawings and related documents according to the consultation with the Employer (KOICA CM, etc.)
- D. Preparation of design and other engineering services necessary to bring the work to the construction readiness state for the projects mentioned in the Agreement.

5.4 Construction supervision services comprises all of the followings:

- A. Construction management
 - Quality management
 - Time management
 - Safety management
 - Environmental management
- B. Assuring for construction preliminaries and submittals, and performing functions and duties as prescribed by applicable laws and regulations of the Bangladesh including local codes and standards.
- C. Assuring that the project is constructed against and according to approved and certified documents including construction drawings, specifications, shop drawings, etc., and maintaining control over such documents according to the requirements of quality management system and standards.
- D. Managing the contractor's non-conformance and corrective actions.
- E. Providing construction and progress monitoring and inspection reports for the entire construction duration as instructed by the CM.
- F. Supporting the CM with faithful performance to ensure for the contractor to deliver the best possible project on time, within the budget and with the designed quality.
- G. Monitoring and managing environmental protection activities such as water leaks, noise, dust, vibration, run-off and waste control and prevent damaging the environment around the job site. The Consultant shall be actively involved in implementing environmental control program that aims at reducing the general public's discomfort.
- H. Making necessary reports to the government regulatory offices according to law and regulation requirements.
- I. Clarifying the building permits, contract close-out activities and documents, and occupancy permits.
Any other services incidental to the above activities and required to be legally, professionally or customarily performed by the Consultant in its capacity as the construction supervision and consultant under the relevant law and regulations of Bangladesh.

ARTICLE 6 PROGRAMMING, PROGRAM ANALYSIS AND DESIGN PHASE

6.1 Design Implementation Plan:

- The selected contract party shall submit "Design Implementation Plan" at least 14 days after the signature of contract. This report should include the following items
- Design head person's resume including experiences, his scope of work and license (or certificate)
- Participated architects and engineers' (architecture, interior, civil, landscape, mechanical, electrical, communication, fire fighting, fire protection etc.) resume including experiences, his scope of work and license (or certificate)
- Design organization chart and job assignment
- Design Schedule including Drawings, Design Calculation Report, Priced BOQ, Unpriced BOQ, Specification, Perspective etc.
- Sub-consultant's participation plan

6.2 Programming. A project scope statement will be supplied by the Employer. The scope may contain background and justification for the project and the project budget.

6.3 Orientation Meeting. An orientation meeting will be scheduled by the Employer, generally within (14) calendar days of selection of the Consultant. The orientation meeting shall be attended by all personnel of the Consultant; and its sub-consultants and Employer. The purpose of this orientation meeting is to review and confirm the project scope, to discuss special project requirements and project schedule.

6.4 Reconnaissance and Program Analysis Phase

- A. Review and coordinate the data contained in the Contract Documents, consult with the CM when required and visit the project site to obtain a thorough understanding of the existing conditions of the project.
- B. The Consultant shall gather any additional data that is needed for project design and preparation of bidding documents and construction documents. The Consultant shall confirm that the projects are justifiable and feasible for implementation within the approved budget allocation.
- C. Resolve in consultation with the Employer any discrepancies in the project scope or budget prior to proceeding to schematic design.

6.5 Conceptual Design and Schematic Design Phase

- A. The Conceptual Design and Schematic Design shall be prepared with reference to Section 6 - Design Reference Report.
- B. The Consultant shall provide Schematic (conceptual) design report that include:
 - 1) Design Concept and description
 - 2) Resolving structural stability and architectural connectivity with surrounding buildings after the demolition of the existing Academic Building including for Structural review result of the demolition edge line of the existing Academic Building
 - 3) Characteristics of Site layout
 - 4) Drawings (Floor plan, Elevation, Section)
 - 5) Mechanical Concept Design Report: Mechanical System Plan, System Diagram
 - 6) Electrical Concept Design Report: Electrical Plan which are requested by the Employer
- C. The Consultant shall give a presentation of the above mentioned drawings and report to the Employer. The consultant shall modify and improve them based on the Employer's requirement.
- D. The Consultant shall not proceed beyond Schematic Design phase until getting approval of the Employer. (if necessary)

6.6 Phase Design Development (Basic Design) Phase

- A. Design Development(Basic Design) Drawings: Based on the above approved schematic design drawings and report, The Consultant shall provide the design development drawings for the Employer's approval.
- B. Design Development(Basic Design) Report: The Consultant shall provide design development report that include bellows;
 - 1) Revised Design Schedule
 - 2) Design description
 - 3) Local Building Code Analysis
 - 4) Drawings (architectural drawings, structural drawings, equipment drawings, electrical drawings, mechanical drawings, interior drawings, and landscape drawings, etc.)
 - 5) Preliminary Calculation Report if it is necessary for mechanical and electrical load
 - 6) Preliminary priced Bill of Quantity: The Consultant shall provide Preliminary priced BOQ for the Construction
 - 7) Technical Specifications

- 8) Government Permits Drawings and documents and Permits performance: The Consultant shall obtain government permits for the Construction (if any)
- C. The Consultant shall not proceed beyond Design Development design phase until provided with an approval of the Employer.
- D. Consultant shall give a presentation of the above-mentioned drawings and report to the Employer. The consultant shall modify and improve them based on the Employer's requirement.

