PHILIPPINE BIDDING DOCUMENTS

Design and Build Completion of One- Stop Student Services Center at Morong Campus

URS-24-01-011/052

Government of the Republic of the Philippines

UNIVERSITY OF RIZAL SYSTEM

Sixth Edition
July 2020

Preface

These Philippine Bidding Documents (PBDs) for the procurement of Infrastructure Projects (hereinafter referred to also as the "Works") through Competitive Bidding have been prepared by the Government of the Philippines for use by all branches, agencies, departments, bureaus, offices, or instrumentalities of the government, including government-owned and/or -controlled corporations, government financial institutions, state universities and colleges, local government units, and autonomous regional government. The procedures and practices presented in this document have been developed through broad experience, and are for mandatory use in projects that are financed in whole or in part by the Government of the Philippines or any foreign government/foreign or international financing institution in accordance with the provisions of the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

The PBDs are intended as a model for admeasurements (unit prices or unit rates in a bill of quantities) types of contract, which are the most common in Works contracting.

The Bidding Documents shall clearly and adequately define, among others: (i) the objectives, scope, and expected outputs and/or results of the proposed contract; (ii) the eligibility requirements of Bidders; (iii) the expected contract duration; and (iv)the obligations, duties, and/or functions of the winning Bidder.

Care should be taken to check the relevance of the provisions of the PBDs against the requirements of the specific Works to be procured. If duplication of a subject is inevitable in other sections of the document prepared by the Procuring Entity, care must be exercised to avoid contradictions between clauses dealing with the same matter.

Moreover, each section is prepared with notes intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They shall not be included in the final documents. The following general directions should be observed when using the documents:

a. All the documents listed in the Table of Contents are normally required for the procurement of Infrastructure Projects. However, they should be adapted as necessary to the circumstances of the particular Project.

b. Specific details, such as the "*name of the Procuring Entity*" and "*address for bid submission*," should be furnished in the Instructions to Bidders, Bid Data Sheet, and Special Conditions of Contract. The final documents should contain neither blank spaces nor options.

c. This Preface and the footnotes or notes in italics included in the Invitation to Bid, BDS, General Conditions of Contract, Special Conditions of Contract, Specifications, Drawings, and Bill of Quantities are not part of the text of the final document, although they contain instructions that the Procuring Entity should strictly follow.

d. The cover should be modified as required to identify the Bidding Documents as to the names of the Project, Contract, and Procuring Entity, in addition to date of issue.

e. Modifications for specific Procurement Project details should be provided in the Special Conditions of Contract as amendments to the Conditions of Contract. For easy completion, whenever reference has to be made to specific clauses in the Bid Data Sheet or Special Conditions of Contract, these terms shall be printed in bold typeface on Sections I (Instructions to Bidders) and III (General Conditions of Contract), respectively.

f. For guidelines on the use of Bidding Forms and the procurement of Foreign-Assisted Projects, these will be covered by a separate issuance of the Government Procurement Policy Board.

TABLE OF CONTENTS

Glossary of Terms, Abbreviations, and Acronyms

ABC – Approved Budget for the Contract.

ARCC – Allowable Range of Contract Cost.

BAC – Bids and Awards Committee.

Bid – A signed offer or proposal to undertake a contract submitted by a bidder in response to and in consonance with the requirements of the bidding documents. Also referred to as *Proposal* and *Tender.* (2016 revised IRR, Section 5[c])

Bidder – Refers to a contractor, manufacturer, supplier, distributor and/or consultant who submits a bid in response to the requirements of the Bidding Documents. (2016 revised IRR, Section 5[d])

Bidding Documents – The documents issued by the Procuring Entity as the bases for bids, furnishing all information necessary for a prospective bidder to prepare a bid for the Goods, Infrastructure Projects, and/or Consulting Services required by the Procuring Entity. (2016 revised IRR, Section 5[e])

BIR – Bureau of Internal Revenue.

BSP – Bangko Sentral ng Pilipinas.

CDA – Cooperative Development Authority.

Consulting Services – Refer to services for Infrastructure Projects and other types of projects or activities of the GOP requiring adequate external technical and professional expertise that are beyond the capability and/or capacity of the GOP to undertake such as, but not limited to: (i) advisory and review services; (ii) pre-investment or feasibility studies; (iii) design; (iv) construction supervision; (v) management and related services; and (vi) other technical services or special studies. (2016 revised IRR, Section 5[i])

Contract – Refers to the agreement entered into between the Procuring Entity and the Supplier or Manufacturer or Distributor or Service Provider for procurement of Goods and Services; Contractor for Procurement of Infrastructure Projects; or Consultant or Consulting Firm for Procurement of Consulting Services; as the case may be, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.

Contractor – is a natural or juridical entity whose proposal was accepted by the Procuring Entity and to whom the Contract to execute the Work was awarded. Contractor as used in these Bidding Documents may likewise refer to a supplier, distributor, manufacturer, or consultant.

CPI – Consumer Price Index.

DOLE – Department of Labor and Employment.

DTI – Department of Trade and Industry.

Foreign-funded Procurement or Foreign-Assisted Project – Refers to procurement whose funding source is from a foreign government, foreign or international financing institution as specified in the Treaty or International or Executive Agreement. (2016 revised IRR, Section 5[b]).

GFI – Government Financial Institution.

GOCC – Government-owned and/or –controlled corporation.

Goods – Refer to all items, supplies, materials and general support services, except Consulting Services and Infrastructure Projects, which may be needed in the transaction of public businesses or in the pursuit of any government undertaking, project or activity, whether in the nature of equipment, furniture, stationery, materials for construction, or personal property of any kind, including non-personal or contractual services such as the repair and maintenance of equipment and furniture, as well as trucking, hauling, janitorial, security, and related or analogous services, as well as procurement of materials and supplies provided by the Procuring Entity for such services. The term "related" or "analogous services" shall include, but is not limited to, lease or purchase of office space, media advertisements, health maintenance services, and other services essential to the operation of the Procuring Entity. (2016 revised IRR, Section 5[r])

GOP – Government of the Philippines.

Infrastructure Projects – Include the construction, improvement, rehabilitation, demolition, repair, restoration or maintenance of roads and bridges, railways, airports, seaports, communication facilities, civil works components of information technology projects, irrigation, flood control and drainage, water supply, sanitation, sewerage and solid waste management systems, shore protection, energy/power and electrification facilities, national buildings, school buildings, hospital buildings, and other related construction projects of the government. Also referred to as *civil works or works*. (2016 revised IRR, Section 5[u])

LGUs – Local Government Units.

NFCC – Net Financial Contracting Capacity.

NGA – National Government Agency.

PCAB – Philippine Contractors Accreditation Board.

PhilGEPS - Philippine Government Electronic Procurement System.

Procurement Project – refers to a specific or identified procurement covering goods, infrastructure project or consulting services. A Procurement Project shall be described, detailed, and scheduled in the Project Procurement Management Plan prepared by the agency which shall be consolidated in the procuring entity's Annual Procurement Plan. (GPPB Circular No. 06-2019 dated 17 July 2019)

PSA – Philippine Statistics Authority.

SEC – Securities and Exchange Commission.

SLCC – Single Largest Completed Contract.

UN – United Nations.

Section I. Invitation to Bid

Notes on the Invitation to Bid

The Invitation to Bid (IB) provides information that enables potential Bidders to decide whether to participate in the procurement at hand. The IB shall be posted in accordance with Section 21.2 of the 2016 revised IRR of RA No. 9184.

Apart from the essential items listed in the Bidding Documents, the IB should also indicate the following:

a. The date of availability of the Bidding Documents, which shall be from the time the IB is first advertised/posted until the deadline for the submission and receipt of bids;

b. The place where the Bidding Documents may be acquired or the website where it may be downloaded;

c. The deadline for the submission and receipt of bids; and

d. Any important bid evaluation criteria.

The IB should be incorporated into the Bidding Documents. The information contained in the IB must conform to the Bidding Documents and in particular to the relevant information in the Bid Data Sheet.

Republic of the Philippines
UNIVERSITY OF RIZAL SYSTEM
Province of Rizal
www.urs.edu.ph
Email Address: **spmo@urs.edu.ph**
Tel/Fax: 8653-2860

Invitation to Bid for the Design and Build Completion of One-Stop Student Services Center at Morong Campus

1. The **University of Rizal System**, through the **fund 011 and 052 of 2024** intends to apply the sum of **Thirty Million Pesos Only (₱30,000,000.00***)* being the Approved Budget for the Contract (ABC) to payments under the contract for **Design and Build Completion of One-Stop Student Services Center at Morong Campus URS-24-01-011/052**. Bids received in excess of the ABC shall be automatically rejected at bid opening.

2. The **University of Rizal System** now invites bids for the above Procurement Project. Completion of the Works is required **Three Hundred (300) calendar days**. Bidders should have completed a contract similar to the Project. The description of an eligible bidder is contained in the Bidding Documents, particularly, in Section II (Instructions to Bidders).

3. Bidding will be conducted through open competitive bidding procedures using non-discretionary "*pass/fail*" criterion as specified in the 2016 revised Implementing Rules and Regulations (IRR) of Republic Act (RA) No. 9184.

4. Interested bidders may obtain further information from **University of Rizal System** and inspect the Bidding Documents at the address given below from **Monday to Friday, 8:00 AM to 5:00 PM.**

5. A complete set of Bidding Documents may be acquired by interested bidders on **November 14, 2023** from given address and website/s below and upon payment of the applicable fee for the Bidding Documents, pursuant to the latest Guidelines issued by the GPPB, in the amount of **Twenty-Five Thousand Pesos (25,000.00)**. The Procuring Entity shall allow the bidder to present its proof of payment for the fees in person.

6. The **University of Rizal System** will hold a Pre-Bid Conference[1] on **November 22, 2023 at 1:30 PM** at **OP Conference Room, URS Morong Campus, Morong, Rizal**, which shall be open to prospective bidders.

[1] May be deleted in case the ABC is less than One Million Pesos (PhP1,000,000) where the Procuring Entity may not hold a pre-bid conference.

7. Eligibility document must be duly received by the BAC Secretariat through manual submission at the office address as indicated below on or before **1:00 PM of December 4, 2023**. Late submission shall not be accepted.

8. All bids must be accompanied by a bid security in any of the acceptable forms and in the amount stated in **ITB** Clause 16.

9. Bid opening for eligibility documents shall be on **December 4, 2023, 1:30 PM** at **OP Conference Room, URS Morong Campus, J. Sumulong St., Brgy San Juan, Morong, Rizal**. Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.

10. Submission and opening of Financial Document shall be on **December 14, 2023 at 1:30 PM** at **OP Conference Room, URS Morong Campus, J. Sumulong St., Brgy San Juan, Morong, Rizal** for those bidders who will pass the eligibility screening.

11. The **University of Rizal System** reserves the right to reject any and all bids, declare a failure of bidding, or not award the contract at any time prior to contract award in accordance with Sections 35.6 and 41 of the 2016 revised Implementing Rules and Regulations (IRR) of RA No. 9184, without thereby incurring any liability to the affected bidder or bidders.

12. For further information, please refer to:

    BAC Secretariat
    URS Morong Campus, J. Sumulong St., Brgy San Juan, Morong, Rizal
    Tel. No. 8653-2860
    *Email: **spmo@urs.edu.ph** / **bacsecretariat@urs.edu.ph***

13. You may visit the following websites:

    For downloading of Bidding Documents: ***http://www.urs.edu.ph/bid-opportunities/***

November 14, 2023

NELSON S. GONZALES, Ed. D.
Chairperson, Bids and Awards Committee

Section II. Instructions to Bidders

Notes on the Instructions to Bidders

This Section on the Instruction to Bidders (ITB) provides the information necessary for bidders to prepare responsive bids, in accordance with the requirements of the Procuring Entity. It also provides information on bid submission, eligibility check, opening and evaluation of bids, post-qualification, and on the award of contract.

1. Scope of Bid

The Procuring Entity, **University of Rizal System** invites Bids for the **Design and Build Completion of One-Stop Student Services Center at Morong Campus**, with Project Identification Number **URS-24-01-011/052**.

The Procurement Project (referred to herein as "Project") is for the construction of Works, as described in Section VI (Specifications).

2. Funding Information

2.1. The GOP through the source of funding as indicated below for **fund 011 and 052 of 2024** in the amount of **Thirty Million Pesos Only (₱30,000,000.00***)*.

2.2. The source of funding is:

NGA, the National Expenditure Program.

3. Bidding Requirements

The Bidding for the Project shall be governed by all the provisions of RA No. 9184 and its 2016 revised IRR, including its Generic Procurement Manual and associated policies, rules and regulations as the primary source thereof, while the herein clauses shall serve as the secondary source thereof.

Any amendments made to the IRR and other GPPB issuances shall be applicable only to the ongoing posting, advertisement, or invitation to bid by the BAC through the issuance of a supplemental or bid bulletin.

The Bidder, by the act of submitting its Bid, shall be deemed to have inspected the site, determined the general characteristics of the contracted Works and the conditions for this Project, such as the location and the nature of the work; (b) climatic conditions; (c) transportation facilities; (c) nature and condition of the terrain, geological conditions at the site communication facilities, requirements, location and availability of construction aggregates and other materials, labor, water, electric power and access roads; and (d) other factors that may affect the cost, duration and execution or implementation of the contract, project, or work and examine all instructions, forms, terms, and project requirements in the Bidding Documents.

4. Corrupt, Fraudulent, Collusive, Coercive, and Obstructive Practices

The Procuring Entity, as well as the Bidders and Contractors, shall observe the highest standard of ethics during the procurement and execution of the contract. They or through an agent shall not engage in corrupt, fraudulent, collusive, coercive, and obstructive practices defined under Annex "I" of the 2016 revised IRR of RA No. 9184 or other integrity violations in competing for the Project.

5. Eligible Bidders

5.1. Only Bids of Bidders found to be legally, technically, and financially capable will be evaluated.

5.2. The Bidder must have an experience of having completed a Single Largest Completed Contract (SLCC) that is similar to this Project, equivalent to at least fifty percent (50%) of the ABC adjusted, if necessary, by the Bidder to current prices using the PSA's CPI, except under conditions provided for in Section 23.4.2.4 of the 2016 revised IRR of RA No. 9184.

A contract is considered to be "similar" to the contract to be bid if it has the major categories of work stated in the **BDS**.

5.3. For Foreign-funded Procurement, the Procuring Entity and the foreign government/foreign or international financing institution may agree on another track record requirement, as specified in the Bidding Document prepared for this purpose.

5.4. The Bidders shall comply with the eligibility criteria under Section 23.4.2 of the 2016 IRR of RA No. 9184.

6. Origin of Associated Goods

There is no restriction on the origin of Goods other than those prohibited by a decision of the UN Security Council taken under Chapter VII of the Charter of the UN.

7. Subcontracts

7.1. The Bidder may subcontract portions of the Project to the extent allowed by the Procuring Entity as stated herein, but in no case more than fifty percent (50%) of the Project.

The Procuring Entity has prescribed that:

Subcontracting is not allowed.

7.1. *[If Procuring Entity has determined that subcontracting is allowed during the bidding , state:]* The Bidder must submit together with its Bid the documentary requirements of the subcontractor(s) complying with the eligibility criterial stated in **ITB** Clause 5 in accordance with Section 23.4 of the 2016 revised IRR of RA No. 9184 pursuant to Section 23.1 thereof.

7.2. *[If subcontracting is allowed during the contract implementation stage, state:]* The Supplier may identify its subcontractor during the contract implementation stage. Subcontractors identified during the bidding may be changed during the implementation of this Contract. Subcontractors must submit the documentary requirements under Section 23.1 of the 2016 revised IRR of RA No. 9184 and comply with the eligibility criteria specified in **ITB** Clause 5 to the implementing or end-user unit.

7.3. Subcontracting of any portion of the Project does not relieve the Contractor of any liability or obligation under the Contract. The Supplier will be responsible for the acts, defaults, and negligence of any subcontractor, its agents, servants, or workmen as fully as if these were the Contractor's own acts, defaults, or negligence, or those of its agents, servants, or workmen.

8. Pre-Bid Conference

The Procuring Entity will hold a pre-bid conference for this Project on the specified date and time and either at its physical address {*[insert if applicable]* and/or through videoconferencing/webcasting} as indicated in paragraph 6 of the **IB.**

9. Clarification and Amendment of Bidding Documents

Prospective bidders may request for clarification on and/or interpretation of any part of the Bidding Documents. Such requests must be in writing and received by the Procuring Entity, either at its given address or through electronic mail indicated in the **IB**, at least ten (10) calendar days before the deadline set for the submission and receipt of Bids.

