

# **PHILIPPINE BIDDING DOCUMENTS**

## **Procurement of INFRASTRUCTURE PROJECTS: COMPLETION OF ACADEMIC BUILDING FOR SENIOR HIGH PROGRAM**

Government of the Republic of the Philippines

**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.

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# ***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  
Department of Science and Technology  
**PHILIPPINE SCIENCE HIGH SCHOOL MAIN CAMPUS**  
Senator Miriam Defensor-Santiago Ave. (Formerly Agham Rd),  
Diliman, Quezon City



## **Invitation to Bid for *Procurement of Infrastructure Project: Completion of Academic Building for Senior High Program***

1. The *Philippine Science High School – Main Campus*, through the *National Expenditure Program 2024/General Appropriation Act 2024* intends to apply the sum of **Eighty Million Pesos Only (Php80,000,000.00)** being the Approved Budget for the Contract (ABC) to payments under the contract for ***Procurement of Infrastructure Project: Completion of Academic Building for Senior High Program***. Bids received in excess of the ABC shall be automatically rejected at bid opening.
2. The *Philippine Science High School – Main Campus* now invites bids for the above Procurement Project. Completion of the Works is required ***two hundred ten (210) 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 *Philippine Science High School – Main Campus* and inspect the Bidding Documents at the address given below from ***8:00 am. to 5:00 pm.***
5. A complete set of Bidding Documents may be acquired by interested bidders on ***January 10 to 31, 2024*** 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 Php50,000.00*. The Procuring Entity shall allow the bidder to present its proof of payment for the fees *in person*.
6. The *Philippine Science High School – Main Campus* will hold a Pre-Bid Conference<sup>1</sup> on ***January 17, 2024 at 9:30 am*** at ***Conference Room A, 2<sup>nd</sup> Floor Administration Building, PSHS Main Campus, Agham Road, Diliman, Quezon City*** and/or through videoconferencing/webcasting via ***Google Meet*** ([meet.google.com/opa-pmqp-zmo](https://meet.google.com/opa-pmqp-zmo)), which shall be open to prospective bidders.

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<sup>1</sup> 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. Bids must be duly received by the BAC Secretariat through manual submission at the office address as indicated below on or before **January 31, 2024 at 9:15 am**. Late bids 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 shall be on **January 31, 2024 at 9:30 am** at the given address below and/or through videoconferencing/webcasting via **Google Meet** ([meet.google.com/nyu-iosh-ndd](https://meet.google.com/nyu-iosh-ndd)). Bids will be opened in the presence of the bidders' representatives who choose to attend the activity.
10. The **Philippine Science High School – Main Campus** 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.
11. For further information, please refer to:

*Mr. Azlek Owen B. Tan  
Head, BAC Secretariat  
Philippine Science High School – Main Campus  
Agham Road, Diliman, Quezon City  
aobtan@pshs.edu.ph  
Telefax No.: 88-1-PISAY or 88-1-71729 local 102  
www.mc.pshs.edu.ph*

12. You may visit the following websites:

For downloading of Bidding Documents: **PSHS Main Campus Website**  
**<http://mc.pshs.edu.ph/infrastructure/> and/or Philgeps Website**

*January 10, 2024*

(Sgd) Ms. Melani Anne B. Cheng, PhD  
*Chairperson, BAC for Infrastructure*

## ***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, ***Philippine Science High School – Main Campus*** invites Bids for the ***Procurement of Infrastructure Project: Completion of Academic Building for Senior High Program***, with Project Identification Number **24-01-003**.

*[Note: The Project Identification Number is assigned by the Procuring Entity based on its own coding scheme and is not the same as the PhilGEPS reference number, which is generated after the posting of the bid opportunity on the PhilGEPS website.]*

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 *FY2024* in the amount of ***Php80,000,000.00***.

2.2. The source of funding is:

*[If not an early procurement activity, select one and delete others:]*

a. NGA, the General Appropriations Act or Special Appropriations.

## 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:

- a. Subcontracting is allowed. The portions of Project and the maximum percentage allowed to be subcontracted are indicated in the **BDS**, which shall not exceed fifty percent (50%) of the contracted Works.

- 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 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:*



- a. 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 **May 30, 2024**. 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

ITB Clause																															
5.2	<p>For this purpose, contracts similar to the Project refer to contracts which have the same major categories of work, which shall be:</p> <p>a) <i>Construction of Multi-storey Building with laboratory and multi-purpose area (minimum of 4 floors above ground; excluding roof deck).</i></p> <p>b) <i>Completed within five (5) years prior to the deadline for the submission and receipt of bids.</i></p>																														
7.1	<p>Subcontracting is allowed.</p> <p>“Complete Supply and Installation of Passenger Elevator as per Plans, Drawing Details and Specifications”</p>																														
10.3	<p>No further instructions.</p>																														
10.4	<p>The key personnel must meet the required minimum years of experience set below:</p> <p>The minimum work experience requirements for key personnel are described in <b>Annex D1. Personnel Requirements</b>.</p> <p>Please follow the format in <b>Annex D2. Curriculum Vitae Format for Key Construction Personnel</b>.</p> <table><tr><th><u>Key Personnel</u></th><th><u>General Experience</u></th><th><u>Relevant Experience</u></th></tr><tr><td>A. Project Manager</td><td></td><td></td></tr><tr><td>B. Project Engineer/Architect</td><td></td><td></td></tr><tr><td>C. Construction Safety Engineer/Officer</td><td></td><td></td></tr><tr><td>D. Master Plumber</td><td></td><td></td></tr><tr><td>E. Electrical Engineer</td><td></td><td></td></tr><tr><td>F. Mechanical Engineer</td><td></td><td></td></tr><tr><td>G. Foreman</td><td></td><td></td></tr><tr><td>H. Civil Engineer</td><td></td><td></td></tr><tr><td>I. Electronics and Communications Engineer</td><td></td><td></td></tr></table>	<u>Key Personnel</u>	<u>General Experience</u>	<u>Relevant Experience</u>	A. Project Manager			B. Project Engineer/Architect			C. Construction Safety Engineer/Officer			D. Master Plumber			E. Electrical Engineer			F. Mechanical Engineer			G. Foreman			H. Civil Engineer			I. Electronics and Communications Engineer		
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10.5	<p>The minimum major equipment requirements are the following:</p> <table><tr><th><u>Equipment</u></th><th><u>Capacity</u></th><th><u>Number of Units</u></th></tr><tr><td>Bagger Concrete Mixer</td><td>-</td><td>1</td></tr><tr><td>Electric Hand Drill</td><td>-</td><td>1</td></tr><tr><td>Angle Grinder</td><td>-</td><td>1</td></tr><tr><td>Mobile Crane with corresponding NC2 certification for the operator</td><td>&gt;16 tons max. lifting weight</td><td>1</td></tr></table>	<u>Equipment</u>	<u>Capacity</u>	<u>Number of Units</u>	Bagger Concrete Mixer	-	1	Electric Hand Drill	-	1	Angle Grinder	-	1	Mobile Crane with corresponding NC2 certification for the operator	>16 tons max. lifting weight	1															
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Mobile Crane with corresponding NC2 certification for the operator	>16 tons max. lifting weight	1																													