6.7 Construction Documents (CD) Phase

- A. After making all corrections and before the reproduction of all copies of the final Construction Documents to the Employer, the Consultant shall prepare and submit the corrected final detailed drawings, Bill of Quantities and other Construction documents in **only one copy for quick check**, after which the consultant will get the written approval and submit the number of copies specified below **for the project**:
 - 1) Five (5) copies of Drawings.
 - 2) Five (5) copies of Specification
 - The Consultant shall prepare General Specification and Particular specification for the construction of project.
 - 3) Two (2) copies of the priced bills of quantities.
 - The Consultant shall provide Priced Bill of Quantity. All items should be breakdown and fill in unit rate and cost column.
 - 4) Unpriced Bill of Quantity for construction bidding
 - The Consultant shall provide Unpriced Bill of Quantity. All items should be breakdown and Unit rate and cost column should be blank for bidding
 - 5) Two (2) copies of the quantities calculations on Excel sheet for every item of work, please note that the measurement sheet must be very accurate according to the drawings and to the method of measurement.
 - 6) Calculation Report for mechanical and electrical load
 - 7) One electronic copy of all Construction Documents, Drawings, Report, etc.
 - 8) Construction Documents Report: The Consultant shall provide construction document report that include comparison between DD & CD.
- B. All drawings to be submitted shall be dated, sealed and signed by the Consultant according to the following criteria (Approved by, Checked by, Designed by,). Other tender documents shall be sealed, stamped and signed by the project manager.
- C. Copies of all the Construction documents (2 of them should be folded to A4 size) **as well as one electronic copy** shall be submitted by the Consultant which will include all corrections made and signed properly and sealed with **"For Construction"**.
- D. One copy of the construction permits and related drawings shall be submitted by the Consultant dated, sealed and stamped properly by the Engineers Association and other related authorities.
- E. The Presentation to the Employer: The Consultant shall give a presentation of the above mentioned drawings and report to the Employer. The consultant shall modify and improve them based on the Employer's requirement.
- F. The Consultant shall not proceed beyond Construction Documents Phase until provided with an approval of the Employer.

- G. The type and number of documents submitted can be adjusted through consultation with KOICA CM.

6.8 Requirements For Preparing Drawings

A. Key Drawings

1. Design General Note such as drawing legend and abbreviation
2. Project and Building Information
3. Building Perspective
4. Floor Area Calculation

※ All required drawings can be adjusted through discussion and consultation with KOICA CM.

B. Architectural Drawings (A)

1. Site Layout (Site Development Plan)
 - a) Topographic site layout (existing)
 - b) Proposed and existing buildings
 - c) Access roads.
 - d) Parking, entrances, etc.
 - e) Topography – show all new topography, contours, grades and levels.
 - f) Planting, Gardens & Green area.
 - g) Boundary walls and limits of the contract.
 - h) Profiles and cross sections for sidewalks and curbs and details of expansion joints.
 - i) Show Full Dimensions.
2. Architectural Plans Set (for Proposed building and works)
 - a) Floor plans
 - b) Roof Deck plan
 - c) Elevations
 - d) Doors Schedule
 - e) Windows Schedule.
 - f) Staircase Details and full sections
 - g) Full sections
 - h) Detailed plan and interior elevations of toilets
3. Furniture plans and details of fixed furniture (if necessary)
4. Proposed color scheme of the project.
5. Architectural Details:
 - a) Flooring Details
 - b) Roof Details and Parapet Details
 - c) Enlarged Floor Plan
 - d) Enlarged Elevation Plan
 - e) Enlarged Section Plan
 - f) Enlarged Ceiling Plan and Ceiling Details
 - g) Toilet Plan, Toilet Elevation Plan and Detail Drawings such as Partition, Urinal, Accessories
 - h) Stair Plan and Stair Section Plan
 - i) Ramp Plan and Ramp Section Plan
 - j) Water Proofing Key Plan and Water Proofing Details

- k) Door and Window Key Plan, Door and Window Schedule, Door and Window Details
 - l) Hardware Schedule and Hardware Details
 - m) Doors, Windows, protection rails, hand rails .etc
 - n) Control Joint Details
 - o) Expansion joints Details
 - p) Miscellaneous details as necessary to effectively communicate the design. (to be included in the book of details).
- 6. Exterior and Interior Finishing Schedule & Exterior and Interior Finishing Works Details
- 7. Exterior Works Plans and Details.
- 8. All architectural details shall be included in the Book of Details.