10. Documents Comprising the Bid: Eligibility and Technical Components

10.1. The first envelope shall contain the eligibility and technical documents of the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.

10.2. If the eligibility requirements or statements, the bids, and all other documents for submission to the BAC are in foreign language other than English, it must be accompanied by a translation in English, which shall be authenticated by the appropriate Philippine foreign service establishment, post, or the equivalent office having jurisdiction over the foreign bidder's affairs in the Philippines. For Contracting Parties to the Apostille Convention, only the translated documents shall be authenticated through an apostille pursuant to GPPB Resolution No. 13-2019 dated 23 May 2019. The English translation shall govern, for purposes of interpretation of the bid.

10.3. A valid special PCAB License in case of Joint Ventures, and registration for the type and cost of the contract for this Project. Any additional type of Contractor license or permit shall be indicated in the **BDS**.

10.4. A List of Contractor's key personnel (e.g., Project Manager, Project Engineers, Materials Engineers, and Foremen) assigned to the contract to be bid, with their complete qualification and experience data shall be provided. These key personnel must meet the required minimum years of experience set in the **BDS**.

10.5. A List of Contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership, certification of availability of equipment from the equipment lessor/vendor for the duration of

the project, as the case may be, must meet the minimum requirements for the contract set in the **BDS**.

11. Documents Comprising the Bid: Financial Component

11.1. The second bid envelope shall contain the financial documents for the Bid as specified in **Section IX. Checklist of Technical and Financial Documents**.

11.2. Any bid exceeding the ABC indicated in paragraph 1 of the **IB** shall not be accepted.

11.3. For Foreign-funded procurement, a ceiling may be applied to bid prices provided the conditions are met under Section 31.2 of the 2016 revised IRR of RA No. 9184.

12. Alternative Bids

Bidders shall submit offers that comply with the requirements of the Bidding Documents, including the basic technical design as indicated in the drawings and specifications. Unless there is a value engineering clause in the **BDS**, alternative Bids shall not be accepted.

13. Bid Prices

All bid prices for the given scope of work in the Project as awarded shall be considered as fixed prices, and therefore not subject to price escalation during contract implementation, except under extraordinary circumstances as determined by the NEDA and approved by the GPPB pursuant to the revised Guidelines for Contract Price Escalation guidelines.

14. Bid and Payment Currencies

14.1. Bid prices may be quoted in the local currency or tradeable currency accepted by the BSP at the discretion of the Bidder. However, for purposes of bid evaluation, Bids denominated in foreign currencies shall be converted to Philippine currency based on the exchange rate as published in the BSP reference rate bulletin on the day of the bid opening.

14.2. Payment of the contract price shall be made in:

Philippine Pesos.

15. Bid Security

15.1. The Bidder shall submit a Bid Securing Declaration or any form of Bid Security in the amount indicated in the **BDS**, which shall be not less than the percentage of the ABC in accordance with the schedule in the **BDS**.

15.2. The Bid and bid security shall be valid until January 24, 2023. Any bid not accompanied by an acceptable bid security shall be rejected by the Procuring Entity as non-responsive.

16. Sealing and Marking of Bids

Each Bidder shall submit one copy of the first and second components of its Bid.

The Procuring Entity may request additional hard copies and/or electronic copies of the Bid. However, failure of the Bidders to comply with the said request shall not be a ground for disqualification.

If the Procuring Entity allows the submission of bids through online submission to the given website or any other electronic means, the Bidder shall submit an electronic copy of its Bid, which must be digitally signed. An electronic copy that cannot be opened or is corrupted shall be considered non-responsive and, thus, automatically disqualified.

17. Deadline for Submission of Bids

The Bidders shall submit on the specified date and time and either at its physical address or through online submission as indicated in paragraph 7 of the **IB.**

18. Opening and Preliminary Examination of Bids

18.1. The BAC shall open the Bids in public at the time, on the date, and at the place specified in paragraph 9 of the **IB**. The Bidders' representatives who are present shall sign a register evidencing their attendance. In case videoconferencing, webcasting or other similar technologies will be used, attendance of participants shall likewise be recorded by the BAC Secretariat.

In case the Bids cannot be opened as scheduled due to justifiable reasons, the rescheduling requirements under Section 29 of the 2016 revised IRR of RA No. 9184 shall prevail.

18.2. The preliminary examination of Bids shall be governed by Section 30 of the 2016 revised IRR of RA No. 9184.

19. Detailed Evaluation and Comparison of Bids

19.1. The Procuring Entity's BAC shall immediately conduct a detailed evaluation of all Bids rated "*passed*" using non-discretionary pass/fail criteria. The BAC shall consider the conditions in the evaluation of Bids under Section 32.2 of 2016 revised IRR of RA No. 9184.

19.2. If the Project allows partial bids, all Bids and combinations of Bids as indicated in the **BDS** shall be received by the same deadline and opened and evaluated simultaneously so as to determine the Bid or combination of Bids offering the lowest calculated cost to the Procuring Entity. Bid Security as required by **ITB** Clause 15 shall be submitted for each contract (lot) separately.

19.3. In all cases, the NFCC computation pursuant to Section 23.4.2.6 of the 2016 revised IRR of RA No. 9184 must be sufficient for the total of the ABCs for all the lots participated in by the prospective Bidder.

20. Post Qualification

Within a non-extendible period of five (5) calendar days from receipt by the Bidder of the notice from the BAC that it submitted the Lowest Calculated Bid, the Bidder shall submit its latest income and business tax returns filed and paid through the BIR Electronic Filing and Payment System (eFPS), and other appropriate licenses and permits required by law and stated in the **BDS**.

21. Signing of the Contract

The documents required in Section 37.2 of the 2016 revised IRR of RA No. 9184 shall form part of the Contract. Additional Contract documents are indicated in the **BDS**.

Section III. Bid Data Sheet

Notes on the Bid Data Sheet (BDS)

The Bid Data Sheet (BDS) consists of provisions that supplement, amend, or specify in detail, information, or requirements included in the ITB found in Section II, which are specific to each procurement.

This Section is intended to assist the Procuring Entity in providing the specific information in relation to corresponding clauses in the ITB and has to be prepared for each specific procurement.

The Procuring Entity should specify in the BDS information and requirements specific to the circumstances of the Procuring Entity, the processing of the procurement, and the bid evaluation criteria that will apply to the Bids. In preparing the BDS, the following aspects should be checked:

a. Information that specifies and complements provisions of the ITB must be incorporated.

b. Amendments and/or supplements, if any, to provisions of the ITB as necessitated by the circumstances of the specific procurement, must also be incorporated.

Bid Data Sheet

<table>
<tr><th>ITB Clause</th><th colspan="2"></th></tr>
<tr><td>5.2</td><td colspan="2">For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be:
Design and Build of Vertical Structures</td></tr>
<tr><td>7.1</td><td colspan="2">Sub-contracting is not allowed</td></tr>
<tr><td>10.3</td><td colspan="2">N/A</td></tr>
<tr><td>10.4</td><td colspan="2">The key personnel must meet the required minimum years of experience set below:</td></tr>
<tr><td></td><td><u>Key Personnel</u></td><td><u>General Experience/Relevant Experience</u></td></tr>
<tr><td></td><td>Architect</td><td>Responsible for detailed architectural design, and technical specifications for the project. Must be a registered and licensed Architect with minimum five (5) years of relevant work experience in architecture for public, industrial, or commercial buildings.</td></tr>
<tr><td></td><td>Structural Engineer</td><td>Responsible for detailed engineering design, and technical specifications for the project. Must be a registered and licensed Civil Engineer with minimum five (5) years of relevant work experience in detailed engineering for public, industrial, or commercial buildings of reinforced concrete and /or structural steel framing. Must be a member of the Association of Structural Engineers of the Philippines (ASEP).</td></tr>
<tr><td></td><td>Prof. Electrical Engineer</td><td>Responsible for detailed engineering design, and technical specifications for the project. Must be a registered and licensed Professional Electrical Engineer with minimum five (5) years of relevant work experience in detailed engineering for public, industrial, or commercial buildings.</td></tr>
<tr><td></td><td>Prof. Mechanical Engineer</td><td>Responsible for detailed engineering design, and technical specifications for the project. Must be a registered and licensed Professional Mechanical Engineer with minimum five (5) years of relevant work experience in detailed engineering for public, industrial, or commercial buildings.</td></tr>
<tr><td></td><td>Sanitary Engineer</td><td>Will be responsible on the detailed design and preparation of specifications for the plumbing system, sewage and wastewater disposal, water supply of project. Must be a registered and licensed Sanitary Engineer with minimum five (5) years relevant work experience in the design of utilities for construction work.</td></tr>
<tr><td></td><td>Job Captain/Lead Draftsman</td><td>Shall be responsible for the production of drawing plans. Must be a graduate of BS Architecture with at least two (2) years' experience in architecture or any related course with at least five (5) years' experience as Lead Draftsman.</td></tr>
<tr><td></td><td>Specification Writer/Estimator</td><td>Shall be responsible for the preparation of cost estimated. Must be a graduate of BS Civil Engineering/ BS Architecture with at least two (2) years' experience in unit-price analysis and costing or any related course with at least five (5) years' experience as Specification Writer/Estimator.</td></tr>
</table>

Project Manager	Will be responsible for organizing and directing the work of his staff in carrying out all construction works and testing to ensure that specified works are built in full conformity with approved plans, technical specifications, and contract documents. Must be a registered and licensed Civil Engineer or registered and licensed Architect with minimum five (5) years of responsible and relevant work experience in the supervision or management of the construction of vertical structures and facilities.
Site Project Engineer/PIC	Under the guidance of the Project Manager, will be responsible for all construction works, testing and records keeping to be performed by one construction team at an assigned site. Must be a registered and licensed Civil Engineer or Architect with at least three (3) years of responsible experience in supervising the construction of buildings and its facilities.
Electrical Engineer	Responsible for all electrical works on site. Must be a registered and licensed Electrical Engineer with at least three (3) years of responsible experience in supervising the construction of buildings and its facilities.
Master Plumber	Responsible for all plumbing works on site. Must be a registered and licensed Master Plumber with at least three (3) years of responsible experience in supervising the construction of buildings and its facilities.
Mechanical Engineer	Responsible for all mechanical works on site. Must be a registered and licensed Mechanical Engineer with at least three (3) years of responsible experience in supervising the construction of buildings and its facilities.
Foreman (Civil/Structural)	Responsible for the utilization of manpower on site for civil/structural works. Must have at least five (5) years of responsible experience in supervising the construction of buildings and its facilities.
Foreman (Electrical)	Responsible for the utilization of manpower on site for electrical works. Must have at least five (5) years of responsible experience in supervising the construction of buildings and its facilities.
Foreman (Plumbing)	Responsible for the utilization of manpower on site for plumbing works. Must have at least five (5) years of responsible experience in supervising the construction of buildings and its facilities.
Safety Officer (SO2)	Responsible for the over-all safety of workers on site. Must be a certified COSH practitioner with at least three (3) years of experience in construction safety and health
Material Engineer	Responsible for the quality of all construction materials used in the project. Must be a certified Materials Engineer by DPWH with at least three (3) years of responsible experience in supervising the construction of buildings and its facilities.
Surveyor	Will be responsible for organizing and directing all survey works necessary for the detailed engineering requirements of the project. Must be also responsible in establishing survey control for the actual construction of building projects.

<table>
<tr><td></td><td>Other appropriate qualified support staff, as required comprising of administrative staff, surveyors, laboratory technicians, draftsman, and other sub-professional personnel.</td></tr>
<tr><td>10.5</td><td>The minimum major equipment requirements are the following:

<table>
<tr><th>EQUIPMENT</th><th>CAPACITY</th><th>NO. OF UNITS</th></tr>
<tr><td>Concrete Mixer</td><td>1 bagger mixer</td><td>At least 1 unit</td></tr>
<tr><td>Pump Crete (Rental)</td><td>Min. of 50 cubic meter per setup</td><td>At least 1 unit</td></tr>
<tr><td>Hauling Truck/Dump Truck</td><td>3 cu.m. (min.)</td><td>At least 1 unit</td></tr>
<tr><td>Compactor</td><td>450kgs</td><td>At least 1 unit</td></tr>
<tr><td>Concrete Vibrator Set</td><td>2 hp (min.)</td><td>At least 1 unit</td></tr>
<tr><td>Welding Machine</td><td></td><td>At least 1 unit</td></tr>
<tr><td>Excavator/Backhoe (Rental)</td><td></td><td>At least 1 unit</td></tr>
</table></td></tr>
<tr><td>12</td><td>N/A</td></tr>
<tr><td>15.1</td><td>The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:
a. The amount of not less than ₱600,000.00, if bid security is in cash, cashier’s/manager’s check, bank draft/guarantee or irrevocable letter of credit;

b. The amount of not less than ₱1,500,000.00 if bid security is in Surety Bond.</td></tr>
<tr><td>19.2</td><td>Partial bids are not allowed.</td></tr>
<tr><td>20</td><td>None required.</td></tr>
<tr><td>21</td><td>1. Construction schedule and S-curve,
2. Manpower schedule,
3. Construction methods,
4. Equipment utilization schedule,
5. Construction safety and health program approved by the DOLE, and other acceptable tools of project scheduling.</td></tr>
</table>

Section IV. General Conditions of Contract

Notes on the General Conditions of Contract

The General Conditions of Contract (GCC) in this Section, read in conjunction with the Special Conditions of Contract in Section V and other documents listed therein, should be a complete document expressing all the rights and obligations of the parties.

Matters governing performance of the Contractor, payments under the contract, or matters affecting the risks, rights, and obligations of the parties under the contract are included in the GCC and Special Conditions of Contract.

Any complementary information, which may be needed, shall be introduced only through the Special Conditions of Contract.

1. Scope of Contract

This Contract shall include all such items, although not specifically mentioned, that can be reasonably inferred as being required for its completion as if such items were expressly mentioned herein. All the provisions of RA No. 9184 and its 2016 revised IRR, including the Generic Procurement Manual, and associated issuances, constitute the primary source for the terms and conditions of the Contract, and thus, applicable in contract implementation. Herein clauses shall serve as the secondary source for the terms and conditions of the Contract.

This is without prejudice to Sections 74.1 and 74.2 of the 2016 revised IRR of RA No. 9184 allowing the GPPB to amend the IRR, which shall be applied to all procurement activities, the advertisement, posting, or invitation of which were issued after the effectivity of the said amendment.

2. Sectional Completion of Works

If sectional completion is specified in the **Special Conditions of Contract (SCC)**, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date shall apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).

3. Possession of Site

3.1 The Procuring Entity shall give possession of all or parts of the Site to the Contractor based on the schedule of delivery indicated in the **SCC,** which corresponds to the execution of the Works. If the Contractor suffers delay or incurs cost from failure on the part of the Procuring Entity to give possession in accordance with the terms of this clause, the Procuring Entity's Representative shall give the Contractor a Contract Time Extension and certify such sum as fair to cover the cost incurred, which sum shall be paid by Procuring Entity.

3.2 If possession of a portion is not given by the above date, the Procuring Entity will be deemed to have delayed the start of the relevant activities. The resulting adjustments in contract time to address such delay may be addressed through contract extension provided under Annex "E" of the 2016 revised IRR of RA No. 9184.

4. The Contractor's Obligations

The Contractor shall employ the key personnel named in the Schedule of Key Personnel indicating their designation, in accordance with **ITB** Clause 10.3 and specified in the **BDS**, to carry out the supervision of the Works.

The Procuring Entity will approve any proposed replacement of key personnel only if their relevant qualifications and abilities are equal to or better than those of the personnel listed in the Schedule.

5. Performance Security

5.1. Within ten (10) calendar days from receipt of the Notice of Award from the Procuring Entity but in no case later than the signing of the contract by both parties, the successful Bidder shall furnish the performance security in any of the forms prescribed in Section 39 of the 2016 revised IRR.

5.2. The Contractor, by entering into the Contract with the Procuring Entity, acknowledges the right of the Procuring Entity to institute action pursuant to RA No. 3688 against any subcontractor be they an individual, firm, partnership, corporation, or association supplying the Contractor with labor, materials and/or equipment for the performance of this Contract.

6. Site Investigation Reports

The Contractor, in preparing the Bid, shall rely on any Site Investigation Reports referred to in the **SCC** supplemented by any information obtained by the Contractor.