	Boom Truck	-	1
12	No further instructions.		
15.1	<p>The bid security shall be in the form of a Bid Securing Declaration or any of the following forms and amounts:</p> <p>a. The amount of not less than <b><i>Php1,600,000.00</i></b>, if bid security is in cash, cashier's/manager's check, bank draft/guarantee or irrevocable letter of credit;</p> <p>b. The amount of not less than <b><i>Php4,000,000.00</i></b> if bid security is in Surety Bond.</p>		
16	Each Bidder shall submit one Original copy of the first and second components of its Bid and Copy 1 & 2.		
19.2	Partial bid is not allowed. The infrastructure project is packaged in a single lot and the lot shall not be divided into sub-lots for the purpose of bidding, evaluation, and contract award.		
20	<p>1. BIR certificate of registration indicating the Tax Identification Number</p> <p>2. Photocopy of the TIN card</p> <p>NOTE: The latest income and business tax returns are those within the last six (6) months preceding the date of bid submission.</p>		
21	Additional contract documents relevant to the Project that may be required by existing laws and/or the Procuring Entity, such as construction schedule and S-curve, manpower schedule, construction methods, equipment utilization schedule, construction safety and health program approved by the DOLE, and other acceptable tools of project scheduling.		

## ***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	No further instruction.
4.1	The <b>Procuring Entity</b> shall give possession of all parts of the Site to the Contractor <b><i>upon issuance of the Notice to Proceed.</i></b>
6	The site investigation reports are: <i>The Contractor, in preparing the bid, shall rely on the complete set of plans and specifications provided by the Detailed Architectural and Engineering Design Consultant.</i>
7.2	<p>The contractor shall be held liable for design and structural defects and/or failure of the completed project within the warranty periods specified in Section 62.2.3.2 of the IRR of RA 9184. Warranty requirements are as follows:</p> <p>The Contractor shall guarantee all permanent Civil Works done to be free from defects for a period of Fifteen (15) years reckoned from acceptance of the project.</p> <p>Semi-permanent structure such as floor finishes, thermal and moisture protection, and openings shall be guaranteed by the Contractor for a period of Five (5) years reckoned from the acceptance of the project.</p> <p>Wall finishes shall be guaranteed by the Contractor for a period of Two (2) years reckoned from the acceptance of the project.</p> <p>Form of warranty shall be in accordance with the provisions in Section 62 of the Revised Implementing Rules and Regulations (IRR) of R.A. 9184.</p>
10	a. Dayworks are applicable at the rate shown in the Contractor's original Bid.
11.1	The Contractor shall submit the Program of Work to the Procuring Entity's Representative within <b><i>three (3) calendar</i></b> 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 <b><i>25% of the amount of the next progress billing.</i></b>
13	The amount of the advance payment is <b><i>fifteen percent (15%) of the contract price and can be availed upon the submission and receipt of a request for the release of the advance payment after the issuance of the Notice to Proceed and posting of an irrevocable standby letter of credit of equivalent value from a commercial bank, a bank guarantee or a surety bond callable upon demand, issued by a surety or insurance company duly licensed by the Insurance Commission and confirmed by the procuring entity and shall be paid by the Contractor to be deducted every progress billing.</i></b>
14	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 the <i>date of turn over.</i>

	<p>The date by which “as built” drawings are required is <i>five (5) calendar days before the expected date of turn over or at the time the Contractor achieved a 95% accomplishment.</i></p> <p><i>Electronic versions of documents should be in a CADD form that can be read and retrieved by the PSHS-MC Engineering Office. PDF, DWG, PPT, Microsoft Office and other standard file formats may be used, subject to the requirements of the PSHS Main Campus.</i></p>
15.2	<p>The amount to be withheld for failing to produce “as built” drawings and/or operating and maintenance manuals by the date required is <b><i>Php 90,000.00.</i></b></p>

## ***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.

## OVERVIEW

The project requires the Contractor to supply all the necessary manpower, tools, materials, equipment, & fixtures, and shall perform all works called for in the plans, specifications and instructions for the project **COMPLETION OF ACADEMIC BUILDING FOR SENIOR HIGH PROGRAM** of the Philippine Science High School - Main Campus, Agham Road, Diliman, Quezon City within **Two Hundred Ten (210) Calendar Days**, reckoned from the date the project was actually started or the 7th day after the issuance of the Notice to Proceed (NTP) by PSHS-MC, whichever comes first.