C. Structural Drawings (S)

- 1. Structural general notes which shall also include governing structural code, design loads, net allowable soil bearing capacity, strength of all structural materials and general details
- 2. Plans of foundations and columns and their sections and details.(show overall dimensions, center lines, location of members and offsets and show all columns on grids.)
- 3. Plans and Enlarged Plans of slabs, stairs, beams, frames and expansion joints and their sections and details.
- 4. Schedule (as required) footings, columns, beams girders, slabs, lintels and reinforcement.
- 5. Plans for the structural details of the exterior works (retaining walls with grouped sections, boundary walls, reservoirs, tanks, etc). Retaining walls shall be drawn on the site plan showing the height and length of each section. (if necessary)
- 6. All structural details shall be included in the Book of Details.

D. Mechanical Drawings (M)

- 1. General notes and Legends
- 2. Floor Plan - Plumbing with Riser Diagram (water lines 1/50)
- 3. Floor Plan Plumbing - Waste with Riser Diagram
- 4. Roof Drain Plan
- 5. Exterior Works' Drain Plans. Also showing invert elevation of all sewers, manholes and catch basins, frame and grade elevation of manholes and catch basins.
- 6. Sanitary Details
 - a) W.C installation Details and septic tank design
 - b) Floor drain installation Details
 - c) Clean out Details
 - d) Laboratories and other special room's details. (If any)
- 7. Details of the gas supply system(if required).
- 8. Drinking fountain and details
- 9. All mechanical details shall be included in the Book of Details.

E. Electrical Drawings (E)

1. General notes & legend at all plans
2. Electrical site plan
3. Floor plan lighting layout with dimensions.
4. Floor plan power layout with dimensions.
5. Main and sub-main distribution boards with single line diagram.
6. Lighting fixture schedule.
7. Wiring devices schedule.
8. Earthing system with details.
9. Public address system (sound and calling system) layout with distribution diagram.
10. Elevator (if required)
11. All electrical details shall be included in the Book of Details.

ARTICLE 7 Employer's REVIEW OF DESIGN

7.1 General

The Employer will schedule design review submittals and/or review meetings required by the Manual. These reviews provide Employer the opportunity to review contract documents and design concepts and make recommendations. The review of these documents by the Employer does not constitute a complete and exhaustive review. Employer reviews the documents for general compliance with the program objectives, design standards and contract requirements. Employer's acceptance of these documents does not relieve the Consultant of any of its legal and technical responsibilities.

7.2 Review Process

- A. The Consultant shall submit documents for review as required hereinafter.
- B. After receipt of the review documents from the Consultant, the Employer will establish a review meeting date usually within 15 calendar days after receipt of documents.
- C. The review process may include the evaluation of the documents to determine that the design provides the functions required, the compliance of the documents with the Employer's requirements and that the project is within budget.
- D. All key design staff and the Consultant shall attend the review meeting(s).
- E. Review comments prepared by the Employer will be provided to the Consultant at or prior to the review meetings. When a meeting is not required, comments will be transmitted to the Consultant by the Employer representative.
- F. The Employer will, in writing or at the review meeting, provide notice of the acceptance of the review documents or issue instructions regarding required rework. If the required corrections are minor, Employer may conditionally accept and authorize the Consultant to proceed to the next review phase.
- G. Following the reviews, the Consultant shall prepare meeting minutes indicating issues discussed/ resolved and respond to the Employer in writing to all review comments and questions within 7 calendar days.

ARTICLE 8 REPORTING REQUIREMENTS FOR THE DESIGN PHASE

8.1 In addition to all reports mentioned above and hereinafter, the Consultant shall submit the following reports and information to Employer:

- A. A weekly and monthly progress reports giving a general statement on the progress achieved, summaries of work performed by each member of the Consultant team and details of problems encountered or expected to be encountered in the execution of the work. Progress reports are to include details of engineering.
- B. A final report at the completion of the design stage is to include:
 - 1) The work performed by the Consultant.
 - 2) Recommendations regarding future similar works for the Employer.

ARTICLE 9 DELIVERY SCHEDULE FOR DESIGN WORKS:

9.1 **Design Completion Period.** The Consultant shall complete the design works and deliver all documents by the date specified in the contract and according to the following schedule

9.2 **Design Schedule:** The design schedule may be adjusted through discussion and consultation with KOICA CM.