7. Warranty

7.1. In case the Contractor fails to undertake the repair works under Section 62.2.2 of the 2016 revised IRR, the Procuring Entity shall forfeit its performance security, subject its property(ies) to attachment or garnishment proceedings, and perpetually disqualify it from participating in any public bidding. All payables of the GOP in his favor shall be offset to recover the costs.

7.2. The warranty against Structural Defects/Failures, except that occasioned-on force majeure, shall cover the period from the date of issuance of the Certificate of Final Acceptance by the Procuring Entity. Specific duration of the warranty is found in the **SCC**.

8. Liability of the Contractor

Subject to additional provisions, if any, set forth in the **SCC**, the Contractor's liability under this Contract shall be as provided by the laws of the Republic of the Philippines.

If the Contractor is a joint venture, all partners to the joint venture shall be jointly and severally liable to the Procuring Entity.

9. Termination for Other Causes

Contract termination shall be initiated in case it is determined *prima facie* by the Procuring Entity that the Contractor has engaged, before, or during the implementation of the contract, in unlawful deeds and behaviors relative to contract acquisition and implementation, such as, but not limited to corrupt, fraudulent, collusive, coercive, and obstructive practices as stated in **ITB** Clause 4.

10. Dayworks

Subject to the guidelines on Variation Order in Annex "E" of the 2016 revised IRR of RA No. 9184, and if applicable as indicated in the **SCC**, the Dayworks rates in the Contractor's Bid shall be used for small additional amounts of work only when the Procuring Entity's Representative has given written instructions in advance for additional work to be paid for in that way.

11. Program of Work

11.1. The Contractor shall submit to the Procuring Entity's Representative for approval the said Program of Work showing the general methods, arrangements, order, and timing for all the activities in the Works. The submissions of the Program of Work are indicated in the **SCC.**

11.2. The Contractor shall submit to the Procuring Entity's Representative for approval an updated Program of Work at intervals no longer than the period stated in the **SCC.** If the Contractor does not submit an updated Program of Work within this period, the Procuring Entity's Representative may withhold the amount stated in the **SCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program of Work has been submitted.

12. Instructions, Inspections and Audits

The Contractor shall permit the GOP or the Procuring Entity to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors of the GOP or the Procuring Entity, as may be required.

13. Advance Payment

The Procuring Entity shall, upon a written request of the Contractor which shall be submitted as a Contract document, make an advance payment to the Contractor in an amount not exceeding fifteen percent (15%) of the total contract price, to be made in lump sum, or at the most two installments according to a schedule specified in the **SCC**, subject to the requirements in Annex "E" of the 2016 revised IRR of RA No. 9184.

14. Progress Payments

The Contractor may submit a request for payment for Work accomplished. Such requests for payment shall be verified and certified by the Procuring Entity's Representative/Project Engineer. Except as otherwise stipulated in the **SCC**, materials and equipment delivered on the site but not completely put in place shall not be included for payment.

15. Operating and Maintenance Manuals

15.1. If required, the Contractor will provide "as built" Drawings and/or operating and maintenance manuals as specified in the **SCC.**

15.2. If the Contractor does not provide the Drawings and/or manuals by the dates stated above, or they do not receive the Procuring Entity's Representative's approval, the Procuring Entity's Representative may withhold the amount stated in the **SCC** from payments due to the Contractor.

Section V. Special Conditions of Contract

Notes on the Special Conditions of Contract

Similar to the BDS, the clauses in this Section are intended to assist the Procuring Entity in providing contract-specific information in relation to corresponding clauses in the GCC found in Section IV.

The Special Conditions of Contract (SCC) complement the GCC, specifying contractual requirements linked to the special circumstances of the Procuring Entity, the Procuring Entity's country, the sector, and the Works procured. In preparing this Section, the following aspects should be checked:

a. Information that complements provisions of the GCC must be incorporated.

b. Amendments and/or supplements to provisions of the GCC as necessitated by the circumstances of the specific purchase, must also be incorporated.

However, no special condition which defeats or negates the general intent and purpose of the provisions of the GCC should be incorporated herein.

Special Conditions of Contract

GCC Clause	
2	*[If different dates are specified for completion of the Works by section, i.e. "sectional completion," these dates should be listed here.]*
4.1	*[Specify the schedule of delivery of the possession of the site to the Contractor, whether full or in part.]*
6	The site investigation reports are: *[list here the required site investigation reports.]*
7.2	*[Select one, delete the other.]* *[In case of permanent structures, such as buildings of types 4 and 5 as classified under the National Building Code of the Philippines and other structures made of steel, iron, or concrete which comply with relevant structural codes (e.g., DPWH Standard Specifications), such as, but not limited to, steel/concrete bridges, flyovers, aircraft movement areas, ports, dams, tunnels, filtration and treatment plants, sewerage systems, power plants, transmission and communication towers, railway system, and other similar permanent structures:]* Fifteen (15) years. *[In case of semi-permanent structures, such as buildings of types 1, 2, and 3 as classified under the National Building Code of the Philippines, concrete/asphalt roads, concrete river control, drainage, irrigation lined canals, river landing, deep wells, rock causeway, pedestrian overpass, and other similar semi-permanent structures:]* Five (5) years. *[In case of other structures, such as bailey and wooden bridges, shallow wells, spring developments, and other similar structures:]* Two (2) years.
10	*[Select one, delete the other:]* a. Dayworks are applicable at the rate shown in the Contractor's original Bid. b. No dayworks are applicable to the contract.
11.1	The Contractor shall submit the Program of Work to the Procuring Entity's Representative within *[insert number]* days of delivery of the Notice of Award.
11.2	The amount to be withheld for late submission of an updated Program of Work is [*insert amount*].
13	The amount of the advance payment is *[insert amount as percentage of the contract price that shall not exceed 15% of the total contract price and schedule of payment]*.
14	*[If allowed by the Procuring Entity, state:]* Materials and equipment delivered on the site but not completely put in place shall be included for payment.
15.1	The date by which operating and maintenance manuals are required is *[date]*.

	The date by which "as built" drawings are required is *[date]*.
15.2	The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required is *[amount in local currency]*.

Section VI. Specifications

Notes on Specifications

A set of precise and clear specifications is a prerequisite for Bidders to respond realistically and competitively to the requirements of the Procuring Entity without qualifying or conditioning their Bids. In the context of international competitive bidding, the specifications must be drafted to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only if this is done will the objectives of economy, efficiency, and fairness in procurement be realized, responsiveness of Bids be ensured, and the subsequent task of bid evaluation facilitated. The specifications should require that all goods and materials to be incorporated in the Works be new, unused, of the most recent or current models, and incorporate all recent improvements in design and materials unless provided otherwise in the Contract.

Samples of specifications from previous similar projects are useful in this respect. The use of metric units is mandatory. Most specifications are normally written specially by the Procuring Entity or its representative to suit the Works at hand. There is no standard set of Specifications for universal application in all sectors in all regions, but there are established principles and practices, which are reflected in these PBDs.

There are considerable advantages in standardizing General Specifications for repetitive Works in recognized public sectors, such as highways, ports, railways, urban housing, irrigation, and water supply, in the same country or region where similar conditions prevail. The General Specifications should cover all classes of workmanship, materials, and equipment commonly involved in construction, although not necessarily to be used in a particular Works Contract. Deletions or addenda should then adapt the General Specifications to the particular Works.

Care must be taken in drafting specifications to ensure that they are not restrictive. In the specification of standards for goods, materials, and workmanship, recognized international standards should be used as much as possible. Where other particular standards are used, whether national standards or other standards, the specifications should state that goods, materials, and workmanship that meet other authoritative standards, and which ensure substantially equal or higher quality than the standards mentioned, will also be acceptable. The following clause may be inserted in the SCC.

Sample Clause: Equivalency of Standards and Codes

Wherever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national, or relate to a particular country or region, other authoritative standards that ensure a substantially equal or higher quality than the standards and codes specified will be accepted

subject to the Procuring Entity's Representative's prior review and written consent. Differences between the standards specified and the proposed alternative standards shall be fully described in writing by the Contractor and submitted to the Procuring Entity's Representative at least twenty-eight (28) days prior to the date when the Contractor desires the Procuring Entity's Representative's consent. In the event the Procuring Entity's Representative determines that such proposed deviations do not ensure substantially equal or higher quality, the Contractor shall comply with the standards specified in the documents.

These notes are intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They should not be included in the final Bidding Documents.

Republic of the Philippines

UNIVERSITY OF RIZAL SYSTEM

Province of Rizal

TERMS OF REFERENCE

FOR THE

DETAILED ENGINEERING DESIGN AND CONSTRUCTION IN A DESIGN AND BUILD SCHEME (DB) OF THE PROPOSED COMPLETION OF ONE STOP STUDENT SERVICES CENTER AT UNIVERSITY OF RIZAL SYSTEM MORONG CAMPUS

2023

TABLE OF CONTENTS

TERMS OF REFERENCE

FOR THE

DETAILED ENGINEERING DESIGN AND CONSTRUCTION IN A DESIGN AND BUILD SCHEME (DB) OF THE PROPOSED COMPLETION OF ONE STOP STUDENT SERVICES CENTER AT UNIVERSITY OF RIZAL SYSTEM MORONG CAMPUS

1. INTRODUCTION:

The University of Rizal System (URS) Morong Campus, located J. Sumulong St., Brgy. San Juan, Morong, Rizal is in need of a One Stop Shop Student Services Center Building.

The proposed project will support the university in attaining its vision as “The leading university in human resource development, knowledge and technology generation and environmental stewardship”. The presence of One Stop Shop Student Services Center will further enhance the efficiency and fast delivery of student services and other stakeholders as context allows. The infrastructure development not only provides physical facilities but it is also a potential source of job creation.

The Proposed building will house at the ground floor the CBA Office, OSDS, Registrar and comfort rooms for male and female. The second floor will be allotted for the use of Administrative Services Office and Finance Services Office and comfort rooms for male and female. The third floor will have the University Records Office, Legal Office, Internal Audit Office and Planning Office. There will be comfort rooms for male (with urinal) & female based on the standard ratio required.

The Proposed One Stop Student Services Center Building will be implemented under the Design and Build Scheme. The structure has a total Approved Budget for the Contract of Thirty Million & 00/100.00 Philippine Currency (PhP. 30,000,000.00)

2. OBJECTIVE:

As a university, the University of Rizal System is mandated to perform student services works, thus, it is imperative to upgrade its work process capabilities through the establishment of a building equipped with the necessary facilities that would warrant for an effective and efficient conduct of student services.

3. SCOPE OF THE PROJECT

The services to be provided for are the detailed architectural engineering study and design, preparation of the complete construction plans, cost estimates, specifications, construction permits, and the construction of the Proposed One Stop Shop Student Service Center building in a design and build scheme.

4. PRINCIPAL DUTIES AND RESPONSIBILITIES

The contracting firm will be required to carry out the following tasks:

A. Design Phase:

- Review the preliminary design standard which was recommended in the project proposal final report, verify and modify, with the University of Rizal System, as appropriate;
- Carry out sufficient field investigation to permit final detailed design of the proposed structure and facilities and prepare site adapted plans, particularly as to foundation design, water supply, liquid waste disposal, drainage and suitable sources of local construction materials;
- Prepare Architectural Design, Structural Design and analysis based on design standards of the National Structural Code of the Philippines, National Plumbing Code, National Electrical Code, Accessibility Law, Fire Code of the Philippines, National Building Code and other codes on building.
- Annexes attached herein (Design Concept, Standards, Specifications) shall form part of this TOR.
- Prepare a set of reproducible construction drawings reflecting the approved final site adaptation, including technical specifications of particular application and Detailed Cost Estimates.
- Observe the specification in this TOR (Term of Reference)

B. Construction Phase:

- The contracting firm shall be responsible for securing a Building Permit for the project. Thus, the production of necessary documents namely Building Plans, Project Technical Specifications, Structural Analysis and Design, and other pertinent documents duly signed and sealed by the licensed professionals engaging in the project, form part of the said responsibility.
- Undertake verification survey jointly with the duly authorized representative of the University of Rizal System to check the veracity of the approved detailed engineering plans;
- Submit for final approval of all construction plans.
- Technical specifications and cost estimates duly corrected after verification survey;
- Submit the following documents prior to the start of actual construction;

  a. Verified Survey data with soil analysis
  b. Structural Design and Analysis
  c. Architectural Design Concept
  d. Approved Construction Drawings
  e. Approved Technical Specifications and mutually agreed Cost Estimates
  f. Contracting Firm's Project Organizational Structure
  g. PERT/CPM
  h. GANTT Chart
  i. Construction methodology
  j. Manpower and Equipment Schedule
  k. Monthly Cash Flows
  l. S-Curve
  m. Daily Weather Chart
  n. Clearances
  o. Temporary permits for utilities (optional)
  p. Building Permit

- Ensure that no sub-contracting of work takes place without prior approval of University of Rizal System;
- Prepare and submit the following documents as the work progresses;

a) Daily, weekly and monthly schedule of activities
b) Material Testing results
c) Monthly work accomplishment report
d) Concrete pouring permit, and
e) Actual daily weather report.

- Prepare and deliver to the University of Rizal System, updated “AS BUILT” plans/drawings per percentage of completion/accomplishment with corresponding billing statement claims of the project and a full set of reproducible documents/ “AS BUILT” drawings clearly indicating any and all changes made during the construction upon completion of the project.

- Provide such other services as may reasonably be required to fulfill the objectives of these services within the agreed contract terms.

-

5. TIME SCHEDULE AND STAFF REQUIREMENT

Professional services under the contract are to be rendered by approved personnel of the contracting firm led by an experienced Project Manager. Standard requirements for key technical staff for the design and construction personnel are as follows:

Architect	Responsible for detailed architectural design, and technical specifications for the project. Must be a registered and licensed Architect with not less than five (5) years of experience in architecture for public industrial or commercial buildings.
Civil/Structural Engineer	Responsible for detailed engineering design, and technical specifications for the project. Must be a registered and licensed Civil Engineer with not less than five (5) years of experience in detailed engineering for public industrial or commercial buildings of reinforced concrete and/or structural steel framing. Must be a member of the Association of Structural Engineers of the Philippines (ASEP).
Prof. Electrical Engineer	Responsible for detailed engineering design, and technical specifications for the project. Must be a registered and licensed Professional Electrical Engineer with not less than five (5) years of experience in detailed engineering for public, industrial or commercial buildings.
Prof. Mechanical Engineer	Responsible for detailed engineering design, and technical specifications for the project. Must be a registered and licensed Professional Mechanical Engineer with not less than five (5) years of experience in detailed engineering for public, industrial or commercial buildings.
Sanitary Engineer	Will be responsible on the detailed design and preparation of specifications for the plumbing system, sewage and wastewater disposal, water supply of project. Must be a registered and licensed Sanitary Engineer not less than five (5) years’ experience in the design of utilities for construction work.

Job Captain/Lead Draftsman	Shall be responsible for the production of drawing plans. Must be a registered and licensed architect with at least two (2) years' experience in architecture
Specification Writer/Estimator	Shall be responsible for the preparation of cost estimated. Must be a registered and licensed civil engineer with at least two (2) years' experience in unit-price analysis and costing.
Electronics and Communications Engineer	Responsible for detailed engineering design and preparation of technical specifications for the electronic data system of the project. Must be a registered and licensed Electronics and Communications Engineer with at least five (5) years of responsible experience in supervising the construction of buildings and its facilities.
Project Manager	Will be responsible for organizing and directing the work of his staff in carrying out all construction works and testing to ensure that specified works are built in full conformity with approved plans, technical specifications, and contract documents. Must be a registered and licensed Civil Engineer or registered Architect with not less than five (5) years of responsible experience in the supervision or management of the construction of vertical structures and facilities.
Site Project Engineer/PIC	Under the guidance of the Project Manager, will be responsible for all construction works, testing and records keeping to be performed by one construction team at an assigned site. Must be a registered and licensed Civil Engineer or Architect with at least three (3) years of responsible experience in supervising the construction of buildings and its facilities. Responsible for the conduct of site inspection and monitoring.
Electrical Engineer	Responsible for all electrical works on site. Must be a registered and licensed Electrical Engineer with at least three (3) years of responsible experience in supervising the construction of buildings and its facilities.
Master Plumber	Responsible for all plumbing works on site. Must be a registered and licensed Master Plumber with at least three (3) years of responsible experience in supervising the construction of buildings and its facilities.
Mechanical Engineer	Responsible for all mechanical works on site. Must be a registered and licensed Mechanical Engineer with at least three (3) years of responsible experience in supervising the construction of buildings and its facilities.
Foreman (Civil/Structural)	Responsible for the utilization of manpower on site for civil/structural works. With certificate from government recognized certification body (TESDA, etc.) and should have at least five (5) years of responsible experience in supervising the construction of buildings and its facilities.
Foreman (Electrical)	Responsible for the utilization of manpower on site for electrical works. With certificates from government recognized certification body of any building and construction trade (TESDA, etc.) and should have at least five (5) years of responsible experience in supervising the construction of buildings and its facilities.