The project requirements, construction procedures and outputs shall be in accordance with the following:

1. DPWH Standard Specifications
2. Approved Plans and **Outline Specifications** of the Design Consultant (see separate document)
3. **Terms of Reference** (see separate document)

Pertinent notes appearing in the Contract Plans or Drawings shall also be considered as part and parcel of the Technical Specifications.

The contractor is expected to coordinate with the PSHS-MC in order to proactively anticipate any problems or issues, especially regarding Campus Health Safety and Security.

Affected portions of the work area should be made good or repaired in the event of damage due to construction works, at no additional cost to the PSHS-MC.

### I. **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 relating 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.

## **II. Quality Expectations**

### **a) Workmanship**

All operations/undertakings required in any and all parts of the plans and technical specifications shall be undertaken in an orderly, workmanlike manner. Only qualified and skilled personnel with sufficient experience in similar operations nominated by the Contractor/Supplier shall be allowed to undertake the same.

Workmanship and finishing are expected to be of good quality, that is to say:

1. Surface finishes are smooth, even, and level,
2. Application of materials are in accordance to the manufacturer's specifications,
3. Installations are well aligned and checked for spacing

### **b) Changes**

The PSHS-MC reserves the right to make minor changes in details of works and materials as may be deemed necessary to fully implement the requirements of the plans and specifications. These changes may include revision or modifications of shapes and dimensions of elements due to actual site conditions and thereby will not entail the deletion or addition of items of work, including materials to be used, specified in the contract.

### **c) Conflicts between plans and specifications**

Should there be any conflict between indications on drawings and provisions in specifications, the same shall be referred to the PSHS-MC decision on the matter and whose opinion shall be final. Any omission in the specification of work or works to be undertaken but is/are necessary for the completion of work, shall be undertaken by the Contractor as if indicated on drawings, without extra compensation. Such works shall be done in the usual manner as required to ensure quality of both materials and workmanship.



d) Rejections

Materials or completed work not in conformance with the provisions of these Specifications shall be rejected outright at any time during the progress of the work. The Contractor shall receive copies of reports of rejections of materials and workmanship made by PSHS-MC. Any part of the work that has been done and is not of quality required by reasonable interpretation of the plans and specifications shall be torn down or removed immediately and rebuilt or otherwise remedy such work in accordance with the requirements of the plans and specifications.

The PSHS expects that workmen deployed would have sufficient skills and expertise to carry out their work competently. The PSHS reserves the right to request certificates or sample work of specific personnel deployed to verify this.

### **III. Submittals**

a) Contractor's All-Risk Insurance

The Contractor's All Risk Insurance (CARI) shall be submitted to PSHS-MC within ten (10) calendar days upon receipt of Notice of Award (NOA).

b) Materials Samples/Brochures/Certificates

The Contractor shall submit samples and test results of the materials, if necessary, to be used in the project, which conforms to the design consultant's specifications prior to the delivery and installation of such materials.

c) Prior to issuance of the Certificate of Completion (COC) the following shall be submitted to PSHS-MC. PSHS-MC reserves the right not to issue a Certificate of Satisfactory Performance on the basis of the non-submission of any of the items below:

1. As-built Plans – Plans should be approved by PSHS-MC. The Contractor shall submit shop drawings as may be required by the PSHS-MC. A complete set of As-Built Drawings in printed form (20" x 30") and an electronic copy (CD) in AutoCAD version 2013.

d) Safety Program

The Contractor is required to have a suitable Construction Safety and Health Program, which must be in accordance with Occupational Safety and Health Center (OSHC) Standard, rules and issuances by the DOLE and standards of the PSHS-MC. The program shall state the following:

1. Composition of Construction Safety and Health Committee

2. Specific safety policies which the contractor shall observe at the area of construction which include but not limited to Fall Protection, Chemical hazards, and Materials Handling and Storage.
3. Penalties and sanctions for violations of the program.
4. The Manner of disposing waste arising from the construction; and
5. Specification, installation and operation of gondolas.

The safety program shall also include the appointment of a full-time safety officer-in-charge of the implementation of the said program.

#### **IV. Warranty**

The Contractor shall guarantee all permanent Civil Works done to be free from defects for a period of Fifteen (15) years reckoned from acceptance of the project.

Semi-permanent structure such as floor finishes, thermal and moisture protection, and openings shall be guaranteed by the Contractor for a period of Five (5) years reckoned from the acceptance of the project.

Form of warranty shall be in accordance with the provisions in Section 62 of the Revised Implementing Rules and Regulations (IRR) of R.A. 9184.

#### **V. Payments**

- a) Payments to the Contractor will be made only for the actual accomplishment and or material utilized, certified by the PSHS-MC as performed by the Contractor in accordance with the plans, specifications and program of works/construction schedule.
- b) Payments in accordance with the above paragraph shall be considered full compensation for furnishing materials, labor, tools and equipment, and for performing all work contemplated and embraced under the Contract.
- c) Payment shall be made upon complete submission of all documents required by the PSHS-MC as indicated in this Scope of Works and Specifications and other contract documents.

First Progress payment shall be made upon completion of 20% actual accomplishment of the contractor.

Succeeding Progress Billings shall be made monthly by the contractor.

- d) It is the responsibility of the Contractor to ensure that their performance bond is updated and valid until the PSHS-MC issues the final Certificate of Acceptance. The Contractor shall submit the endorsement/amendments to PSHS-MC on extension or revisions to its validity, as maybe necessary, not later than seven (7)

days before the expiration of the originally submitted Performance Bond. No payment shall be made unless the Performance is updated.

- e) All payments made shall be subject to ten percent (10%) retention and to PSHS-MC's Accounting Rules and Regulations.