9.3 Number of documents and drawings to be submitted: Shall be adjusted through consultation with KOICA CM.

Category	Duration	Accumulated Days	Required documents	Notes
Conclusion of a contract		0 days		
Design Concept	10 days	10 days	- Includes the results of the current status survey of the existing academic building and surrounding buildings. - Structural review result of the demolition edge line of the existing Academic Building	(Structural separation and architectural connection methods)
Client Review	5 days	15 days	- survey result Report - Related Drawings - Hard copy 1 copy - Soft copy 1 copy	KOICA, CM review
Schematic Design (SD) Submission	15 days	30 days		
Client Review	5 days	35 days	- Related Drawings - Hard copy 1 copy - Soft copy 1 copy	KOICA, CM, Partner country review
Design Development (DD) Submission	35 days	70 days	Include for Draft of Estimated Construction Cost	
Client Review	5 days	75 days	- Related Drawings & document - Estimated construction costs - Hard copy 1 copy - Soft copy 1 copy	KOICA, CM, Partner country review
Construction Document (CD) Submission	30 days	105 days		

Client Review	5 days	110 days	- Related Drawings & Documents (spec, report, etc) - Estimated construction costs - bid documents - Hard copy 2 copy - Soft copy 2 copy	
CD Final & bid document Submission	10 days	120 days	- All drawings & documents - Hard copy 5 copy - Soft copy 5 copy	

ARTICLE 10 BIDDING PHASE (FOR SELECTION OF CONSTRUCTION COMPANY)

10.1 General

- A. All bidding documents require the approval of the Employer prior to the Consultant printing the documents. Upon approval the Consultant shall sign, seal and date drawings and other documents. Dates shall reflect the most recent state of completion.

10.2 Site Visit

The CM may arrange and attend the site visit, record all questions and answers and prepare minutes to be discussed at the pre-bid meeting. (if required)

10.3 Pre-Bid Meeting

- A. When a pre-bid meeting is scheduled, the CM with collaboration from the Consultant shall prepare the related materials and preside at this meeting.

10.4 Addenda

- A. The Consultant shall prepare all required addenda.
- B. All addenda shall be sequentially numbered and dated.
- C. All addenda, including revised drawings and sections, must be approved by the Employer prior to the distribution to the Bidders. The Consultant shall allow sufficient time for the Employer review and approval.
- D. The drawings shall have the changes clearly noted and identified. Make notation in the revision column of the drawing indicating the change letter, the date of the change, and a brief description of the change.
- E. All changes shall be incorporated into the original drawings.
- F. The Consultant shall provide the Employer with various copies of the drawings and other bidding documents which reflect all addenda issued. These copies shall be sealed, signed, dated and marked with "FOR CONSTRUCTION". The cost of these copies shall be included in the prices of the Consultant.

10.5 Bidding Opening and Analysis:

- A. The CM shall attend the bidding opening for the project unless specifically excused by the Employer.
- B. The CM shall review all unit prices submitted and provide written recommendation or rejection.
- C. The CM shall provide assistance to the Employer to identify the apparent successful Bidders.

ARTICLE 11 CONSTRUCTION PHASE

- 11.1 **Employer Representative:** The CM shall consult and advise Employer and act as Employer representative as provided in the bidding documents of the construction works and herein the Employer instructions to the contractors may be issued through the CM who shall have authority to act on behalf of the Employer to the extent provided in this document and the bidding documents of the construction bidding.
- 11.2 **Construction Contract Documents:** The Employer in collaboration with the CM shall review the construction contract documents specially the drawings & BOQ and shall assure that no contradiction appears between the different bidding documents, the Consultant shall also revise the quantities to ensure they are accurate. The consultant shall return back the documents revised and modified with illustration sheet/s within ten (10) days of their handing over the bidding documents to the Employer. The contractor shall not commence the works without the documents stamped and dated "Issued for Construction".
- 11.3 **Pre-Construction Meeting.**
 - A. The Consultant shall schedule and arrange a pre-construction meeting within at least 7 calendar days before the commencement of the construction works. Attendance is mandatory for the Consultant and the Contractors.
 - B. The meeting will be held at the Employer office.
 - C. The agenda of the meeting will consist of explanation of construction procedures, certain conditions of contract, pay request application procedures and documentation to be supplied by the contractors and material suppliers in support thereof. The Consultant will also explain requirements for submittal of shop drawings, samples and product data, requests, as built drawings and specific safety/security procedures.
- 11.4 **Completeness of the Contractual Agreement with the Contractor:** The CM with collaboration from the Consultant shall prepare all documents necessary for signing the construction agreement with the contractor. The CM with collaboration from the Consultant shall check, verify and ensure the completeness of the contractual procedures and documents and their compliance with the legal and the contractual conditions and obligations of both parties of the works contract;
- 11.5 **Site Handing Over and Commencement of Works :**
 - A. The Consultant shall hand over the sites to the Contractor and submit a handing over report to the Employer signed by all parties
 - B. The Consultant shall issue the order to commence the works upon assuring that the Contractor has fulfilled his prior contractual obligations and identify the exact date for starting the works;
 - C. The Consultant shall follow up with the Employer and the related authorities to assure that the sites are clear of any obstacles which might affect the progress of the works before issuing the order of commencement;