Safety Officer (SO2)	Responsible for the overall safety of workers on site. Must be a TESDA certified COSH practitioner with at least three (3) years of experience in construction safety and health program.
Materials Engineer	Responsible for the quality of all construction materials used in the project. Must be a certified Materials Engineer by DPWH with at least three (3) years of responsible experience in supervising the construction of buildings and its facilities.
Surveyor	Will be responsible for organizing and directing all survey works necessary for the detailed engineering requirements of the project. Must be a registered and licensed Geodetic Engineer who will be responsible in establishing survey control for the actual construction of building projects.
Other appropriate qualified support staff, as required comprising of administrative staff, surveyors, laboratory technicians, draftsman, and other sub-professional personnel.	

6. DOCUMENTS AND REPORTS

The contracting firm shall deliver to the URS not later than the period for design specified herein and in accordance with the agreed Implementation Schedule to be set forth in the Contract Agreement, after receipt of the Notice to Proceed (NTP) the full set of documents enumerated in section 4.2 (B).

The document must include one full-size, reproducible set of site-adapted construction drawings. During the building phase, the contracting firm shall provide the URS with concise monthly updates on the physical and financial status of the works, as well as a brief description of the operations. The format of such reports must be agreed upon and acceptable to both the contractor and URS. Copies of each monthly report and subsequent special reports submitted to the PMO will be established. Brief special reports will be produced if deemed required or if requested by the client in relation to any problems that obstruct the regular progress of the job. Such a report must clearly outline the steps that must be taken to prevent unjustified delays in the project's completion. A final report on the services provided must be generated, including a concise recapitulation of the technical engineering and construction operations as well as an indication of actual vs planned construction-contract terms. The documentation and reports shall be written in English, and they shall become the property of URS.

7. LOGISTIC SUPPORT

The URS shall provide the contracting firm;

- A copy of the project proposal report for the proposed project;
- University Document(s) as may be allowed by the laws of the land to facilitate the execution of the project;
- Liaison officer in the form of a Project Management Office

8. CONTRACT PERIOD

The Contract Period, or term for the services described in these TOR shall be based from the date of the Official Notice to Proceed issued by the URS to the Contracting Firm; unless otherwise agreed in the contract.

Construction of a Proposed One Stop Shop Student Services Center

Project Name and Location	**Detailed Engineering Design Phase**	**Construction Phase**
Proposed One Stop Shop Student Services Center	See page 9	See ANNEX 5 Page ___ (GANTT CHART)

9. **MANPOWER REQUIREMENTS (CONSTRUCTION PHASE**)

Construction of Proposed One Stop Student Services Center located at J. Sumulong St., Brgy. San Juan, Morong, Rizal.

DESIGNATION	**DE (mos. or days)**	**CS**
Project Manager		
Site Project Engineer/PIC		
Electrical Engineer		
Master Plumber		
Mechanical Engineer		
Foreman (Civil/Structural)		

Foreman (Electrical)		
Leadman		
Safety Officer (SO2)		
Materials Engineer		
Surveyor		

Note:

1. DE - (Detailed Engineering) involves survey works, site adaptation and Preparation of Engineering Plans.

2. CS - (Construction Supervision) involves all activities during Construction Phase until turn-over of structures.

10. DETAILED ENGINEERING

*Detailed Engineering shall proceed only based on the feasibility or preliminary engineering study made which established the technical viability of the project and conformance to land use and zoning guidelines prescribed by existing laws.

*A schedule of detailed engineering activities shall include the following:

a. Site Survey
b. Site Investigation
c. Foundation Investigation
d. Soils and Materials Investigation
e. Preparation of Architectural Structural Design and Analysis
f. Preparation of Site Adopted Plans
g. Preparations of Specifications
h. Preparations of Quantity and Cost Estimates
i. Preparation of Proposed Construction Schedule, Construction Methodology, Equipment Schedule, Organizational Chart, Bar Chart, Cash Flows
j. Preparation and Submission of Design Report

*Work under detailed engineering shall include but not necessarily be limited to the following:

Design Standards	Design shall be in accordance with appropriate standard adopted by the URS. Design standards for the structures shall consider,

	among other things, the seismicity of the area to determine the optimum safety of structures and to minimize possible earthquake damage.
Field Surveys	Necessary field survey shall be carried out. All survey works shall be prepared in a manner satisfactory to carry out accurate design and production damage control measure.
Contract Plans	The following plans shall be prepared for the construction contract in accordance with the guidelines and standards adopted by the URS, incorporating at least the following:
Quantities	All construction quantities shall be computed to a reasonable accuracy variation order.
Special Provisions	Specifications shall be prepared for specific items of work or method of construction, measurement and payment under the contract, which are not covered by the University of Rizal System.
Unit Price	These shall be prepared for each item using costs based on reasonable approved current prices.
Costs estimates	These shall be prepared for each item using costs based on reasonable current process and should show components for equipment rentals, fuels, labor, materials and overhead.
Duration	An estimate of the actual number of working days required to complete the project through PERT/CPM analysis of the project activities and corrected for holidays and weekends shall be made. Likewise, an estimate of the number of rainy/ unworkable days considered unfavorable for the prosecution of the work at the site shall be included and incorporated in the actual number of working days which shall be made the basis of the total contract time. Without the estimated number of rainy/unworkable days established, the contract time is presumed to have excluded the unfavorable conditions.

11. CONSTRUCTION PHASE

1. The construction phase shall proceed only upon approval by the SUC PRESIDENT OF University of Rizal System of all the requirements in the Detailed Engineering Design Phase, issuance of the Notice to Proceed and the Issuance of the required Building Permit by the Office of Building Official, Municipality of Morong, Rizal.

2. Verification survey supported with Comprehensive Geotechnical Report shall be undertaken where necessary.

3. Provide field office at site and posts for monitoring such graph or chart as: S-curve, PERT/CPM, Gantt Chat, Daily Weather Chart, Daily Log Book, etc.

4. Prepare monthly work accomplishment report, material testing result, concrete pouring permits, and schedule of activities.

5. Prepare and deliver to the University of Rizal System “as built” plans upon the completion of the project.

Annex 1

I. PRELIMINARY INVESTIGATIONS

A. Structural Design Standard

1. Basis for Design

The structural design of the Proposed One Stop Student Services Center Building must be in accordance with the latest edition of the National Structural Code of the Philippines (NSCP), Volume 1,2015 and P.D. No. 1096(the 1977 NBCP) and its 2005 Revised Edition IRR.

All concrete materials and workmanship shall conform to the latest building code of American Concrete Institute (ACI-138) while steel construction will be based on AISC Manual.

The Structure shall be designed to have a lifespan to last at least fifty (50) years.

The design of the said structure shall be based on the latest edition of the National Structural Code of the Philippines (NSCP), considering the Loadings, seismic zoning, site characteristics, occupancy, configuration, structural system and height. It shall be designed with adequate strength to withstand the lateral displacements induced by the Ground Motion, considering the inelastic response of the structure and the inherent redundancy, over strength, and ductility of the lateral force resisting system.

2. Site Classification

The seismicity of the location belongs to zone 4. The structure has an occupancy category classified as special occupancy structures. Its structural system or Lateral-Force –Resisting System Description shall be based on Special-Moment-Resisting Frame (SMRF).

3. Shear Strength Requirement

Detailing requirements in seismic zone 4 shall include the provision of confinement ties/hoops, proportioned to resist earthquake-induced shear force.

B. Information On Soil

Soil Investigation

General

Foundation investigation shall be conducted at the building site as required. The Contractor shall initiate the conduct of soil investigation. It is required that the interpretation and evaluation of the results of the foundation investigation upon completion shall be made by a registered civil engineer experienced and knowledgeable in the field of geotechnical engineering.

a. Soil Classification

Soil classification shall be based on observation and any necessary tests of the materials disclosed by borings or excavations made in appropriate locations.

b. Allowable Soil Bearing Capacity

The allowable soil bearing pressure to be used shall be based on the result of the boring test made at the building site. (See the result of the conducted soil investigation).

C. Environmental Conditions

1. Project Environment

The proposed One Stop Student Services Building will be situated in University of Rizal System Morong Campus in Brgy. San Juan, Morong, Rizal. It will answer and cater the needs to upgrade its work process through the establishment of a building equipped with the necessary facilities that would warrant for an effective and efficient conduct of student services.

2. Description Of the Project Location

a. Geographical Location

The campus of URS lies between Latitude 14°30' - 14°31' and Longitude 121°13' - 121°14' at the heart of Morong, Rizal. It is located 28.73 kilometers east of **Manila**, although a typical commute between Manila and Morong would take between one and three hours depending upon traffic conditions.

Annex 2

II. PROJECT DESCRIPTION AND CONCEPTUAL DESIGN

A. Project Description

As a university, the University of Rizal System is mandated to perform student services works, thus, it is imperative to upgrade its work process capabilities through the establishment of a building equipped with the necessary facilities that would warrant for an effective and efficient conduct of student services.

Adherence to Building Design Standards and Structural Soundness.

School buildings and other structures must strictly follow standard engineering technical specifications (i.e., Building Code of the Philippines, 2005, National Structural Code of the Philippines, 2015). The NSCP 2015 has specific sections for wind load/ wind effects and earthquake design.

The proposed project will support the university in attaining its vision as “The leading university in human resource development, knowledge and technology generation and environmental stewardship”. The presence of One Stop Student Services Center will further enhance the efficiency and fast delivery of student services and other stakeholders as context allows. The infrastructure development not only provides physical facilities but it is also a potential source of job creation.

The Proposed building will house at the ground floor the CBA Office, OSDS, Registrar and comfort rooms for male and female. The second floor will be allotted for the use of Administrative Services Office and Finance Services Office and comfort rooms for male and female. The third floor will have the University Records Office, Legal Office, Internal Audit Office and Planning Office. There will be comfort room for male (with urinal) & female based on the standard ratio required.

The Proposed One Stop Student Services Center Building will be implemented under the Design and Build Scheme. The structure has a total Approved Budget for the Contract of Thirty Million & 00/100.00 Philippine Currency (PhP. 30,000,000.00)

B. Conceptual Design

The aesthetic features of the building shall be aligned with the design of the existing Administration Building. It shall likewise conform to the physical appearance, as well as the material specifications which is specified in the Performance Specifications and Parameters of the TOR.

1. Structural Component

Structural analysis on the foundations, beams and columns must be considered (i.e., spread foundations, tie beams etc.) or as prescribed by the Structural Engineer, anchored on the recent assessment by the Mines and Geosciences Bureau on the proposed location and to the whole area, an earthquake/seismic design must be implemented.

Building design will be influenced by the level of seismic resistance desired. This can range from prevention of nonstructural damage in frequent minor ground shaking to prevention of structural damage and minimization of nonstructural damage in occasional moderate ground shaking, and even

avoidance of collapse or serious damage in rare major ground shaking. These performance objectives can be accomplished through a variety of measures such as structural components like shear walls, braced frames, moment resisting frames, and diaphragms, base isolation, energy dissipating devices such as visco-elastic dampers, elastomeric dampers, and hysteretic-loop dampers, and bracing of nonstructural components

Provision of hallways, landscaped-paved walkways, ramp for PWDs. A movable interior wall partitions to accommodate large space for future gatherings/meetings etc. depending upon its purpose. Restrooms for male (with urinals), female and PWD with a complete set of fixtures.

2. Electrical Fixtures

a. Require protective covering for all wirings and fixtures.

b. Install a fire alarm system that complies regulatory requirement.

c. Provide environment friendly fire extinguishers;

3. Stairs/Handrails

a. Distance between railings shall not be more than 100 mm (4 inches) so that office tenants, visitors and students cannot squeeze through;

b. For abrupt change in floor elevation, provide ramp to avoid freak accidents.

c. To minimize the chance of slipping, avoid smooth or polished steps surfaces and provide non-slip nosing.

d. Always provide a landing with railings between a doorway and a stairway.

4.Windows/Glass & Glazing

Windows shall be 6mm thick tinted bronze glass on powder blue matte finish aluminum frame

Glass Partition shall be 12mm thick tempered glass

5.Doors/Exits

Doors shall be a fire resistive material in compliance to the Fire Code of the Philippines. Access for maintenance of roof shall be provided.

6.Walls

Walls shall be smooth painted finished to prevent injury to highly active, playful and mobile students.

7.Water Tank

Water tank (when necessary) must be provided and shall be elevated from ground level. The total weight of such tank/s with full content must be considered in the structural design support the foundation, columns and beams and slab. Water tanks/s must be enclosed with aluminum flat bar 4”

opening interior placed horizontally for aesthetics and ventilation purposes. An opening or door is to be provided for maintenance access.

8. Water System and Wastewater Disposal System

Schools/Universities will be provided with reserve water in water tank reserve to be used in case of fire. The design, construction and operation of a school waterworks system shall be governed by existing laws relating to local waterworks system. Section 902-904 of the National Building Code states that water piping installations inside buildings and premises shall conform to the provisions of the National Plumbing Code of the Philippines.

For sanitation purposes, Section 901 states that all buildings shall be provided with adequate and potable water supply, plumbing installation and suitable wastewater treatment or disposal system, storm water drainage, pest and vermin control, noise abatement device, and such other measures for the protection and promotion of health of persons occupying the premises.

9. Sanitary Facilities

* Drainage canal shall be wide enough, covered, and provided with manhole for safety and sanitation purposes.

* Location of the septic tank must be at least two (2) meters away from the building it serves. It shall be properly vented for proper release of gases. It must be at least 25 meters away from any source of water supply to avoid contamination.

10. Paved walkways, landscaped for the ground beautification which will be reflected on the Site Development Plan.

C. Specific Outputs and Requirements of the Structure

Scope of Work:

1. Furnish all materials, labor, equipment and all other facilities for the satisfactory performance of all work necessary for the complete construction of the project, ready for use and legal occupancy, in strict conformity with plans and specifications.

2. The Principal Items of Construction Work Area:

a. Securing of all necessary (local and national) permits and final certifications for the entire construction and payment of all necessary fees in connection thereof.

b. Preparation of Site

c. Excavation and Backfilling

d. Reinforced Concrete Work

e. Masonry Work

f. Structural Steel Frames/ Trusses

g. Roofing

h. Carpentry and Joinery Work

i. Doors

j. Rough and Finishing Hardware

k. Electrical Work

l. Plumbing Work

m. Septic Vault and Storm Drainage System

n. Fire Detection and Alarm System

o. Ceiling Finishes

p. Wall Finishes

q. Floor Finishes

r. Painting Works

s. Glass and Glazing

Annex 3

III. PERFORMANCE SPECIFICATION AND PARAMETERS

A. General Specifications:

The proposed One Stop Student Services Center Building shall be designed and constructed in accordance with requirements of the National Building Code and other existing laws relative to construction.

B. Site Conditions

B.1. Construction Stakes and Reference Marks:

1. All grades, lines, levels and benchmarks necessary for the execution of the work shall be established and maintained according to plans and drawings. All errors or inconsistencies from the drawings shall be reported to the Architect or Design Engineer before commencing work.

2. Provide and maintain well-built batter boards at all concerns. Establish at least two benchmarks at widely separated places especially at the front and rear portion of the structure. As work progresses, establish benchmarks at each floor giving exact level of various floors as indicated and shown on the drawings.

3. As work progresses, lay out the exact location of all partitions, columns, and well structure as a guide for all trades.

B. 2. Excavation and Backfilling

1. Excavation:

a. The CONTRACTOR shall make all necessary excavations for foundations to grades indicated on drawings.

b. Excavation should be done neatly according to sizes as indicated in the drawings. Structural footing excavation shall be carried below the natural grade line to insure a firm and sound foundation. All foundation bed should be filled with 10 mm thick gravel tampered and to receive the concrete to be poured.

c. Excavation or fills for building shall be constructed or protected such that they do not endanger life or property.

d. Existing footing or foundations which may be affected by any excavation shall be underpinned adequately or otherwise protected against settlement and shall be protected against lateral movement.

e. Before commencing the excavation, the person making or causing the excavation to be made shall notify in writing the owners of adjoining building not less than 10 days before such excavation is to be made and that the adjoining building will be documented to include photographs prior to excavation. Technical documents pertaining to the proposed underpinning and excavation plan shall be provided to the owner of the adjacent property.

f. Unless it can be shown through a detailed geotechnical investigation that underpinning is necessary, any person making or causing an excavation shall protect the excavation so that the soil of the adjoining property shall not cave in or settle.