## **VI. Similar Contract**

A contract shall be considered "similar" to the contract to be bid if it involves construction of Multi-Storey Building with laboratory and multi-purpose area (minimum of 4 floors above ground; excluding roof deck).

## **VII. Construction Safety**

The Contractor shall be required to adhere to applicable safety provisions stated in the Occupational Standard for Safety and Health (OSSH) and with PSHS-MC House Rules and Safety Guidelines at all times for the duration of the project. The contractor shall be required to perform a regular tool box meeting among workers and their respective supervisors for the purpose of instructions, discussions, and proper briefing of planned works, the possibility or actual occurrence of accidents at the site and preclusions.

## **GENERAL REQUIREMENTS**

### **I. LICENSE AND PERMITS**

The Contractor shall secure from the government agencies all necessary licenses and permits needed to proceed with the implementation of the Project.

### **II. TEMPORARY STRUCTURES AND SERVICES**

#### **a) Temporary facilities**

Temporary facilities shall be of a design and materials acceptable to the PSHS-MC.

#### **b) Field Office**

b.1. The Contractor shall provide a separate temporary office (if necessary) for use of the contractor's field staff, at an approved location.

b.2. The Contractor shall make available Personal Protective Equipment (PPE's) for the workers.

#### **c) Temporary Electric Power**

The contractor shall provide for a temporary power facility required for the entire construction phase.

#### **d) Temporary Water Supply**

The contractor shall provide a temporary water facility that will be used during the entire construction stage.

#### **e) Temporary Scaffolding, Hoist, etc.**

The contractor shall, operate and maintain adequate number of temporary hoist, scaffolds, runways, ladders, and the like as required for the proper execution of the work. Safety precautions shall at all times be observed.

#### **f) Removal of Temporary Services and Facilities**

All temporary services and facilities installed by the contractor shall be removed by the contractor on completion of this contract or as directed by the PSHS-MC. The contractor shall restore any damage, alteration, caused by such removal and during the project implementation.

### **III. EXAMINATION OF SITE**

- a. Preliminary survey of the site is required to examine the existing conditions; establishing site elevations relative to the implementation of the works. No increase in cost or extension of performance time will be considered for failure

to verify and know actual site conditions. The Contractor shall be responsible in setting reference lines or elevations (bench marks) prior and during implementation of the WORK. It is the responsibility of the Contractor for these reference lines or bench marks to be maintained until the completion of the works.

- b. The Contractor shall VISIT AND ACCEPT THE SITE, AS IS.

The following works shall be considered and included in the preparation of the bid:

1. Site Clearing:

Protection and/or removal of existing structures with the approval from the Procuring Entity and or lessor.

2. Removal of improvements above and below grade (if any) necessary to permit construction and other work as indicated. The Procuring Entity must be consulted prior to any demolition. Coordination with PSHS-MC InfraCom & proper investigation is to be conducted to avoid damage to existing utilities. Rubbish shall be legally and properly disposed of.

#### IV. PROTECTION OF WORK, PROPERTY AND PERSONS

The Contractor shall protect the work of employees, equipment at the PSHS-MC's property and adjacent property from damage for any cause whatsoever, and shall be responsible for any damage or injury (including death) due to his act or neglect. These provisions are solely for the benefit of third persons.

The Contractor shall provide scaffolds, tarpaulins, and similar items as directed by the PSHS-MC to protect Owners, equipment and employees and shall, if necessary, seal off his work so as not to interfere with PSHS-MC's business operations.

The Contractor shall be responsible for any injury loss or damage to any presently existing improvements on the premises caused by him or his employees, agents or any subcontractors, and in the event of such injury, loss or damage shall promptly make such repairs or replacement as required by the PSHS-MC without additional cost to the PSHS-MC.

During the progress of the work, the Contractor shall protect all finished works as soon as it is completed and shall maintain such protection until such time they are no longer required.

V. INSPECTION AND TEST

The Contractor shall permit and facilitate inspection of the work by the PSHS-MC or his authorized representative, and the public authorities having jurisdiction at all times during the progress of the work.

The Contractor will be responsible for all test and engineering services required by the Specifications. The cost for inspection or tests not required by the specification but which the PSHS-MC requires, will be borne by the PSHS-MC.

All tests shall be performed by the testing agency approved by the PSHS-MC and shall be in accordance with the current standards of the American Society for Testing and Materials unless otherwise specified by the PSHS-MC. The Contractor shall furnish the PSHS-MC with 2 copies of the test procedures used.

VI. CLEANING

The Contractor shall at all times keep the premises from accumulation of waste materials or rubbish caused by his employees, sub-contractors, or the work by providing trash receptacles. At completion of the works he shall remove from the building and site all rubbish, scaffolding and surplus materials and shall leave the work broom clean, unless otherwise specified. If the Contractor fails to keep the premises clean, the PSHS-MC may remove the waste materials and rubbish; charge the expense of such removal to the Contractor.

The Contractor shall thoroughly wash and clean all glass and hardware, remove stains, spots, smears, marks and dirt from all surfaces; clean fixtures, wash terrazzo, tile floors and all exposed concrete so as to present clean work to the PSHS-MC for acceptance.

VII. FINAL COMPLETION

The term final completion, means the completion of all work called for under the Contract to include but not limited to satisfactory operation of all equipment, by means of acceptance tests, correction of all punch list items to the satisfaction of the PSHS-MC, settlement of all claims, if any payment and release of all record of all mechanics materials, men and like lines, delivery of all guarantees, Equipment Operation and Maintenance Manuals; as built drawings, Building certificates prior to occupancy; Electrical permits; all other required approvals and acceptance by the City or other authority having jurisdiction and removal of all rubbish, tolls scaffoldings and surplus materials and equipment from the job site.

VIII. PUNCHLIST

The list prepared by the PSHS-MC of the Contractor's uncompleted defective or uncorrected work. This shall be reflected in the Punch List Form and is marked as

Annex “A” of the Certificate of Completion, upon the satisfactory completion of the corrective works.