11.6 Contractor submittals/ Shop Drawings, Product Data, Samples, Mock-ups and As-built Drawings.

- A. The Consultant shall review and monitor all required submittals for timeliness and conformance with the construction contract documents and project schedule. The Consultant shall review and respond to submittals within 7 calendar days to the CM.
- B. Each submittal shall be stamped, dated, and either initialed or signed by the reviewer. The reviewer shall submit the result to the CM who make a clear instruction to the contractor of any corrective action to be taken.
- C. The Consultant shall only review those materials and equipment specified in the construction contract documents. The Consultant shall not make changes in the contract requirements through the review of submittals.
- D. If in reviewing the submittals the Consultant determine that contract changes are required, notify the CM and request approval of the required change prior to returning the submittal to the contractor. The submittal shall then be returned to the contractor with the note that a variation (change) order request is contemplated.
- E. No work requiring review of submittals shall be commenced without the CM's approval. The Consultant shall notify the contractor to cease the work until approval is obtained. The contractor shall be liable to replace any work that is not in compliance with the subsequently reviewed submittal.
- F. The Consultant shall be responsible to expedite the reply of the Employer through the CM to any request submitted to it for approval.

11.7 Construction Schedule: According to the conditions of contract the contractor shall submit a construction schedule within the time limit specified therein. The CM shall review and approve the construction schedule for compliance with the contract requirements. Schedules may be in bar chart, arrow diagram, CPM or other approved format and shall include a submitting shop drawings, product data and material samples and the forecasted cash flow.

11.8 Contractor Payment and Progress Meeting

- A. The contractor shall submit **Percentage interim payment according to the contract** applications which reflect the progress of the work.
- B. The Consultant shall review and certify contractor's applications for payment within one week from the contractor's submittal of the resident Engineer, any modification to the payment should be sent back to the contractor in a formal way, the consultant shall maintain records of payments and contract balances and all proposed and approved changes thereto.
- C. The Consultant shall insure that the payment request is complete and in compliance with the requirements and procedures of the Employer.
- D. The Consultant shall check all the quantities executed according to the contract and be responsible for their accuracy. Every quantity mentioned in the contractor's payment request shall be accompanied with all necessary illustrating shop drawings.

11.9 Interpretations: When requested by the CM or a contractor, the Consultant shall provide interpretation of the construction contract documents. The Consultant shall prepare and distribute supplementary

drawings, specifications and instructions as necessary to communicate the interpretation. The Consultant shall be responsible to expedite interpretations and clarifications.

11.10 Variation (Change) Orders.

- A. Specific procedures, general information, and standard forms for preparing and processing construction contract changes or variations might vary from project to project depending on the Employer's conditions. The Consultant shall follow up these conditions when issuing variations.
- B. Request for a variation may be initiated either verbally or in writing. Contractor's requests shall be directed to the Consultant who in turn will notify the Employer of the request. Only Employer can authorize the Consultant to prepare a request for variation order.
- C. The Consultant shall prepare a variation order including supplemental drawings and/or specifications to fully describe the change in the work. Each variation order package should be self-explanatory. The Consultant shall submit a cover letter to the variation order package explaining the need for the contract change to the CM.
- D. The Consultant shall review the contractor's proposal for variation orders for completeness and conformance with the V.O. procedures and the construction contract documents. When the variation orders require additional clarification or additional back-up, the Consultant shall obtain such information from the contractor prior to forwarding the variation order package to the CM.
- E. The Consultant shall recommend issuance of a variation order to the CM. Recommending issuance shall mean that the Consultant has reviewed all quantities, prices and other data in the contractor's proposal and has found such to be reasonable and in conformance with the provisions of the Construction Contract Documents.
- F. The Consultant shall be responsible for obtaining the signatures of the contractor prior to forwarding the variation order package to the CM.
- G. When requested by the CM, the Consultant shall attend the meeting of the Variation Orders Committee to explain and defend any variation orders presented for Committee's approval.
- H. The variation order may be initiated by the Consultant. In this case the procedure explained above shall be followed.
- I. The Consultant shall review time extension requests and make their recommendations within a reasonable time to the CM.
- J. No Variation shall be executed without the written approval of the Employer.