2. Fills:

General: Unless otherwise recommended in the approved geotechnical engineering report, fills shall conform to the provisions of this section. In the absence of an approved geotechnical engineering report, these provisions may be waived for minor fills not intended to support structures.

a. Fills to be used to support the foundations of the building shall be placed in accordance with accepted engineering practice. A geotechnical report and a report of satisfactory placement of fill, both acceptable to the building official, shall be submitted when required by the building official.

b. No fill or surcharge loads shall be placed adjacent to any building or structure unless such building or structure can withstand the additional vertical and horizontal loads caused by the fill or surcharge.

c. Fill slopes shall not be constructed on natural slopes steeper than 1 unit vertical in 2 units horizontal (50% slope), provided further that benches shall be made to key in the subsequent fill materials.

d. The requirement for protection of adjacent property and the depth which protection is required shall be defined by the prevailing law. Where not defined by law, the following shall apply:

B.3 Preparation of Ground:

1. The ground surface shall be prepared to receive fill by removing non-complying fill and unsuitable materials by scarifying and benching in the case of sloping ground. The existing ground surface shall be adequately prepared to receive fill removing non-complying fill and other unsuitable material, and by scarifying to provide a bond with the new fill.

2. Where the natural slopes are steeper than 1 unit vertical in 5 units horizontal (20% slope) and the height is greater than 1.5m., the ground surface shall be prepared by benching into sound bedrock or other competent material as determined by the geotechnical engineer. The bench under the toe of a fill on a slope steeper than 1 unit vertical in 5 units horizontal (20% slope) shall be at least 3 m. wide.

3. The area beyond the toe of fill shall be sloped to drain or paved drain shall be provided. When fill is to be placed over a cut, the bench under the toe of fill shall be at least 3 m. wide but the cut shall be made before placing the fill and only after acceptance by the geotechnical engineer as a suitable foundation for fill.

4. Fill Material:

a. Only organic or deleterious material shall be removed and will not be permitted in fills. Except as permitted by the geotechnical engineer, no rock or similar irreducible material with maximum dimension greater than 200mm shall be buried or placed in fills.

b. Use "Anapog" for filling materials tampered and watered at every .30 m layer. Earth removed from the excavation of footings, septic vault and other works may also be used as same upon approval by the Design Engineer.

5. Drainage and Terracing

a. General:

Unless otherwise indicated on the approved grading plan, drainage facilities and terracing shall conform to the provisions of this section for cut or fill slopes steeper than 1 unit vertical in 3 units horizontal (33.3% slope).

b. Disposal

All drainage facilities shall be designed to carry waters to the nearest practicable drainage ways approved by the building official or other appropriate jurisdiction as a safe place to deposit such waters.

6. Backfilling

After the forms have been removed from footings, foundations, walls, etc., and when the concrete is hard enough to resist pressure resulting from fill, the materials from excavation shall be used for backfilling around them.

a. Satisfactory materials shall be used in bringing fills to the lines and grades indicated and for replacing unsatisfactory material. Satisfactory material shall be free from roots and other organic matter, trash, debris, and stones larger than 75mm in any dimension.

b. Backfilling shall not begin until construction below finish grade has been approved, underground utilities systems have been inspected, tested and approved, forms removed and the excavation cleaned of trash and debris. Backfill shall be brought to indicate finish grades and shall not be placed in wet, muddy or spongy areas. Backfill shall be of satisfactory materials placed and compacted as specified.

Heavy equipment for spreading and compacting backfill shall not be operated closer to foundation or retaining walls than a distance equals to the height of backfill above the top of footing; the area remaining shall be compacted to required thickness with power driven hand tampers suitable for the material being compacted. Backfill shall be placed carefully around pipes to avoid damage to coatings or wrappings. Backfill; shall not be place against foundation walls prior to seven (7) days after completion of the walls. As far as practicable, backfill shall be brought up evenly on each side of the wall and sloped to drain away from the wall.

c. Placing: Satisfactory material shall be placed in horizontal layers not exceeding 20cm in loose depth and then compacted. No material shall be placed on surfaces that are wet, muddy or spongy.

d. Tests shall be performed on backfill as required by the Engineer. Compaction shall be up to 95 percent maximum dry density per ASTM.

e. Curing materials. Materials shall conform to one of the following unless otherwise designated:

e.1 Expansion joint filler shall be elastomeric pre-molded type.

e.2 Sealing materials for expansion joints shall be single component urethane or acrylic type sealant.

e.3 Form coating shall be non-staining type mineral oil.

e.4 Vapor barrier shall be polyethylene sheets. 6 mils minimum thickness, clear, conforms to commercial standard CS-238 as distributed by “The Elastomark Corporation” or approved equivalent.

e.5 Water stop shall be rubber, neoprene or PVC with applicable jointing vulcanizing agent.

B.4. Delivery and Storage

a. Cement shall be stored immediately upon receipt at the site of the work.

Cement in bags shall be stored in suitable weatherproof structure which shall be as watertight as possible. Floors shall be elevated above the ground, a distance sufficient to prevent the absorption of moisture. Bags shall be stacked close together to reduce circulation of air but shall not be stacked against outside walls. The manner of storage shall permit easy access for inspection and identification of each shipment. Bulk cement shall be transferred to elevated airtight and weatherproof bins. At the time of use, all cement shall be free flowing, and free of lumps. Cement that has been in storage longer than 6 months will be tested by standard mortar tests or other test as deemed necessary by the Construction Architect/Engineer to determine its suitability for use.

b. Aggregates shall be stored on areas covered with tightly laid wood planks, sheet metal or other hard and clean surface, and in a manner that will preclude the inclusion of foreign materials. Aggregates of different sizes shall be stored in separate piles.

c. Reinforcement. Reinforcement shall be stored in a manner that will avoid excessive rusting or coating with grease, oil, dirt and other objectionable materials. Storage shall be in separate piles or racks so as to avoid confusion and loss of identification after bundles are broken.

B.5. Forms

a. General requirements.

Forms shall be provided for all concrete not indicated or specified otherwise. Forms shall be set true to line and grade and maintained so as to ensure completed work within the allowable tolerance specified, and shall be mortar tight. The contractor shall be responsible for the adequacy of forms and form support. Wire ties shall not be used where the concrete surface will be exposed to weathering and where discoloration will be exposed. All formworks shall be provided with adequate clean-out openings to permit inspection and easy cleaning after all reinforcement has been placed. Where forms of continuous surfaces are placed in successive units, these shall be fitted over the completed surface to obtain accurate alignment of the surface and to prevent leakages of mortar. Panel forms shall be constructed to provide tight joints between panels. All forms shall be constructed so that they can be moved without damaging the concrete. All exposed joints, edges, and external corners shall be chamfered a minimum of 20 mm unless specified hereinafter.

b. Materials for forms.

Forms shall be of wood, plywood, steel or other suitable, materials. Wood forms for surfaces exposed to view in the finished structure and requiring a standard finish, shall be plywood or phenolic board. For unexposed surface, undressed square-edged lumber may be used. Forms for surfaces requiring special finishes shall be plywood or hard-pressed fiberboard not less than 12 mm thick. Surface of steel forms shall be free from irregularities, dents, and sags.

Sound and clean, free from all defects that may affect the appearance and strength of the structure. Form bracing must be adequate and properly placed from bulging and leakage of mixture. All forms (together with all steel reinforcements firmly wired) must be in place at least six hours before concreting operations. All forms must be wet with fresh water before pouring operations.

c. Coating

Before placing concrete, the contact surface of forms shall be coated with non-staining mineral oil or suitable non-staining form coating compound, or shall be given two coasts of nitrocellulose lacquer, expect as specified otherwise. Mineral oil shall be used on forms for surfaces, which are to be painted. For surfaces not exposed to view in the finished structure and when temperature is above 10 degrees C, sheeting may be wetted thoroughly with clean water. All excess coating shall be removed by wiping with cloths. Re-used forms shall have the contact surfaces cleaned thoroughly: those, which have been coated, shall be given an additional application of the coating. Plaster waste molds shall be sized with two coats of thin shellac or lacquer and coated with soft or thinned non-staining grease.

d. Tolerance and variations.

The contractor shall set and maintain concrete forms to ensure that after removal of the forms and prior to patching and finishing no portion of the concrete work will exceed

any of the tolerances specified. Variation in floor levels shall be measured before removal of supporting shore. The Contractor shall be responsible for variations due to deflection. The specified variation for one element of the structure will not be applicable when it will permit another element of the structure to exceed its allowable variations. Except as otherwise specified hereinafter, tolerances shall conform to ACI-347.

e. Formwork:

Forms shall be substantial and sufficiently tight to prevent leakages of mortar. It shall be properly braced or tied together to maintain position and shape.

f. Removal of forms:

Forms shall be removed in such a manner as not to impair safety and service ability of the structure. Concrete to be exposed by form removal shall have sufficient strength not to be damaged by removal operation.

B.6. Shoring and Scaffolding:

a. Shoring and scaffolding shall be undertaken properly and adequately so as to support or brace masonry unit during construction and throughout the period of hardening.

b. Removal of shores and reshoring:

Before starting construction, the contractor shall develop a procedure and schedule for installation and removal of shores and for calculating the load transferred to the structure during the process.

C. CLASSES OF CONCRETE AND USAGE

a. Strength requirements.

Concrete of the various classes, if not indicated in the drawings and as specified under other sections, shall be proportioned and mixed for the following strengths:

Concrete	Usage	Minimum Compressive Strength in 28 days	
Class		Psi	MPa
AA	For foundations, footings, tie beams basement walls, floor roof slabs, beams, girders, and stairs.	4,000	27.8
A	For water storage tanks, septic Tanks and slabs on grade.	3,000	20.7

Concrete shall achieve the 28-day strength of the class specified made with type I or II Portland cements.

b. Effective minimum covering

Usage/Purpose	Minimum cover
Footing and base slabs at uniform surfaces and bottom In contact with earth.	75 mm
Formed concrete surfaces exposed to earth, water or weather: 20 mm diameter bar and larger 16 mm diameter bar and smaller	 50 mm 40 mm
Concrete not exposed to weather or in contact with Ground Slabs, walls, joists 42 mm & 58 mm diameter 36 mm diameter and smaller	 40 mm 20 mm
Beams and columns	40 mm

C.1 Proportioning measurement and mixing.

a. Proportioning

Proportioning of materials shall be accomplished by weighing, except as otherwise provided herein. In urgent situation, volumetric proportioning may be used temporarily; if permitted by the Construction Architect/Engineer who will stipulate the length of the period during which volumetric proportioning may be used. The Contractor shall furnish the necessary equipment and shall establish accurate procedures, subject to the approval of the Construction Architect/Engineer for determining the quantities of free moisture in the aggregates, the true volume of the fine aggregate if volumetric proportioning is used and the air content of the freshly mixed concrete if air-entrained concrete is used. Moisture volumetric and air determination shall be made at intervals as directed by the Construction Architect/Engineer as specified herein after under field testing requirements. Allowance tolerances for measuring cement and water shall be one 1% percent for aggregates two (2%) percent and three (3%) percent for admixtures.

1. Weight measurement. The fine aggregate and each size of coarse aggregate shall each be weighed separately. Cement in standard packages (bags) need not be weighed but bulk cement or fractional packages shall be weighed on a scale separate from that used for weighing other materials.

2. Volumetric measurement. The weight proportion shall be transposed into equivalent volumetric proportions weighing by representative samples of the aggregates in the conditions in which they will be measured and in accordance with ASTM C29. In determining the true volume of the fine aggregate, allowance shall be made for the bulking effect from the moisture contained therein. Suitable allowances shall also be made of variations in the moisture conditions of the aggregates.

b. Mixing.

1. Concrete design mix. Concrete mixes except otherwise indicated shall be designed by the Contractor. The proportions shall be changed whenever necessary to maintain the workability, strength, and standard of quality for the concrete covered by these specifications, and to meet the varying conditions encountered during constructions and to meet the varying conditions encountered during construction. Test for slump and unit weight shall be performed under supervision of the Construction Architect/Engineer.

2.Slab on Grade shall be provided with Polyethylene Sheet. The material shall serve as vapor retarder of moisture coming up through the concrete and into the structure.

3.Slump shall be determined in conformance with ASTM C 143 and as per structural design /specification of the designer.

Non-vibrated concrete will be placed only upon written approval.

4. Sample test of concrete mixtures of approved graded materials must be done before concrete work is started. Concrete must attain the following strength in 28 days. Design mix shall be submitted to the PMO prior to the start of concreting work.

5. All concrete shall be machine-mixed. In emergencies, the mixing may be done by hand if so authorized by the Construction Architect/Engineer. Mixing shall begin within 30 minutes after the cement has been added to the aggregates. The time of mixing after all cement and aggregates are in the mixer drum shall be not less than one minute for mixers having a capacity of one cubic meter or less; for mixers of larger capacities the minimum time shall be increased 15 second for each additional cubic meter or fraction thereof of additional capacity for continuous mixers non-forming to ASTM C685 as prescribed by the equipment manufacturer. A reduction in the aforementioned mixing time shall be permitted in accordance with ASTM C94 in mixer performance tests made at the contractor's option and his expense indicate adequate mixing with reduced time. All mixing water shall be introduced in the drum before one-fourth of the mixing has elapsed. The entire content of the mixer time has elapsed. The entire content of the mixer drum shall be discharged before recharging. The time elapsing between the introduction of the mixing water to the cement and aggregates or the cement to the aggregates and placing of the concrete in final position in the forms shall not exceed 60 minutes, if the air temperature is less than 29 degrees C and 45 minutes if the air temperature is less than 29 degrees C. the re-tamping of concrete, i.e., re-mixing with or without additional cement, aggregate or water, will not be permitted.

5.1 Ready-mixed concrete. Ready-mixed concrete shall conform to ASTM C94 or as modified herein. Ready-mixed concrete is defined in this specification as concrete produced regularly by a commercial establishment and delivered to the purchaser in the plastic state. Subject to the approval of the Construction Architect/Engineer, ready-mixed concrete may be used provided that the plant has sufficient capacity and transportation equipment to deliver the concrete at the rate desired, and the plant meets the requirements specified herein before for equipment, measure of materials, and mixing, except as modified herein. The cement, aggregates, water and admixtures shall conform to all applicable requirements of this specification.

5.2 Truck mixing. Concrete shall be mixed and delivered in a truck mixer. Mixers shall be charged with a ribbon-fed mixture of aggregates and cement, or in the absence of facilities for ribbon feeding, the aggregates shall be charged before the cement. When mixing has begun during or immediately after charging, a portion of the mixing not in excess of that required to produce the minimum acceptable slump shall be added ahead of or with the other ingredients. Total mixing shall be for not less than 50 nor more than 100 revolutions of the drum at the

manufacturer's rated mixing speed after all ingredients including water in the drum, except as follows: after 30 to 75 revolution of the drum the slump shall be tested and additional water shall be added if necessary, mixing shall be continued for at least 20 revolutions of the drum after the water is added. Mixing speed shall not be less than 4 rpm for revolving drum mixers, and not less than 4 rpm or more than 16 rpm for open-top mixers. Any turning of the drum during transportation shall be at the speed designed by the manufacturer of the equipment, as agitating each batch of concrete delivered at the job site shall be accompanied by a time slip issued at the batching plant, bearing the time of departure therefrom and the signature of the inspector. Discharge of concrete from the drum shall be completed within 1 hour or before the drum completes 250 revolutions after the introduction of water to the cement and aggregates.

6. Conveying and placing concrete.

Concrete shall be conveyed from the mixer to the forms as rapidly as practicable by proper methods, which will not cause segregation or loss of ingredients. It shall be deposited as early as practicable in its final positions in the forms. At any point in the conveying, the free vertical drop of the concrete shall not exceed 91 cm. Choking will be permitted only where the concrete is deposited into an hour before it is placed in the forms. Conveying equipment shall be cleaned thoroughly before each run. All concrete shall be deposited as soon as practicable after the forms and reinforcements have been inspected and approved by the Construction Engineer. Concrete, which has been segregated in conveying, shall be removed and disposed as directed by the Construction Engineer.