**IX. SAFETY AND ACCIDENT REPORTS**

The Contractor shall take necessary precautions for the safety of all employees; PSHS-MC’s Representatives. The Contractor shall comply with all instructions and Government Safety laws and Building Codes to prevent accident or injury to persons on about or adjacent to the premises as well as for the protection of adjacent property where work is performed.

**ARCHITECTURAL AND ENGINEERING TECHNICAL  
SPECIFICATIONS**

**ARCE-BAILON-ARCE ARCHITECTS**

**SECTION 142000 – ELEVATOR**

**SECTION 211300 – FIRE SUPPRESSION SPRINKLER SYSTEM**

**SECTION 213000 – FIRE PUMPS**

**SECTION 221123 – DOMESTIC WATER PUMPS**

**SECTION 221429 – SUMP PUMPS**

**SECTION 264100 – FACILITY LIGHTNING PROTECTION**

**SECTION 283100 – FIRE DETECTION AND ALARM SYSTEM**

**SECTION 000000 – OPENINGS (SCHEDULE OF DOORS & WINDOWS)**



## **SECTION 142000**

### **PASSENGER ELEVATOR**

#### **PART 1 GENERAL**

##### **1.1 SCOPE OF WORK**

This section shall include all management, labor, materials, tools, equipment and services required to manufacture, assemble, deliver (including all import and export documents), and install all items necessary for the proper execution and completion of a Passenger Elevator with Machine-Room-Less Service Elevator complete with testing and maintenance guarantee, as indicated in the General and Special Conditions of the Contract Documents, the Drawings, as specified herein, and/or as required by job conditions.

##### **1.2 REFERENCES**

The following standards form part of these specifications to the extent referenced, in accordance to the requirements under General Conditions of the Contract Documents and Manufacturer's instructions:

**1.2.1** National Building Code of the Philippines

**1.2.2** Underwriters Laboratories, UL

**1.2.3** ASME A17 1-2007 Safety Code for Elevators and Escalators

##### **1.3 SUBMITTALS**

Submit the following in accordance with the General Conditions of the Contract and requirements specified herein:

**1.3.1** Manufacturer's data sheets on each product to be used, including documentation within thirty calendar days after award of the purchase order. Indicated in the document will be the type, size, rating, style, catalog number, manufacturer's names, photos, and/or catalog data sheets for all items proposed to meet these specifications. The proposed equipment shall be subject to the approval of the Architect/Engineer and no equipment shall be ordered or installed on the premises without that approval.

**1.3.2** Shop drawings: Indicate dimensions and required tolerances, connection details, anchorage spacing, installation details and special conditions.

**1.3.3** Operating and maintenance instruction manuals

- A. Operating Instruction manuals outlining the step-by-step procedures required for the system start-up and operation shall be furnished in triplicate. The instruction shall include the manufacturer's name, model number, service manual part list and brief description of all equipment and their basic operating features.
- B. Maintenance instruction manuals outlining maintenance procedures shall be furnished in triplicate. The manual shall include a troubleshooting guide - - listing possible breakdown and repairs and a simplified connection wiring diagram for the system as installed.

#### **1.3.4 Performance Test Reports**

Upon completion of the installed system, the contractor shall submit in booklet form all field tests performed to prove compliance with the specified performance criteria.

#### **1.3.5 Materials Safety Data Sheet (MSDS)**

Note: Submit product catalog and shop drawings from the manufacturer's standard details and installation for Architect's approval.

### **1.4 QUALITY ASSURANCE**

**1.4.1** Comply with quality assurance requirements, under General Conditions of the Contract Documents and Manufacturer's instructions.

#### **1.4.2 Manufacturer's Qualification:**

Manufacturer shall have a minimum of ten (10) years documented experience producing requirements specified and approved by the Architect/Engineer. Supplier's and Contractor's qualifications shall be submitted indicating years in business, service policies, warranty definitions, and certifications including accreditation from foreign manufacturers, and lists of similar installations.

#### **1.4.3 Manufacturers/Distributors Services:**

Supervision shall be provided by an authorized factory trained service technician from the dealer of the elevator. The technician shall have a minimum of two (2) years of service experience in the elevator industry. The technician shall have the appropriate state licenses where applicable.

#### **1.4.4 Single Source Responsibility**

Provide products of the same manufacturer for each type of accessory unit and for units exposed to view in the same area, unless otherwise acceptable to the Architect.

## **1.5 DELIVERY, STORAGE AND HANDLING**

Comply with the provisions under General Conditions of the Contract Documents and Manufacturer's instructions. Delivery of materials shall be so scheduled as to allow for immediate installation. Products shall be protected and kept under cover with manufacturer's standard protective packaging during transit and at the job site.

Manufactured materials shall be delivered in the manufacturer's original unbroken packages or containers that are labeled plainly with the manufacturer's name and brands. Materials shall be stored in any weather-tight enclosures, and shall be handled in a manner that will prevent damage until installation.

## **1.6 WARRANTY**

Special written warranty for each material specified herein shall be submitted by Manufacturer/Contractor without reducing or otherwise limiting any other rights to correction which the Owner may have under the contract documents. Failures are defined to include faulty workmanship or faulty materials.

## **1.7 COORDINATION WITH OTHER TRADES**

Ensure that locating templates and other information required prior installation of materials under this section is furnished in time to affected trades to prevent interruption of construction progress.