11.11 Claims and Disputes

- A. The Consultant shall record any occurrence or work that might result in a claim for a change in contract time or amount. Any disputes or claims shall be referred directly to CM.
- B. The Consultant shall review each claim or dispute, including documentation of any time, money or other expenditure made in connection with it. The Consultant shall provide a written response, interpretation and recommendation for resolution to the CM. The Employer will make a final determination through the CM on all disputes unless removed to arbitration or the Courts
- C. The Consultant shall provide any technical and legal opinions to the Employer through the CM regarding any disputes or claims which may occur between the Employer and the contractor and to follow up the arbitration procedures with any arbitration agency or court.

11.12 Quality Control.

- A. **Observation of the Works.** The Consultant shall continuously observe and report the progress and quality of the work to determine that the work is proceeding in accordance with the approved construction schedule, and that the materials, finishes and workmanship are in conformance with the Construction Contract Documents. CM shall be notified immediately if, in the Consultant's opinion, the material, finishes and workmanship does not conform to the Construction Contract Documents, requires special inspection or testing, or has been disapproved or rejected by the Consultant. The Consultant and the contractor shall be liable for the replacement and/or any damages incurred as a result of knowingly permitting non-specified material, or otherwise non-conforming work to be incorporated into the project.
- B. **Site Meetings.** The Project Manager of the Consultant shall make frequent visits to the site every week and whenever needed. The Consultant shall provide the CM with a tentative schedule of the proposed site visits at the beginning of the construction works. For more details see reporting obligations herein.
- C. **Redesign Works.** The Consultant shall perform all checking and redesign works deemed necessary during the implementation of the project such as but not limited to, retaining walls and surface drainage system.
- D. **Contractor's Representative and Personnel.** The CM shall approve the Contractor's representative, superintendents and employees and recommend to the Employer for approval. The Consultant shall ensure that the contractor has submitted the required "Power of Attorney" for his representative.
- E. **Soil Testing prior to Casting of Foundation** When completing the site leveling and excavation works , the Consultant shall call upon the soil investigator, who had already conducted the soil investigation works, to make in-situ inspection to insure that (cost included) :
 - 1. the characteristics of the soil that has been reached are identical to those described in his report and are the same as those recommended for the design of the foundation;
 - 2. the levels which have been reached are suitable for foundation works and as recommended in the soil investigation report;
 - 3. to insure that the soil is free of harming materials. In case of observing such materials, chemical tests shall be conducted and suitable practical remedies shall be implemented.
- F. **Accuracy of Measurements and Alignments** The Consultant shall check, verify and approve the accuracy of the measurements, setting out, levels, alignments etc. established by the contractors and their conformity with the Construction Contract Documents.
- G. **Fencing and Safety.** The Consultant shall check and approve the fencing works and safety measures at sites and the precautions which have been taken to protect the pedestrian, the adjacent buildings and properties and take necessary actions for corrections when necessary;
- H. **Construction Testing**
 - 1. The Consultant shall arrange for carrying out and to witnessing the quality tests for the construction materials to be used in the project assure the correctness of the tests, review and evaluate the results of these tests and instruct the contractors to correct any shortcomings.
 - 2. The Consultant shall make all necessary inspection visits to the plants and workshops where the materials are produced such as and not limited to carpentry shops, aluminum

shops and others to insure that materials delivered for the project are in compliance with the specifications.

3. The Consultant shall make visit to the testing laboratories to insure their abilities to perform the required tests.
4. The Consultant shall provide the contractors with all design criteria and system design/operation concepts which facilitate performance testing and the Consultant shall witness all these tests and report on the results.