No longer shall be placed after there is evidence of initial set. Concrete placing equipment and methods shall be subject to approval by the Construction Engineer.

7. Depositing of Concrete and Protections:

Thoroughly roll, wet and tamp fill to require levels. Keep wet concrete surface three times a day for seven days after pouring.

D. MATERIALS & PLACING OF REINFORCING BARS

a. Materials

General Requirements.

All reinforcement bars, stirrups, hanger bars, wire fabric, spiral, and other reinforcing materials shall be provided as indicated on the drawing or required by this specification, together with all necessary wire ties, chairs, spacers, supports and other devices necessary to install and secure the reinforcement property. All reinforcement, when placed, shall be free from rust, scales oil, grease, clay, and other coatings and foreign substances that would reduce or destroy the bond. Rusting of reinforcement shall not be a basis of rejection, provided that the rusting has not reduced the effective cross-sectional area of the reinforcement to the extent that the strength is reduce beyond specified value. Heavy, thick rust or loose, flaky rust shall be removed by rubbing with burlap or other approved method, prior to placing.

1. All main reinforcing bars with diameters 16mm to 32mm. shall be of **G60** grade with an allowable tensile strength of Fy=60,000psi (414 MPa) or as specified by the designing Structural Engineer.

2.All secondary reinforcing bars with diameters 10mm to 12mm shall be of **G40** grade with an allowance tensile strength of Fy=40,000 psi (276 MPa) or as specified by the designing Structural Engineer.

3. All reinforcing bar size 10mm dia. Or bigger shall be deformed in accordance with ASTM-A615.

4. Bars of reinforced concrete exposed to the weather shall preferably be protected at least 0.0375M. And in no case shall be less than 0.025M concrete cover. These provisions maybe waived when adequate water proofing is provided.

5.In the interpretation of these drawings, indicated dimensions shall govern and distance sizes shall not be scaled for construction purposes.

6.About the drawings, see architectural drawing for depressions in floor slabs, opening in walls and slab, interior partitions, locations of drain, etc.

7.In case of discrepancies as to the layout, dimensions and elevations between the structural plans and architectural drawings, the contractor shall notify both the structural engineer at least four (4) days prior to concrete pouring.

8.The contractor shall; submit the schedule of pouring and locations of construction joints to the structural engineer and PMO at least four (4) days prior to concrete pouring.

9.The contractor shall furnish and maintain adequate forms and shoring's until the concrete members have attained their working conditions and strength.

10.All concrete works shall be done in accordance with the ACI 316-63 building code for reinforced concrete and all structural steel work in accordance with the AISC SPEC 1963 in so far as they do not come in conflict with the Building Code requirements.

11.ACI refers to American Concrete Society Institute (AISC) to American Institute of Steel Construction and to ASTM to American Society for Testing Materials.

b. Placing of Reinforcing Bars

1. Moving of Reinforcing Steel.

All placement or movement of reinforcing steel after placement to positions other than that indicated or specified shall be subject to the approval of the Construction Manager.

2. Placing Reinforcements

Reinforcement shall be accurately placed and adequately supported before concrete is placed, and shall be secured against displacement within tolerances. The tolerance for depth, d, and minimum concrete cover in structural members, walls and compression members shall be as follows:

For effective depth, d ≤ 200mm, the tolerance on d is +10mm and the tolerance on minimum concrete cover is -10mm.

For effective depth, d > 2000mm, the tolerance on d is ± 12mm and the tolerance on minimum concrete cover is -10mm

The tolerance for longitudinal location of bends and ends of reinforcement shall be ± 12 mm.

3. Splices of reinforcements:

Splices shall be staggered at least 600 mm and in such a manner as to develop at every section at least twice the calculated tensile force at that section but not less than 140 MPa for total area of reinforcement provided.

4. Setting miscellaneous materials.

Anchors and bolts, including but not limited to those for machine and equipment bases, frames or edgings, hanger and inserts, door bucks pipe support, pipe sleeves, metal ties, conduits, drains and all other materials in connection with concrete construction, shall, where practicable be placed all secured in position when the concrete is placed. Anchor bolts for location and elevation with an instrument and shall be held in position rigidly to prevent displacement while concrete being placed.

E. STRUCTURAL STEEL:

a. Fabrication, painting and installation of trusses, and sag rods cross bracing, and fascia frames.

b. Plates, Sheets, and Connector: From mild steel sheets or plates with thickness, size, shapes and design as indicated in the drawings. For miscellaneous stiffener, bearing anchorage, and connector plates or straps Fy = 40,000 psi or as specified by the designing Structural Engineer.

c. Standard Solid Section: Mild steel angles, flat bars, square bars, channels, U, and other sections.

d. For building roof framing. For miscellaneous fabricated mounting brackets, straps, dowels, frames and connectors.

Bolt Accessories: Low carbon steel with type, shape, size, threading, corresponding nut and accessories as required.

Bracing rods: Standard structural grade steel rods with turn-buckles whenever required. For roof framing.

e. Welding Electrodes; Approved for manual shielded metal arc welding, as required. E-6012 series for structural welding.

f. Paint. Two (2) coats of Red Lead Primer for all trusses. Apply a minimum of one (1) coat Quick Drying Enamel for exposed trusses.

g. Thermal Sheathing/Insulation

F. MASONRY WORK:

a. Concrete Hollow Blocks

Non-load bearing of approved manufacturer, quality, size and thickness as indicated on plans. Concrete hollow blocks shall have a compressive strength of at least 700 psi at 28 days old.

b. Placement of CHB:

All concrete hollow blocks shall be laid plumbed and true to the given dimensions, vertical joints staggered between courses, unless otherwise called for on the plans.

c. Mortar proportion:

For ordinary construction works, it is designed to use the class C 1:3 ratio of cement to fine aggregates. Class A is recommended for retaining walls and other structural applications.

G. STRUCTURAL STEEL FRAMES/TRUSSES:

a. General:

All structural steel work shall be accordance with the AISC specifications for the design, fabrication and erection of structural steel for building.

Materials and parts necessary to complete each item through such work which is not shown and specified shall be included such as miscellaneous bolts, anchor, supports, braces and connections, etc.

b. Materials:

1. All structural steel shapes and plates shall conform to ASTM-36.
2. All structural steel shapes and plates shall conform to ASTM A-307.

   Each bolt shall be provided with standard nuts and washers.
3. Anchor bolt shall conform to ASTM A-141.
4. Welding electrodes shall conform to AWS- 5.1 or 5.5; E70.

c. Fabrication:

1. Fabrication, painting and installation of trusses, and sag rods cross bracings, and fascia frames.

2. The work shall be well formed at the shape and size shown and assembled as detailed. Structural members shall be fabricated and assembled in the shop to the greatest extent possible. Nuts shall be drawn uptight. Joints, which are to be exposed to the weather, shall be water tight. Holes shall be cut, drilled of punch at right angles to the surface of metal and shall not be made or enlarge by burning. Holes in base or bearing plates shall be drilled.

3. Plates, Sheets, and Connector: From mild steel sheets or plates with thickness, size, shape and design as indicated in the drawings. For miscellaneous stiffener, being anchorage, and connector plates or straps Fy= 40,000 psi or as specified by the designing Structural Engineer.

4. Standard Solid Section: Mild steel angles, flat bars, square bars, channels, U, and other sections.

5. For building roof framing. For miscellaneous fabricated mounting brackets, straps, dowels, frames and connectors.

6. Bolt Accessories: Low carbon steel with type, shape, size, threading, corresponding nut and accessories as required.

7. Bracing rods: Standard structural grade steel rods with turnbuckles whenever required. For roof framing.

d. Welding:

1. Structural steel shall be welded in accordance with the standard code of shielded metals Arc Welding (SMAW). All welding works shall be performed by qualified welders only. If the material is 6 mm or more in thickness, the maximum size of fillet weld should not be greater than the thickness of material minus 1.6 mm.

2. Welding Electrodes: Approved for manual shielded metal arc welding, as required. E-6012 series for structural welding.

3. Unless otherwise specified or indicated in the drawings, all structural steel work shall be given a shop coat of red lead or zinc chromate primer.

4. Gas cutting. The use of gas cutting torch is the field of correcting fabrication errors shall not be permitted on any major member in the structural framing. It is permitted to be used only when the members is no under stress, and subject to the approval of the project manager.

5. Base plates and bearing plates shall be supported on steel wedges or shims until the supporting members have been plumbed, following which the entire bearing area shall be grouted with non-shrink cement ground.

e. Additional Recommendations:

1. Columns and beams are steel and/or concrete members or combination thereof.

2. Recommended shape for structural steel should be wide flange.

3. Trusses are recommended to be angle bars.

4. Isolated columns maybe round concrete columns with type AA mixture or the equivalent required strength or steel wide flange column encased with circular casement for better design and strength.

H. ARCHITECTURAL ASPECTS:

General:

1. The character of the proposal One Stop Shop Building shall express green architectural concept in the design.

2. The building should be designed for permanence but with maximized flexibility to allow future expansion or adjustments in the occupancies or uses.

3. Proper orientation of the building must be carefully studied in order to achieve the maximum utilization of natural ventilation and lighting.

4. Vehicular and pedestrian access must be in standard dimension to provide smooth circulation to and within the site and provisions for the handicapped must be strictly observed.

Materials:

1. Exterior Materials

- Walls

  Conventional 6” CHB Wall

  Stone works-Natural Stone Finishes for architectural wall design

  Smooth Plastered Painted Finish

- Flooring

  Non-skid Flooring Materials i.e *granite tiles, ceramic tiles (comfort rooms)*

  Pavestone for walkways and turn courts

- Ceiling

  MPW 3/16”

  Fiber cement board 4.5mm thick

  PVC ceiling materials for eaves

- Railings

Stainless railing materials

Square or Rectangular Tube for railing member

- Roofing

  Rib Type Pre-painted long span roofing sheets with thermal sheathing (insulation)

  Twin wall Polycarbonate roofing sheets for sky lighting

  10mm thk single sided insulation planel

- Windows

  Fixed and Awning Window:

  6mm thk Tinted Bronze Glass on Powder Blue Matte Finish Aluminum Frame

- Doors

  Prefabricated Panel Doors and Door Jambs

  Door Lock System and Hardware Accessories

  Aluminum Casement Door System (analok)

- Paint

  Flat Latex Paint for Ceiling

  Semi-Gloss Latex for Interior Wall

  Elastomeric Paint for Exterior Wall

2.) Interior Wall/Partitions:

Drywall Partition – Light Metal frames on Fiber Cement Board

Glass Partition-12mm thk Tempered Glass

I. ELECTRICAL WORK

a. Electrical Design Standards

1. Roughing-ins

Pipes and conduits shall be installed underneath the concrete slab/slab surface at points where minimum shearing stresses occur, embedded pipes on slab shall be determined accordingly as approved by the PMO.

Pipes and conduits in parallel laying shall have a spacing of at least 20cm.

Piping layouts installed shall be reflected on as built-plans including dimensions.

Pipe tagging/labels shall be strictly implemented for preventive maintenance and future improvement purposes.

2. Service entrance

Service entrance conduit shall be made of rigid steel or intermediate metallic for conductors with insulation and rigid non-metallic (non-combustible, non-absorbent insulating tubes) for open conductors. Underground conduit runs shall be encased in concrete envelope or with reinforced steel when crossing roadway. Service conduit that are not encased in concrete and that are not buried 460 mm or more below grade shall their location be identified by a warning ribbon that is placed in the trench at least 300 mm above finished grade. Ends of conduits shall be provided with sealing compound to prevent entrance of liquids or white ants.

Exposed service entrance conduits shall be painted with epoxy primer in three (coats) application.

Conduit shall be properly cut square, reamed and threaded.

Electric Service metering equipment shall be installed at a minimum height of 1600 mm from the natural grade line to the center of the equipment.

Branch circuit conduits, boxes, fittings and supports shall run parallel to walls and beams of the building.

Polyvinyl Chlorine (PVC) solvent shall be applied on all PVC pipe joints/connections.

End bells shall be used at the end of PVC pipes and locknut and bushing shall be used for metallic conduit on all boxes and gutters termination.

Branch circuit conduits shall be either rigid metallic or rigid non-metallic as applicable.

Ceiling mounted lighting fixtures: flexible metallic tubing shall be used as drop pipe from junction box to octagonal box.

In- sight disconnecting means: watertight type straight or angle connectors shall be used for pumps, considering units and other equipment that will be in possible contract with water or rain.

Panel boards and enclosed circuit breakers shall be used to protect the electrical systems from overloading.

Stub-out conduits for spares: 15mm nominal diameter non-metallic or metallic shall be provided as stub-out conduits at different panel board as per schedule of loads and computation. Ends shall be threaded and capped.

3. Wires and Devices

Wires shall be properly designed in accordance with the allowable capacities of insulated conductors provided by Philippine electrical code (PEC) Article 3.10.

Grounding wires shall conform to Article 2.50 of PEC.

Wiring devices such as wall switches, duplex or single convenience/receptacle outlets, and other power outlets shall be modern type and of approved type for both location and purpose.

Receptacles and other power outlets

Duplex or single convenience/receptacle and power outlets of the grounding type shall be provided in all rooms/enclosed spaces where it is required.

b. General:

Furnish and provide all items, articles, materials, operations or methods listed, implied mentioned or scheduled on the drawings and/or therein, including all labor, materials, equipment's necessary and required for completion.

All Testing and commissioning works (insulation resistance test, Line Continuity Test, Voltage

Test, No Load, Full Load Test and Earth Grounding Test) shall be performed by the Contractor.

All Excavation works and concreting works that is needed for embedment, concealing of electrical pipes also for the enclosure pedestals (as per plan) must be included in the scope of works of the contractor.

Request for Approval (RFA), Request for Inspection (RFI), Pouring Request (PR), Shop Drawings

and other documents shall be submitted by the contractor to the University Project Management Unit prior for all site works execution for proper coordination and to avoid revisions, damages and additional works.

The Contractor shall supply and furnish all materials brand new and of superior quality. All wires must be sized to accommodate peak loads and future installation of additional electric-powered equipment and machineries.

c. Scope:

Complete electrical system from load to electrical supply, application and installation of electrical meter, fixtures mounting, electrical computations and riser diagram subject for approval. Furnish all fuses, wires, boxes, conduits, circuit, breaker, and make test.

d. Permits and Licenses:

The Contractor shall pay and secure all permits and licenses' including inspection fees. He shall hire aProfessional Electrical Engineer for preparation and computation of the electrical plans and pay for all necessary expenses. The Owner shall pay for the deposit of the meter/meters required by the contractor and the Owner.

The Contractor shall prepare and submit two (2) copies of the electrical riser diagram and distribution plans, properly designed and signed by the Licensed Electrical Engineer before the start of the work. The Architect shall make necessary corrections and final approval of the work.

e. Materials:

All materials and workmanship shall follow all provisions as provide by the latest edition of the Philippine Electrical Code.

a. Wires and Cables- (Type THWN/THHN)

b. Rigid Conduit- Schedule 40

c. Outlet Boxes- Hot dipped galvanized steel, clean, rust free

d. Junction Boxes- Hot dipped galvanized steel, clean, rust free

e. Circuit Breaker

f. Switches and Convenience Outlets (In damped and welt location)

Shall be provided by GFCI

g. Convenience Outlet (Heavy duty, Grounded type)

h. Switches and Receptacle Plates- plain faced,

i. Panel Board

All panel boards shall be industrial type with bolt on circuit breakers.

f. Wiring Methods:

All wiring shall be on approved method. All underground conduits shall be properly waterproofed.

g. Size of Wires:

No wire shall be smaller than 3.5 mm^2 for all lighting circuits and 5.5 mm^2 for all convenience outlet circuits unless specified by the Philippine Electrical Code and as approved by the Professional Electrical Engineer in the plans.

h. Limit of Outlets:

No more than 8 convenience outlets shall be allowed per circuit of 30 amperes and 12 lighting outlets shall be allowed per circuit of 20 amperes.

i. Electrical Fixtures:

Electrical fixtures, lights, water pumps, lamps, bulbs, fluorescents, chandeliers shall be furnished by the Contractor. Mounting and installation of electrical fixtures shall be done also by the Contractor.

G. IT WORKS

The Contractor shall likewise supply and install local area network (LAN) wiring and structured cabling and other accessories suited for fiber optic connection for automatic link to the main office. Provision shall be made for voice and data system. The Contractor shall coordinate with the URS ICT/MIS personnel and its voice and data service providers for the configuration of the communications system. The Contractor shall supply and furnish all materials brand new and of superior quality.