## **1.8 PROJECT CONDITIONS**

Comply with field examination requirements under General Conditions of the Contract Documents and Manufacturer's instructions. Maintain environmental conditions including temperature, humidity, and ventilation, within limits recommended by the manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

# **PART 2 PRODUCTS**

## **2.1 MACHINE-ROOM-LESS PASSENGER ELEVATOR**

Shall be a Machine-Room-Less System Passenger Elevator with energy saving operation-allocation control, car capacity shall be 8 maximum number of persons, 630 kg rated capacity and 1.0 m/sec rated speed. Car internal dimensions shall be 1100mm x 1400mm and a minimum hoistway internal dimension of 1950mm x 1720mm clear.

### **2.2.1 Elevator Finishes**

#### **MRL-1 Interior Car Wall and Transom Panel**

Interior car wall (lower part of the wall – 3 hairline finish, complete with three sided round type stainless steel handrail in hairline finish and aluminum kickplate. A mirror shall be installed in the upper half of the back portion of the elevators.

#### **MRL-2 Interior and Exterior Car Door**

Shall be two panel center opening doors in stainless steel framing (hairline finish)

#### **MRL-3 Interior Ceiling Finish**

Shall be Terraced Design with illusion of Increased Ceiling Height (N300)

#### **MRL-4 Interior Floor Finish**

Shall be 18 to 20 mm thick premium high quality granite stone floor.

#### **MRL-5 Car Operational Panel for Front Return Panel**

Shall be stainless steel with non-directional hairline finish with white tactile buttons; Braille guide for PWD to be provided

#### **MRL-6 Hall Position Indicators and Buttons**

Shall be the combination of PIV1-A720, to be positioned between the two elevators, with braille guide for PWD provided

Provide Emergency Landing Device, Fire Emergency Return (FER), Earthquake Emergency Return (EER-P/EER-S), Emergency Car Lighting. Elevator system shall be connected to video surveillance. Submit product catalog and shop drawings from the manufacturer's standard details and installation for Architect's approval.

## **2.2 FEATURES**

*Note: Follow manufacturer's recommended standard features for the Passenger Elevator design*

### **2.3.1 Emergency Operations and Features**

#### **A. Emergency Landing Device**

Upon power failure, a car equipped with this function automatically moves to and stops at the nearest floor using a rechargeable battery, and the doors open to facilitate the safe evacuation of passengers. (Maximum allowable floor-to-floor distance is 11 meters).

#### **B. Fire Emergency Return (FER)**

Upon activation of a key switch or a building's fire alarm, all calls are cancelled, all cars immediately return to a specified evacuation floor and the doors open to facilitate the safe evacuation of passengers.

#### **C. Earthquake Emergency Return (EER-P/EER-S)**

Upon activation of primary and/or secondary seismic wave sensors, all cars stop at the nearest floor, and park there with the doors open to facilitate the safe evacuation of passengers.

#### **D. Elevator and Security System Interface (EL-SCA/ EL-SC)**

Personal authentication by building's security devices can trigger predetermined elevator operation such as permission of access to private floors, automatic registration of a hall call and a destination floor, and priority service.

#### **E. Emergency Car Lighting (ECL)**

Car lighting which turns on immediately when power fails, providing a minimum level of lighting within the car. (Choice of dry-cell battery or trickle-charge battery.)

#### **F. Operation by Emergency Power Source - Automatic/Manual (OEPS)**

Upon power failure, a predetermined car(s) uses the building's emergency power supply to move to a specified floor, where the doors then open to facilitate the safe evacuation of passengers. After all cars have arrived, the predetermined car(s) resume normal operation.

### **2.3.2 Door Operation Features**

#### **A. Automatic Door Speed Control (DSAC)**

Door load on each floor, which can depend on the type of hall doors, is monitored to adjust the door speed, thereby making the door speed consistent throughout all floors.

#### **B. Automatic Door-Open Time Adjustment (DOT)**

The time doors are open will automatically be adjusted depending on whether the stop was called from the hall or the car, to allow smooth boarding of passengers or loading of baggage.

#### **C. Repeated Door-Close (RDC)**

Should an obstacle prevent the doors from closing, the doors will repeatedly open and close until the obstacle is cleared from the doorway.

#### **D. Extended Door-open Button (DKO-TB)**

When the button inside a car is pressed, the doors will remain open longer to allow loading and unloading of baggage, a stretcher, etc.

### **2.3.3 Operational and Service Features**

#### **A. Safe Landing (SFL)**

If a car has stopped between floors due to some equipment malfunction, the controller checks the cause, and if it is considered safe to move the car, the car will move to the nearest floor at a low speed and the doors will open.

#### **B. Next Landing (NXL)**

If the elevator doors do not open fully at a destination floor, the doors close, and the car automatically moves to the next or nearest floor where the doors open.

#### **C. Overload Holding Stop (OLH)**

A buzzer sounds to alert the passengers that the car is overloaded. The doors remain open and the car will not leave that floor until enough passengers exit the car.

**D. Automatic Hall Call Registration (FSAT)**

If one car cannot carry all waiting passengers because it is full, another car will automatically be assigned for the remaining passengers.

**E. Car Fan Shut Off – Automatic (CFO-A)**

If there are no calls for a specified period, the car ventilation fan will automatically turn off to conserve energy.

**F. Car Light Shut Off – Automatics (CLO-A)**

If there are no calls for a specified period, the car lighting will automatically turn off to conserve energy.

**G. Automatic Bypass (ABP)**

A fully-loaded car bypasses hall calls in order to maintain maximum operational efficiency.

**H. Independent Service (IND)**

If the elevator doors do not open fully at a destination floor, the doors close, and the car automatically moves to the next or nearest floor where the doors open.

**2.3.4 Signal and Display Features**

**A. Basic Announcement (AAN-B)**

A synthetic voice (and/or buzzer) alerts passengers inside a car that elevator operation has been temporarily interrupted by overloading or a similar cause. (Available in limited languages.)

**B. Voice Guidance System (AAN-G)**

Information on elevator service such as the current floor or service direction is given to the passengers inside a car.