ARTICLE 12 REPORTING OBLIGATIONS

- 12.1 **Forms.** The CM shall prepare all the forms to be used during the implementation of the project such as daily report form, weekly report form, variation order form, site meeting form, site visit form, approving forms, inspection forms and other forms..
- 12.2 **Records.** The Consultant shall record all the activities of the project including, but not limited to weather condition, nature and location of the work being performed, verbal interpretation and other details.
- 12.3 **Site Meeting Reports:** Since the project manager will be paid on the basis of visits he made to the sites, the Consultant shall submit weekly site meeting report. This report shall, to a minimum, include but not limited to number of the meeting, date, attendees, purpose of the visit, contractors' workforce, progress of the work, items inspected, tests witnessed, observations, problems resolved and solutions suggested. This report shall be submitted to CM not later than one week from the date of the visit. In case of problems which need immediate decisions from Employer, the CM shall promptly notify the Employer, follow up and expedite the action.
- 12.4 **Final Report:** At the end of the project or at the time of termination, if so, the Consultant shall submit five copies of the final report within one month from the date of the provisional acceptance to the CM. This report shall consist of, but not limited to:
 - A. General Information
 - B. Project Description
 - C. Description of Site
 - D. Type of Construction and Specifications
 - E. Schedule of Interim Payments
 - F. Executed Works and Payments on Account
 - G. Work Schedule, Obstacles and Remarks
 - H. Inspection sheets
 - I. All documents or catalogue related the project
 - J. Materials Approved and Dates
 - K. Quality Control
 - L. As-built Drawings
 - M. Events of the Project and Legal coverage
 - N. Appendix "A": Summary of Approved Variations
 - O. Appendix "B": Events and Correspondence.
- 12.5 **Formal Submission:** The Consultant shall request the technical evaluation for all above reports and documents of the project to the CM in formal. The CM shall review all these reports and documents and submit them to the Employer with his technical review and evaluation.
- 12.6 **Regular Reporting:** The consultant shall submit weekly reports to the CM on a regular basis. In addition, the consultant shall submit separate progress reports and status reports to the CM for specific cases.

ARTICLE 13 PROVISIONAL ACCEPTANCE

- 13.1 **General:** The Consultant shall be responsible for certifying the completion of all contracts.
- 13.2 **Substantial Completion.** It is the condition which occurs when the Employer accepts the Consultant's certificate of the completion through the CM's technical review that the construction is sufficiently completed in accord with the Construction Contract Documents such that the project, or a designated portion thereof, may be occupied or utilized for the use for which it was intended.
- 13.3 **Provisional Acceptance Inspection Meeting.**
- A. This meeting shall be set by the Employer when it is concurred with the Consultant that the project is substantially complete. The Employer shall let the CM issue notice of the meeting, and the Consultant shall attend this meeting.
 - B. The Consultant shall prepare all documents needed to complete the inspection meeting including all bidding documents and an additional set of drawings.
 - C. Agenda will consist of the inspection, discussion of the snag list, determination of the completion date and the time of occupancy. The CM will also review the requirements for contractor closeout in accord with the Construction Contract Documents.
 - D. Upon completion of the inspection meeting, the Consultant shall prepare the certificate of the provisional acceptance with the completed snag list and forward the package to the contractor and the CM.

ARTICLE 14 CONTRACTOR FINAL PAYMENT.

- 14.1 The CM shall ask to the Consultant to proceed and certify the final payment of the contractor after all items of the contract are completed. The Consultant shall ensure that the final payment request package is complete in accord with the contract prior to forwarding to Employer
- 14.2 The Consultant shall obtain from the contractor all guarantees and warranties and check for coverage, start date and duration in accordance with the Construction Contract Documents.
- 14.3 The Consultant shall expedite the closeout and the final payment of the contractors as they complete their contractual obligations.
- 14.4 The CM shall ask the Consultant to review and verify the As-built drawings of the contractors. These drawings shall reflect all changes made by variation orders, addenda and clarifications made by the CM during construction.
- 14.5 The final quantities of the project shall reflect the As-built drawings and shall be calculated according to the provisions of the contract.

ARTICLE 15 DEFECT LIABILITY PERIOD.

- 15.1 During the defect liability period, the Consultant shall frequently monitor and inspect the project and/or make inspection upon the request of the CM and order the contractor to perform any repair, amendment, reconstruction, rectification or any other works deemed necessary before issuing the final acceptance certificate

ARTICLE 16 FINAL ACCEPTANCE.

- 16.1 Before the end of the defect liability period and before the expiration of the maintenance guarantee, the Consultant shall arrange with the contractor and the CM for the final inspection meeting. The Consultant shall provide a written report of the inspection to the CM and the contractor regarding the final acceptance of the works or corrective measures and actions to be taken by the contractor. The CM shall monitor all corrective works under warranties or guarantees, and submit a written report accompanied with a final acceptance certificate stating deductions, if any, from the maintenance guarantee.

ARTICLE 17 CONSULTANTS PERSONNEL FOR THE DESIGN STAGE:

- 17.1 The following categories of personnel are to be assigned for the design works by the Consultant as appropriate. The descriptions given below are for reimbursable staff. No other personnel will be reimbursed unless the Consultant wish to propose other specialists in which case they must be listed and included in the proposal and approved by the CM. CVs must be submitted for the types of staff that the Consultant might decide to use on this project as follows:
- A. **Project Manager** (Architect): registered professional architect with more than 7 years post graduate experience.
 - B. **Architect**: registered professional architect with more than 5 years post graduate experience.
 - C. **Civil engineer**: registered professional civil engineer with more than 5 years post graduate experience.
 - D. **Electrical engineer**: registered professional electrical engineer with more than 5 years post graduate experience.
 - E. **IT Expert** : with more than 5 years post graduate experience
 - F. **Mechanical engineer**: registered professional mechanical engineer with more than 5 years post graduate experience.
 - G. **Surveyor**: registered surveyor with a minimum of 5 years experience.
 - H. **Quantity Surveyor**: a qualified quantity surveyor with more than 5 years of professional experience.
 - I. **Draftsman**. technical school certificate with more than 3 years experience.
- 17.2 **Approval of Employer.** CVs for all the above mentioned personnel shall be submitted to the CM for Employer's approval.
- 17.3 **Devotion.** All the above listed personnel shall be solely devoted for the project and the CM can freely conduct inspection regarding their devotion.