All wirings and accessories must be properly sized suited for the operation of the facility. Provision shall be made for CCTV, Camera and Monitor.

J. MECHANICAL WORKS:

a. Mechanical Design Standards

Rooms/enclosed spaces where temperature and relative humidity of the air for comfortable cooling shall be maintained at 20 - 40 °C and 50- 55 % humidity respectively at an air movement from 4.57 to 7.6 m/min within living zone, air conditioning system will be provided.

1. Air Conditioning *(for office if any)*

- It is advantage to use the split type air conditioner. For this unit you don't have to make any slot in the wall of the room. It is more efficient than window type air conditioner due to the fact that the hot side of this unit is separated to the cool side and also during operation, it has less noise. Further, the present day split units have aesthetic looks and add to the beauty of room. The split air conditioner can be used to cool one or two rooms.

- The refrigerant tubing supplying the refrigerant from the outdoor unit to the indoor unit and that supplying the refrigerant from indoor unit to the outdoor unit should be both covered with the insulation tape.

- The distance between the indoor and the outdoor unit should be kept as minimum as possible. For the distance up to 15 meters there is not much appreciable loss of the cooling effect, however beyond that the losses become higher.

- The size of the compressor or air conditioner capacity varies depending on the desired air conditioning load.

- For small rooms and offices, it is advisable to use wall installed split air conditioner while for big offices and conference halls, use floor installed split type air conditioner.

- The outside unit should be provided with pedestal or mounting bracket, wherever is applicable.

- Toilets should have exhaust fan that will suck the bad odor air and release it outside in order to prevent bad air to circulate in the conditioned space.

Air Conditioning *(if unit not included)*

- Sleeve Pipe Provision for Copper Tubing including all supports, copping tubing with insulation foam and tape, manholes and handholes shall be provided by the Contractor with testing and commissioning using Nitrogen Test.

2. Ventilation System

The quantity of air to be exhausted in a given room/enclosed area is based on the number of air changes per hour.

3. Storage room

Ventilation by gravity shall have grilles in the doors or partitions leading into corridors. Top grilles shall have total free area of 6800 sq.mm per sq. m of floor area.

4. Toilets

Gravity ventilated toilets shall have exhaust ducts and inlet exhaust grilles with free areas of 0.093 m2 for two fixtures plus 0.031 m2 for each additional fixture. Apply 50 cubic feet per min (50 CFM) per fixture bow/urinary bowl or 4 to 6 air changes per hour on excessive area of the toilets.

5. Water Pumping System *(when necessary)*

A shut-off value shall be placed at the suction and at the discharge side of the pump and check valves shall be provided at the pump discharge and before the shut-off valve.

6. Rain water catchment *(when necessary)* – 1,700 liters -2400 liters capacity with pipes and fittings

K. PLUMBING FIXTURES AND ACCESSORIES:

General:

All fixtures shall be installed complete with accessories, shut off valves, angle valves, pressure relieve valves, etc.

Materials:

a. Water Closet- for all toilets, use colored vitreous China, all with complete US fittings and seat over 1/2" Φ angle valve, supply pipes & fittings.

b. Lavatory – use Lavatory with US fittings and accessories, single faucet water taps or 3/8" Φ angle valve, supply pipes and fittings.

c. Water Closet and Lavatory Fittings- made for water closet and chrome plated tail piece and Bottle trap for lavatory.

d. Toilet Accessories:

1. Paper Holder
2. Soap Holder
3. Faucet
4. urinal (for male and PWD)

e. Other plumbing fixtures refer to plan.

L. PLUMBING MATERIALS, PIPES, AND FITTINGS:

1. Materials

a. Cold Water Line pipes and fittings- for cold water line, use Polypropylene (PPR) PN20 of any approved brand.
b. GI Valves and fittings- US made 125 lbs. working pressure of any brand.
c. Water Meter- any approved brand.
d. Downspout – use 4" Φ PVC pipes any approved brand.
e. Vent, Sewer Line & Fittings- 2" to 4" Φ PVC pipes
f. Clean Out Cover –. use 4" Φ PVC of any approved brand

g. Floor Drain Cover- use stainless strainer.

h. Refer to plumbing layout for further details.

i. Gutter/Deck Drain Dome Type Strainer- use copper type or bronze type

j. Waste Pipe- use 4" Φ PVC of any approved brand

2. Opening:

"Roughing-in" for pipes and fixtures shall be in carried along with the construction of proper sizes and location shall be in all and floors for pipes. The Contractor shall do any additional cutting needed in case of omission or error and shall properly replace any concrete work flushed around the pipes.

3. Connection:

Connection to water supply shall be made with shut-off valve. Bend and asbestos packing shall be used to secure gas and water tight connection.

4. Piping:

All bathrooms shall be provided with individual shut-off valve. Pipes shall be carefully pitched and supported.

5. Vent-out:

Vent shall be taken from the crown of fixtures except on water closet trap where the branch lines shall be vented below the trap above the small inlet so as to connect and prevent obstruction.

6. Clean-Out:

Clean-out shall be provided at the base of all risers. Pipes shall be pitched with minimum of 2% inclination.

7. Workmanship:

All plumbing works shall be done by an experience plumber. A Registered Master Plumber or any duly recognized representative shall be the judge of the fitness of the work done.

All Plumbing works including on the plan (roughing ins, all piping lay-out (Including aircon drain, installation of all fittings, sleeve provision, installation of plumbing fixtures, catch basins, RCP,

Concrete Trench drainage) shall be the performed by the contractor.

All Testing and Commissioning works (Leak testing, water current slope test, and pipe pressure Test) shall be performed accordingly.

PPR pipes shall pass to a working pressure of at least 80psi using water pressure gauge.

All Excavation works and concreting works that is needed for embedment, concealing of

plumbing pipes (as per plan) must be included in the scope of works of the contractor.

Request for Approval (RFA), Request for Inspection (RFI), Pouring Request (PR), Shop Drawings and other documents shall be submitted by the contractor to the University Project

Management Unit prior for all site works execution for proper coordination and to avoid any revisions, damages and additional works.

8. Test:

Materials to be used shall be subject to usual test to ascertain their fitness. All opening stopped and a pressure of no less than 3 lbs. per square inch applied in the presence of the Registered Master Plumber or his representative. Maintenance of such length of time is necessary to substantially show that work is sound and tight.

M. SEPTIC VAULT AND STORM DRAINAGE SYSTEM:

1. Septic Vault is required (purifying PVC septic tanks etc.)

2. Storm Drainage System:

a. Construct complete storm drainage system to drain run-off water from the building and lot toward the street gutters of sewerage system.

b. Provide concrete catch basin (with steel grilles cover) at downspout lower ends connect to the same drainage system by means of concrete pipes wherever possible.

c. Use reinforced concrete pipe or PVC pipe for storm drain that varies upon the required size as per plan

N. FIRE DETECTION AND ALARM SYSTEM and EMERGENCY SIGNAGES:

The building shall be designed in accordance to the minimum standard requirements of the Bureau of Fire Protection.

1.Every room and office shall be provided with smoke detector with 6.5-meter radius coverage or as specified in the Fire Code of the Philippines.

2. Every exit door and stairs shall be provided with Manual Pull Station and Bell/Siren.

3.Fire Alarm Control Panel (FACP) for the building shall be located at the ground floor near the receiving or information area.

4. Provision shall be made on the use of photoluminescent (PL) exit signs and emergency signages.

O. FIRE PROTECTION SYSTEM:

The fire prevention requirements, fire hydrants and fire hoses shall be provided on locations as specified in the codes, standards and local building laws, as applicable. The work shall consider the design of fire hose cabinets, wet and dry stand pipe system, provision of fire hose cabinets and wet and dry stand pipe system. Fire suppression system shall be the conventional type.

k.1 Codes and Standards

a. ASHRAE Handbook

b. NFPA 101 – Life Safety Code

c. NFPA 10 – Portable Fire Extinguishers

d. NFPA 14 – Standard for the Installation of Standpipe and Hose System

k.2 Design Criteria

a. Portable Fire Extinguishers – shall be strategically located and shall conform to NFPA 10 with maximum travel distance equal to 75 ft.

b. For the hydraulic analysis, hose allowance shall be 2-50 gpm

c. Drain line for the system shall be provided with individual remotest test connection for each zone served.

d. Special extinguishing system shall be provided on areas where expensive/or electronic equipment are stored.

e. Generator room to be provided with portable fire extinguishers.

f. Electrical room to be provided with portable fire extinguishers, CO2 or FE-36 type.

g. Transformer vault/pad shall be provided with 100lbs. wheeled type CO2 or FE-36 type fire extinguishers.

h. Fire Hose and Wet & Dry Stand Pipe

i. The fire hose cabinet shall be installed for the purpose of extinguishing of fire in its incipient stage. Standpipe system shall be meeting Class II requirement.

ii.The fire hose cabinet shall be located at prominent and accessible position of each floor and the place shall be near exits in corridor.

iii. The number of fire hose cabinet in each section of the building is within 30 ft (9.20m) of a nozzle attached to not more than 100 ft (30.50m) hose.

iv. The hose cabinets shall be made of sheet steel and consist of hose valve, discharge nozzle and hose for easy handling. The label of “HYDRANT” shall be affixed to the front of cabinets.

v. Each discharge nozzle shall discharge water at more than 50GPM (189.40 L/min). vi. Hose length shall be 1-1/2” Ø x 100 ft. (40mmØ x 30m) hose.

vii. The wet and dry stand pipe shall be located in noncombustible fire-rated stair enclosures.

viii. The capacity of fire hose valve in dry stand pipe system shall be more than 100GPM (379 L/min) and the discharge pressure shall not be less than 65 psi.

i. The portable and mobile type fire extinguishers of required number and type shall be installed.

j. The portable ABC powder type fire extinguishers shall be installed at the other areas (mechanical rooms, storage rooms).

k. For flammable liquid, use Aqueous Film Foam System (AFFS) to prevent pre-ignition. Maximum travel distance is 75 ft.

l. Use 1230 fire protection fluid fire suppression system for server room/data center.

11.3 Material Specification Guideline

1. Fire Hose Cabinet

1.a Cabinet – Gauge #18, M.I. Steel, locally manufactured.

1.b Hose – Imported, UL listed, rubber lined gasketed hose.

1.c Fog Nozzle – Imported, UL listed, combination fog/nozzle stream.

1.d Rack Pin – Locally manufactured.

2. Portable Fire Extinguisher – UL listed/FM approved, conforming to NFPA 10.

3. Signs – Locally manufactured, samples for approval.

P. WASTE DISPOSAL:

Standard waste disposal for a school building.

Q. RECOMMENDED NUMBER STOREY:

The One Stop Student Services Building shall be constructed as Three-Storey building.

R. PAINTINGS AND COATINGS:

1.Scope of Works

- This item shall consist of furnishing all paints enamels, varnishes, and other products, to be used including labor, tolls and equipment required as shown on the Plans and in accordance with this Specification.

2.Materials Requirements

- Specified materials shall be delivered to the job site bearing manufacturer's name, brand name, type of paint, analysis showing all important constituents of the paint, color of paint and instructions for thinning
- Specified item and/or its components shall be handled in such manner as to prevent damage. The same shall be properly protected from harmful elements or damage by other work prior to its incorporation into the Project.
- Store materials in a well-ventilated space designated for the storage and mixing of paint. Materials delivered to the site shall be properly stored as to minimize exposure to extremes of temperature.

3.Quality Assurance

- The University reserves the right to subject material samples to test at his expenses. If such material tests do not meet the specified standards, the cost will be charged to the Contractor.
- Number of coats, where specified, is minimum. Contractor shall apply as many as required to meet specifications for solid, uniform appearance. Where film thickness in mil is specified, spot checks will be made to determine compliance with specified thickness.

4.Submittals

- Submit two (2) samples of each and every color of finish (including all coats). Where the same color or finish is to be applied over different materials, samples of each shall be submitted on different materials, where practical.
- Sample size shall be a minimum of 150 mm x 150 mm (6" x 6").

5.Protection

- Paint materials shall be protected from damage, providing for adequate storage space. Take all necessary precautions to prevent fire, such as keeping oily rags, in U. L. approved metal containers or removing from the building at the end of each day's work.
- All work fittings, furniture, etc., are to be suitably protected during execution of the work. Splashes on floors, walls, etc. are to be removed during progress of work and on the whole, left clean and perfect upon completion.
- No exterior or exposed painting shall be carried out under adverse weather conditions, such as extremes of temperature, during rain, fog, etc., or if there is excessive dust in the air.

6.Lead Content and Warning Labels

- The material manufacturer shall state the lead content on the label of any paint product container based on metal percentage of total solids.
- The label of any paint product exceeding 0.5% lead content shall include the following statement: “This paint contains more than 0.55 lead content and shall not be used on surfaces accessible to children.”

7.Repair of Defective Work

- All defective or damaged work shall be restored to initial condition.
- All voids, cracks, nicks, etc., will be repaired with proper patching materials and finished flush with surrounding surfaces.
- Marred or damaged shop coats on metal shall be spot-primed with appropriate metal primer.
- Defective or damaged items and/or components, which cannot be restored or repaired to initial conditions, shall be removed and replaced to satisfaction of the URS-PMU-Architect/Engineer at no additional cost to the end-user.

8.Cleaning

- Upon completion of the building, the Contractor shall remove all paint spots from all finished work, remove all empty cans and leave the entire premises free from rubbish or other debris caused by his work. He shall remove his equipment from the premises. He shall clean off all glass free from paint spots and smears and shall present the work clean and free from all types of marks.

9.Products

General:

- Materials are specified to establish the standards of grade and quality desired for the work, principal pigments and vehicle types and minimum percentage of solid contents by volume.
- The top quality/ first class paints.
- The products of Manufacturer’s not named may be submitted for use provided they are equal in quality and grade to the primers and finishes specified as approved by the URS-PMU-Architect/Engineer. If substitute paint products are desired, a statement shall be submitted to the Architect giving the name of the Manufacturer, proposed primer and finish for each paint system, analysis for each type of paint, and the use or uses intended. Failure to submit such requirement will be cause for rejection.
- In cases where the name of a brand or supplier is mentioned under a particular specification, only paint of primer of that Manufacturer is acceptable and no substitution shall be permitted on the grounds that the brand specified is not available in the local market. Materials of one manufacturer shall not be applied over that of another, except in the case of shop primer coat.

Color, Gloss and Texture:

- Refer to Finish Schedule. All work is to be completed without deviation from these unless written approval is received from the URS-PMU-Architect/Engineer. No extra cost shall be allowed because of the color variety scheduled.

10.Execution

General:

- Work-in-place, on which specified work is to be applied, shall be examined to ensure that conditions are satisfactory for application of specified materials. Any defect, which may influence satisfactory completion of specified work, shall be reported, in writing, to the URS-PMU-Architect/Engineer. Absence of such notification will be construed as acceptance of work-in-place.

- Do not apply exterior paint in damp or rainy weather or until surfaces have thoroughly dried form the effects of such weather.
- Prior to start of painting, remove finish hardware, accessories, [plates, lighting fixtures, and similar items, as approved by the URS-PMU-Architect/Engineer, except UL. Labels on Fire Door and Frames, which must not be removed. Use only workmen skilled in the applicable building trade for removal and re-installation of finished item-in-place.
- The following item shall be masked or protected with suitable covering:
    - Sealing, caulking, and glazing compounds (unless otherwise directed by the Architect)
    - Glass.
    - Moving parts of the machinery and other mechanical equipment-such as: shafts, couplings, valve stems, and the like
    - Coated decorative sheet metal work
    - U.L. labels

11.Paint Application

- *General*: Specified work shall be done by skilled painters in a workmanlike manner. All spaces shall be broom-cleaned before painting is started. Surface to be painted shall be clean, dry, smooth and adequately protected from dampness. Each coat of paint shall be allowed to dry at least twenty-four (24) hours before succeeding coat is applied. Finish work shall be uniform, of approved color, smooth and free from runs, sags, defective coverage, clogging or excessive flooding. If surfaces are not adequately covered, as determined by the URS-Project Management Unit Architect/Engineer/Inspector, further coat shall be applied to the satisfaction of the URS-PMU Technical Group. Edges of paint adjoining other materials or colors shall be sharp and clean without overlapping.

- *Paint Mixing*: Paint mixing and thinning shall be done only in accordance with the directions of the Manufacturer. Paint must be strained free from all skin and extraneous substances and shall be thoroughly mixed in a clean container during use.