**PART 3 EXECUTION**

**3.1** Comply with Manufacturer's standard accessories, space allocation and installation procedures. Submit shop drawings and verify design finishes with the Architect prior fabrication.

**3.2** Consult with adjacent works to avoid delay in the construction.

**3.3** Perform test to determine compliance with the specified requirements in the presence of the Owner's representative. Test, inspect, and approve operation before finishing.

### **3.4 Works by the General Contractor**

The following items are excluded from Manufacturer's elevator installation work. Their conditions and other details are to be conformed to the statement of local laws or Mitsubishi Electric elevator's requirements on the responsibility of the building owner or general contractor.

- Architectural finishing of walls and floors in the vicinity of the entrance hall after installation has been completed.
- Construction of an illuminated, ventilated and waterproofed hoistway.
- The provision of a ladder to the elevator pit.
- The provision of openings and supporting members as required for equipment installation.
- The provision of separate beams when the hoistway dimensions markedly exceed the specifications, and intermediate beams and separator partitions when two or more elevators are installed.
- The provision of an emergency exit door, inspection door and pit access door, when required, and access to the doors.
- All other work related to building construction.
- The provision of the main power and power for illumination in the hoistway by laying of the feeder wiring from the electrical switch boxes in electrical room into the hoistway.
- The provision of outlets and laying of the wiring in the hoistway, plus the power from the electrical switch box.
- The laying of conduits and wiring between the elevator pit and the terminating point for the devices installed outside the hoistway, such as the emergency bell, intercom, monitoring and security devices.
- The power consumed in installation work and test operations.
- All the necessary building materials for grouting in of brackets, bolts, etc.
- The test provision and subsequent alteration as required, and eventual removal of the scaffolding as required by the elevator contractor, and any other protection of the work as may be required during the process.
- The provision of a suitable, locked space for the storage of elevator equipment and tools during elevator installation.
- The security system, such as a card reader, connected to Manufacturer's elevator controller, when supplied by the building owner or general contractor.

*END OF SECTION*



## **SECTION 211300**

### **FIRE SUPPRESSION SPRINKLER SYSTEM**

#### **PART 1 GENERAL**

##### **1.1 SCOPE OF WORK**

This section includes labor, materials, skills and related services necessary to furnish and install Fire Sprinkler System, materials and related work specified in this Section and shall be coordinated with the appropriate provisions of the Contract Documents.

##### **1.2 SUBMITTALS**

**1.2.1** General: All submittals for approval as indicated herein shall be in accordance to the provisions under General Conditions of the Contract Documents.

**1.2.2** Provide submittal data for the following:

- A.** Manufacturer's Instruction, product technical data, certificates for quality control and operators.
- B.** Each type of pipe hanger, channel support system component, and thermal-hanged shield insert to be used.
- C.** Shop Drawings: Signed and sealed by a qualified professional engineer for multiple piping supports and trapeze hangers which exceed prescriptive requirements. Provide point loads of for each designed hanger or support.

##### **1.3 REFERENCES**

Comply with the provisions under General Conditions of the Contract Documents and Manufacturer's instructions. Reference to the following standards as applicable:

**1.3.1** NFPA 13 – Standard for the Installation of Sprinkler System

**1.3.2** NFPA 72 – National Fire Alarm Code

**1.3.3** NFPA 92 – Standard for Smoke Control System

**1.3.4** Fire Safety Enforcement Manual 2012 Ed.

**1.3.5** R.A. 9514 – Fire Code of the Philippines 2008

## **1.4 QUALITY ASSURANCE**

- 1.4.1** Comply with quality assurance requirements under General Conditions of the Contract Documents and Manufacturer's instructions.
- 1.4.2** Quality processes and installers according to ASME standards for the design and preparation of shop drawings and calculations for each multiple pipe hangers and support for piping and equipment systems.

## **PART 2 PRODUCTS**

### **2.1 Stop Valve**

The Stop Valve is used to isolate the water supply; it may also be called the isolating valve. It is often painted RED in colour with a large black circular handle, and is locked in the OPEN position, allowing the free flow of water. The stop valve is used to isolate (stop) the water supply in the fire sprinkler system. Often the *Stop Valve* is also fitted with

### **2.1 Valve Monitor**

That is used to monitor the state (open or closed) of the *Stop Valve*

The water within an automatic fire sprinkler system can be divided into two parts;

- Water supply or Mains

This is the water being fed into an automatic fire sprinkler system from a water supply such as the town mains or a static water supply such as a tank, up to the *Stop Valve*.

- Installation

The water after the stop valve forms part of the installation.

### **2.3 Alarm Valve**

The Alarm Valve is used to control the flow of water into the fire sprinkler system. This is accompanied by providing a one way valve that is normally closed when the water pressure on the fire sprinkler side of the valve exceeds the water supply pressure. When the pressure equalizes or falls below the water supply pressure, the valve opens to enable water flow.

## **2.4 Automatic Fire Sprinkler**

The Fire Sprinkler is also used to control the flow of water. It is essentially a valve that when exposed for a sufficient time to a temperature at or above the temperature rating of the heat sensitive element (glass bulb or fusible link) releases, allowing water to flow from only the affected sprinkler. The operation and subsequent water flow of an automatic fire sprinkler will lead to a drop in pressure within the fire sprinkler system after the alarm valve.

## **2.5 Alarm Test Valve**

The alarm test valve is a small valve, normally secured in the closed position. The alarm test valve is fitted between the sprinkler system side of the alarm valve and the drain. The purpose of the alarm valve is when opened to simulate the flow of water from a single automatic fire sprinkler.

## **2.6 Motorised Alarm Bell or Gong**

The motorized alarm bell or gong is a mechanical device, operated by the flow of water oscillating a hammer that strikes a gong, causing an audible alarm signal. In addition to the main components of the fire sprinkler system, there are a series of ancillary (support) components that regularly form part of an automatic fire sprinkler system.