ARTICLE 18 CONSULTANTS PERSONNEL FOR MANAGEMENT AND SUPERVISION STAGE:

- 18.1 The Employer delegates the authorities of the Engineer mentioned in the Construction contract documents to the Consultant.
- 18.2 **Delegation of the Engineer's Authorities:** The Consultant will delegate his authorities partially or totally to its representatives in writing with copies to both the Employer and the Contractor.

18.3 Informing by Writing: The Consultant shall inform the Contractor in writing of his personnel and their authorities.

18.4 Categories of Personnel : The following categories of personnel are to be assigned to the work by the Consultant in accordance with the conditions and qualifications set forth:

A. **Office support and Non-Resident Personnel: (Part Time)**

1. **Project Manager (Representative of the Consultant):**

A part time registered professional engineer or architect, head of specialization at the Consultant's office, civil engineer or architect with more than (7) years of postgraduate experience in the design, management and supervision of construction projects

The Project Manager will represent the Consultant and will be responsible for managing the project. The project manager responsibilities start with signing the consulting services contract and continue up to issuing the final acceptance certificate. The project manager should not be involved in more than three other projects so as to be able to follow up his work properly. Otherwise he will be excluded from evaluation, and his proposal may be excluded.

2. **Mechanical Engineer:** a part- time registered mechanical engineer with a university degree and more than seven (5) years of relative postgraduate experience in design and supervision of project. It is preferred that this engineer would be the head of the mechanical specialization at the firm or his assistant. This engineer will make site visits whenever needed with a minimum of 36 visits to the site. If more visits are needed then the engineer shall make these visits free of charge.

3. **Electrical Engineer:** a part- time registered electrical engineer with more than seven (5) years of postgraduate relative experience in design and supervision of project. It is preferred that this engineer would be the head of the electrical specialization at the firm or his assistant. This engineer will make site visits whenever needed with a minimum of 36 visits to the site. If more visits are needed then the engineer shall make these visits free of charge.

4. **Quantity Surveyor :** A part-time registered professional quantity surveyor with more than (5) five years of professional experience or a community college graduate in quantity surveying or related subject with more than (5) five years of professional experience.

5. **Surveyor :** A part -time registered professional surveyor with at least (3) five years of professional experience in the field of the assignment

6. **Administrative Staff:**

The consultant shall assign an appropriate administrative staff to prepare reports, instructions and correspondence to the Employer and the Contractor.

B. **Resident Personnel (Full Time)**

1. **Resident Engineer:** a full time registered engineer with a university degree and more than (5) years experience in design or supervision of construction projects.

2. The resident Engineer is required to work full time on the construction site from 8 a.m to 5 p.m on all working days, except for national holidays. Any absence for a day or part of a day for the resident Engineer will be subject to deducting (50 USD) per day of absence.

3. During the Resident Engineer's absence on vacation, an engineer of equal or higher standing must be assigned to cover their duties.

ARTICLE 19 DURATION:

- 19.1 The duration of the consulting services contract to be signed with the Consultant is the duration for design works and management and supervision services.
- 19.2 If the construction period is extended, the Construction Supervision Consultant Services period is extended accordingly.

ARTICLE 20 PRICES, CATEGORIES AND MODALITIES OF PAYMENT:

- 20.1 Prices offered by the Consultant in his financial offer are considered to include the total costs required for the performance of all tasks mentioned in this TOR and any other task mentioned in any of the bidding documents for consulting services and the bidding documents of the construction contract to a high standard. These prices shall also include salaries for all staff members required, vehicles and transportation, vacations, compensations, taxes (unless otherwise is stated), stationary, office support, profits and all other technical and administrative expenses and any other expenses and/or costs.
- 20.2 **Payments for Management and Supervision Services.**
 - A. Obligations of the Consultant Continue: Obligations of the Consultant shall continue up to the date of issuing the Final Acceptance Certificates for the project. The fees of these services are considered to be included in the prices of the Consultant.
 - B. Interim Payments to the Consultant will be made upon the contract agreement.