- *Methods of Application:* Exterior first coats and interior first coats shall be applied by brush or roller, except on shop-primed surfaces, which shall be applied mechanically or by roller. All primer shall be applied by roller. Succeeding coats over field-primed surfaces and all coats, over shop-primed surfaces may be applied by brush or roller or spray. Distemper brushes are to be of approved type of less than 15cm in width. Rollers for applying enamel shall have a short nap. Spray equipment shall be recommended by the manufacturer of the paint used. Areas inaccessible to painting shall be coated by brushing or suitable method.

    Unless otherwise indicated, apply paint in three coats (priming, body and finish) and allow each coat to dry thoroughly before next coat is applied (at least 24 hours between application of coats). Let URS-PMU representative inspect each coat before proceeding work.

    If at three coats the surface has not been satisfactorily finished, the CONTRACTOR shall apply the necessary number of coats to obtain desired evenness at no extra cost to URS end user.

- *Coating:* Consecutive coats of paint are to be slightly differing tints except in the case white. Each coat shall be allowed to harden before the next is applied. Rubbing down between coats is to be done with fine abrasive paper.

- *Woodwork and Metal Work:* Primed or undercoated woodwork and metalwork shall not be left in an exposed or unsuitable situation for an undue period before completing the painting process. Stopping and filling shall be deemed to be included for all the metal works. Plaster works, and wood work specified to be used to produce a surface ready for priming and painting.

Annex 4

CONSTRUCTION SAFETY AND HEALTH REQUIREMENTS

1. The CONTRACTOR shall undertake specific safety policies to observe and maintain in its construction site, including the frequency of and persons responsible for conducting toolbox and gang meetings.

2. The CONTRACTOR shall see to it that the Construction Safety and Health Program shall be executed and verified by the Construction Project Manager or Project Manager and shall be submitted to the Bureau of Working Conditions (BWC) which may approve, disapprove or modify the same according to existing laws, rules and regulations and other issuances by the DOLE.

3. The CONTRACTOR shall include the cost of implementing the Construction Safety and Health Program and to be integrated into the project's construction cost, provided, that said cost shall be a separate pay item, duly quantified and stated in the project's tender documents and construction contract documents.

4. The CONTRACTOR shall provide adequate and approved type of protective equipment. Workers within the construction project site shall be required to wear the necessary Personal Protective Equipment's (PPE) at all times. The CONTRACTOR shall see to it that:

    a. The Construction workers who are working from unguarded surfaces six (6) meters or more above water or ground, temporary or permanent floor platform, scaffold or where they are exposed to the possibility of falls hazardous to life or limb, must be provided with safety harnesses and life lines.
    b. Specialty construction workers must be provided with special protective equipment, such as specialized goggles or respirators for welders and painters or paint applicators.
    c. All other persons who are either authorized or allowed to be at a construction site shall wear appropriate PPE

5. The CONTRACTOR must provide for a full-time officer, who shall be assigned as the general construction safety and health officer to oversee full time the overall management of the Construction Safety and Health Program. The general construction safety and health officer shall perform the following duties:

    a. Frequently monitor and inspect any health and safety aspect of the construction work being undertaken.

    b. Assist government inspectors in the conduct of safety and health inspection at any time whenever work is being performed or during the conduct of accident investigation.

6. The CONTRACTOR must provide for one (1) Construction Safety and Health Officer for every ten (10) units of heavy equipment assigned to the project site, to oversee the effective compliance with the Construction Safety and Health Program at the construction project site, in terms of heavy equipment utilization and maintenance.

Annex 5

Proposed Design and Construction Schedule w/ Gantt Chart

ACTIVITIES			
General Conditions Preparing for the procurement of Infrastructure project o Procurement Planning o Preparation of Bidding Documents o Pre-procurement Conference		1 month	
Long Lead Procurements Competitive Bidding o Advertise and Post and Invitation to apply for Eligibility and to Bid o Receive LOI and Conduct Eligibility Check o Issue the Bidding Documents o Call pre-bid Conference o Receive and Open the Technical and financial Envelopes o Evaluate the Bids o Post- Qualify the Bidder with the Lowest Calculated Bid o Award and Contract o Issue Notice to Proceed o Contract Writing o Contract Signing o Secure Financing o Obtain Permits			
Design (Complete set of plans)		45 days	
Mobilize On Site o Laying Out		15 days	
Site Grading and Utilities		1 month	
Foundations o Preliminary /Soil Analysis Data Completed by registered engineering testing company o Slab Elevations o Size, location, and schedule of reinforcement for mat foundation, spread footings, pile, pile caps, caissons, as detailed on the Foundation Structural Drawings, Soil Treatment, or vapor barrier.		1 month	
Form and pour concrete – Floor, Columns, concrete beams,etc.		4 months	
Carpentry Work		2 months	
Masonry		4 months	
Roofing		1 month	
Window wall and Closures		2 months	
II. C. Plumbing Works o Plumbing Rough – in Installation of Fixtures Schedule		2 months	

II. E Electrical Works o Electrical Rough- in Installation of Electrical Fixtures		2 months	
II. E. Mechanical Works o Drainage System o Fire and Life Safety o Fire Exit and Escape o Stairway and Ramps		2 months	
II.F. Fire Protection		2 months	
III. Final Clean Up and Occupancy		1 month	
IV. Complete Final Inspection o Move in		10 days	

PHYSICAL FACILITIES DEVELOPMENT

PROGRAM OF WORKS

PROGRAMS/ACTIVITY/ PROJECT	**Month 1**	**Month 2**	**Month 3**	**Month 4**	**Month 5**	**Month 6**	**Month 7**	**Month 8**
I. Pre-Construction Stage								
Design (Complete set of plans)								
Mobilization, clearing and line grading								
Bid of Contract (Materials and Labor)								
II. Construction Stage								
III. A. Structural Works								
1. Excavation								
2. Rebar installation								
3. Form works and scaffoldings								
4. Casting of Pre-mixed concrete								
5. Installation of roof structure and finishing								

II. B. Architectural								
II. C. Plumbing Works								
II. D. Electrical Works								
II.E.Electronic Works								
II. E. Mechanical								
II. F. Fire Protection								
IV. Post – Construction Stage								
1. Physical Inspection								
2. Terminal/ Completion Report /move in								

Annex 6

Constructors Performance Evaluation

The Procuring Entity (URS) will be implementing the Amended Guidelines as Approved by NEDA Infracom, the Constructors Performance Evaluation System (CPES) Pursuant to the IRR of RA 9184. As defined, CPES is a system of grading of a constructor for a specific kind of infrastructure projects using a set of criteria.

The set of criteria includes the following checklists*;

1. Checklist for Workmanship
    a. Housing and Building Projects 2B-1,
2. Checklist for Materials,
3. Checklist for Time,
4. Checklist for Facilities,
5. Checklist for Environmental, Safety and Health (ESH), and
6. Checklist for Resources Deployment

For the purpose of submission and dissemination of the evaluation results, the procuring entity's PMO shall submit the corresponding results to the Construction Industry Authority of the Philippines (CIAP) as necessary.

Note: *see Implementing Guidelines for Infrastructure Projects of CPES*

Name of Procuring Entity: ***UNIVERSITY OF RIZAL SYSTEM***

BILL OF QUANTITIES

Construction of the Proposed One Stop Shop Student Services Center

Item No.	Description	Unit	Quantity	Unit Price	Total Amount (Pesos)
Part I	***Design and drawings, Permits, Soil Exploration***				
	DESIGN (Architectural, Structural, Plumbing, Electrical, etc, including approval of permit & clearances and soil exploration)	Lot	1		
	Minimum Design Criteria: 1. One Stop Student Services Center 2. PWD Friendly Building 3. Contemporary /Modern Design Building 4. Landscaped, Paved /concreted walkways passageways/footpaths 5. First Floor line must be at least 3 steps above existing ground line 6. Ground Floor- Queuing Area, Campus Registrar's Office, CBA, OSDS Second Floor – Finance Services (Accounting & Budget), Administrative Office				

	Third Floor – Records, Legal, Internal Audit and Planning Office (See Conceptual Layout of Rooms) 7. Rest Rooms–; (Male with urinal, Female & PWD) 8. Swing Doors per room 9. Spread foundation, tie beams 10. Fiber Cement Board Drywall Partition, Tempered Glass Wall for glass partitions, Concrete Hollow Blocks for Wet Areas 11. Pre-painted Long-span Roofing with thermal sheathing (insulation)				
				Sub-Total	
Part II.	***Other General Requirements***				
	Project Billboard/Sign Board	Lot	1		
	Occupational Safety and Health Program	Lot	1		
	Mobilization/Demobilization	Lot	1		
				Sub-Total	
Part III.	**Civil, FDAS, Electrical, Electronic, Sanitary and Plumbing Works**				
A.	**Earthworks**				
a.1	Layout & Staking	Lot	1		
a.2	Site Clearing and Grubbing	Lot	1		
a.3	Disposal	Lot	1		

a.4	Excavation	Lot	1		
a.5	Earth/Back fill	Lot	1		
a.6	Gravel Fill	Lot	1		
a.7	Compaction	Lot	1		
a.8	Site Development/ Site Improvement	Lot	1		
B.	**Plain and Reinforced Concrete Works**				
b.1	Structural Concrete	Lot	1		
b.2	Reinforcing Steel	Lot	1		
b.3	Formworks and Falseworks	Lot	1		
C.	**Finishing Works and other Civil Works**				
c.1	CHB Laying	Lot	1		
c.2	Plastering Works	Lot	1		
c.3	Tiling	Lot	1		
c.4	Carpentry & Joinery	Lot	1		
c.5	Painting	Lot	1		
c.6	Glass and Glazing	Lot	1		
c.7	Doors	Lot	1		
c.8	Roof Framing and Roofing Works	Lot	1		
c.9	Railings	Lot	1		
c.10	Waterproofing	Lot	1		
D.	**Electrical Works**				
d.1	Relocation of electrical Distribution Line	Lot	1		

d.2	Building Electrical System	Lot	1		
E.	**Electronic Works**				
e.1	Data (Wiring and Device, Data rack Cabinet)	Lot	1		
e.2	CCTV (Camera Unit, Monitor, NVR, Wiring)	Lot	1		
F.	**Sanitary and Plumbing Works**				
f.1	Sanitary and Plumbing Works incl Fixtures	Lot	1		
G.	**Fire Detection and Alarm System and Fire Protection**				
g.1	FDAS and Fire Protection	Lot	1		
				Sub-total	
				Total	
	TOTAL AMOUNT IN WORDS:				

Delivery Schedule: _____days after receipt of Notice to Proceed

Submitted by:

_____ _____

Name of the Representative of the Bidder Position

_____ _____

Name of Bidder Date

Section VII. Drawings

[Insert here a list of Drawings. The actual Drawings, including site plans, should be attached to this section, or annexed in a separate folder.]

Section VIII. Bill of Quantities

Notes on the Bill of Quantities

Objectives

The objectives of the Bill of Quantities are:

a. to provide sufficient information on the quantities of Works to be performed to enable Bids to be prepared efficiently and accurately; and

b. when a Contract has been entered into, to provide a priced Bill of Quantities for use in the periodic valuation of Works executed.

In order to attain these objectives, Works should be itemized in the Bill of Quantities in sufficient detail to distinguish between the different classes of Works, or between Works of the same nature carried out in different locations or in other circumstances which may give rise to different considerations of cost. Consistent with these requirements, the layout and content of the Bill of Quantities should be as simple and brief as possible.

Daywork Schedule

A Daywork Schedule should be included only if the probability of unforeseen work, outside the items included in the Bill of Quantities, is high. To facilitate checking by the Entity of the realism of rates quoted by the Bidders, the Daywork Schedule should normally comprise the following:

a. A list of the various classes of labor, materials, and Constructional Plant for which basic daywork rates or prices are to be inserted by the Bidder, together with a statement of the conditions under which the Contractor will be paid for work executed on a daywork basis.

b. Nominal quantities for each item of Daywork, to be priced by each Bidder at Daywork rates as Bid. The rate to be entered by the Bidder against each basic Daywork item should include the Contractor's profit, overheads, supervision, and other charges.

Provisional Sums

A general provision for physical contingencies (quantity overruns) may be made by including a provisional sum in the Summary Bill of Quantities. Similarly, a contingency allowance for possible price increases should be provided as a provisional sum in the Summary Bill of Quantities. The inclusion of such provisional sums often facilitates budgetary approval by avoiding the need to request periodic supplementary approvals as the future need arises. Where such provisional sums or contingency allowances are used, the SCC should state the manner in which they will be used, and under whose authority (usually the Procuring Entity's Representative's).

The estimated cost of specialized work to be carried out, or of special goods to be supplied, by other contractors should be indicated in the relevant part of the Bill of Quantities as a particular provisional sum with an appropriate brief description. A separate procurement procedure is normally carried out by the Procuring Entity to select such specialized contractors. To provide an element of competition among the Bidders in respect of any facilities, amenities, attendance, etc., to be provided by the successful Bidder as prime Contractor for the use and convenience of the specialist contractors, each related provisional sum should be followed by an item in the Bill of Quantities inviting the Bidder to quote a sum for such amenities, facilities, attendance, etc.

Signature Box

A signature box shall be added at the bottom of each page of the Bill of Quantities where the authorized representative of the Bidder shall affix his signature. Failure of the authorized representative to sign each and every page of the Bill of Quantities shall be a cause for rejection of his bid.

These Notes for Preparing a Bill of Quantities are intended only as information for the Procuring Entity or the person drafting the Bidding Documents. They should not be included in the final documents.

Section IX. Checklist of Technical and Financial Documents

Notes on the Checklist of Technical and Financial Documents

The prescribed documents in the checklist are mandatory to be submitted in the Bid, but shall be subject to the following:

a. GPPB Resolution No. 09-2020 on the efficient procurement measures during a State of Calamity or other similar issuances that shall allow the use of alternate documents in lieu of the mandated requirements; or

b. any subsequent GPPB issuances adjusting the documentary requirements after the effectivity of the adoption of the PBDs.

The BAC shall be checking the submitted documents of each Bidder against this checklist to ascertain if they are all present, using a non-discretionary "pass/fail" criterion pursuant to Section 30 of the 2016 revised IRR of RA No. 9184.

Checklist of Technical and Financial Documents

I. TECHNICAL COMPONENT ENVELOPE

Class "A" Documents

Legal Documents

☐ (a) Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages) in accordance with Section 8.5.2 of the IRR;

Technical Documents

☐ (b) Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid; **and**

☐ (c) Statement of the bidder's Single Largest Completed Contract (SLCC) similar to the contract to be bid, except under conditions provided under the rules; **and**

☐ (d) Special PCAB License in case of Joint Ventures **and** registration for the type and cost of the contract to be bid; **and**

☐ (e) Original copy of Bid Security. If in the form of a Surety Bond, submit also a certification issued by the Insurance Commission **or** original copy of Notarized Bid Securing Declaration; **and**

(f) Project Requirements, which shall include the following:

☐ a. Organizational chart for the contract to be bid;

☐ b. List of contractor's key personnel (*e.g.*, Project Manager, Project Engineers, Materials Engineers, and Foremen), to be assigned to the contract to be bid, with their complete qualification and experience data;

☐ c. List of contractor's major equipment units, which are owned, leased, and/or under purchase agreements, supported by proof of ownership or certification of availability of equipment from the equipment lessor/vendor for the duration of the project, as the case may be; **and**

☐ (g) Original duly signed Omnibus Sworn Statement (OSS) **and** if applicable, Original Notarized Secretary's Certificate in case of a corporation, partnership, or cooperative; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder.

Financial Documents

☐ (h) The prospective bidder's computation of Net Financial Contracting Capacity (NFCC).

Class "B" Documents

☐ (i) If applicable, duly signed joint venture agreement (JVA) in accordance with RA No. 4566 and its IRR in case the joint venture is already in existence **or** duly notarized statements from all the potential joint venture partners stating that they will enter into and abide by the provisions of the JVA in the instance that the bid is successful.

II. FINANCIAL COMPONENT ENVELOPE

☐ (j) Original of duly signed and accomplished Financial Bid Form; **and**

Other documentary requirements under RA No. 9184

☐ (k) Original of duly signed Bid Prices in the Bill of Quantities; **and**

☐ (l) Duly accomplished Detailed Estimates Form, including a summary shee indicating the unit prices of construction materials, labor rates, and equipmen rentals used in coming up with the Bid; **and**

☐ (m) Cash Flow by Quarter.


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