## **2.7 Pressure Switch**

The pressure switch is an electro-mechanical device that monitors a fire sprinkler system for a fall in water pressure after the *alarm valve*. The purpose of monitoring a fall in pressure is to activate a switch that is monitored by a fire alarm panel or alarm signaling equipment, as the *primary* method for signaling an alarm to the fire brigade.

## **2.8 Flow Switch**

The flow switch is an electro-mechanical device that monitors the flow of water through a section of pipe within an automatic fire sprinkler system. Flow switches are often fitted with a mechanical delay (up to six minutes) preventing small or minor water flow fluctuations from signaling an alarm. When sustained water flow is detected by a flow switch, a signal is transmitted to a fire indicator panel. This signal is then used to determine which section (floor) of a fire sprinkler system has water flow. *Note: Most flow switches fitted to automatic fire sprinkler systems are NOT set to automatically call the fire brigade.*

## **2.9 Jacking Pump**

Jacking are manual (hand) or electric (semi-automatic or fully automatic) pumps are not always fitted to an automatic fire sprinkler system. They however provide a

method of pumping (boosting) water from the water supply to the fire sprinkler system after the alarm valve. This leads to an increase in water pressure in the fire sprinkler system, thus forcing the alarm valve into the closed position. Jacking Pumps have a secondary function of maintaining the water pressure within a fire sprinkler system reducing the likelihood of false alarms caused by low pressure, caused by small water leaks.

## **PART 3      EXECUTION**

### **3.1      ASSEMBLY**

Assemble units by bolting sections together to make single unit with full perimeter gasket seal.

### **3.2      INSTALLATION**

Install items in accordance with manufacturer's instructions.

### **3.3      SCHEDULE OF EQUIPMENT**

See drawings.

*END OF SECTION*

## **SECTION 213000**

### **FIRE PUMPS**

#### **PART 1 GENERAL**

##### **1.1 SCOPE OF WORK**

This section includes labor, materials, skills and related services necessary to furnish and install the Fire Pump and Jockey Pump assembly, materials and related work specified in this Section shall be coordinated with applicable provisions of the Contract Documents.

##### **1.2 SUBMITTALS**

**1.2.1** General: All submittals for approval as indicated herein shall be in accordance to the provisions under General Conditions of the Contract Documents.

**1.2.2** Provide submittal data for the following:

- A.** Manufacturer's Instruction, product technical data, certificates for quality control and Operators.
- B.** Each type of pipe hanger, channel support system component, and thermal-hanged shield insert to be used.
- C.** Shop Drawings: Signed and sealed by a qualified professional engineer for multiple piping supports and trapeze hangers which exceed prescriptive requirements. Provide point loads of for each designed hanger or support.

##### **1.3 REFERENCES**

Comply with the provisions under General Conditions of the Contract Documents and Manufacturer's instructions. Reference to the following standards as applicable:

**1.3.3** NFPA 20 – Standard for the Installation of Pumps for Fire Protection

**1.3.4** Fire Safety Enforcement Manual 2012 Ed.

**1.3.5** R.A. 9514 – Fire Code of the Philippines 2008

##### **1.4 QUALITY ASSURANCE**

**1.4.1** Comply with quality assurance requirements under General Conditions of the Contract Documents and Manufacturer's instructions.

- 1.4.2** Quality processes and installers according to ASME standards for the design and preparation of shop drawings and calculations for each multiple pipe hangers and support for piping and equipment systems.

## **PART 2 PRODUCTS**

- 2.1** Fire Pump to be used shall be UL/FM Certified and subject for approval by the Engineer/Architect prior to installation.

- 2.2** Jockey Pump to be used shall be UL/FM Certified and subject for approval by the Engineer/Architect prior to installation.

- 2.3** Fire Pump and Jockey Pump shall have the following accessories:

- 1.** OS & Y Gate Valve with supervisory switch
- 2.** Check Valve
- 3.** Relief Valve, flange
- 4.** Flexible Connector
- 5.** Reducer

- 2.4** Above accessories shall be installed at the suction and discharge side of both pumps.

- 2.5** Jockey Pump shall be set to cut-in at 80 psi and to cut-off at 150 psi.

- 2.6** Fire Pump shall cut-in at 60 psi and cut-off manually

**2.7 Fire Pump**

Capacity	-	500 gpm
TDH	-	133 feet
RPM	-	3500
Drive Motor	-	55 kW

**2.8 Jockey Pump**

Capacity	-	20 gpm
TDH	-	105 feet
RPM	-	3500
Drive Motor	-	3.73 kW

## **PART 3      EXECUTION**

### **3.1      ASSEMBLY**

Assemble units by bolting sections together to make single unit with full perimeter gasket seal.

### **3.2      INSTALLATION**

Install items in accordance with manufacturer's instructions.

### **3.3      SCHEDULE OF EQUIPMENT**

See drawings.

*END OF SECTION*

## **SECTION 221123**

### **DOMESTIC WATER PUMPS**

#### **PART 1 GENERAL**

- 1.1** All requirements shall be supplied from reputable firms engaged in the manufacture of each particular item. The entire assembly as installed shall be given a start-up and test run to prove that all the specifications have been met before acceptance by the Owner. The test duration shall be 24 hours. Submittal of the Certificate of Test to the Owner shall be as condition of final payment.
- 1.2** The Specification herein stated are basic guide only. Other items not so indicated but which are obviously necessary for the proper operation of system as intended shall be supplied in accordance with accepted engineering standards.
- 1.3** The equipment shall be guaranteed for a period at least one (1) year of trouble free operation. The supplier of equipment shall certify to the availability of spare parts locally and service in case of system breakdowns within a period of at least three (3) years. Manuals of operation and maintenance and lists of spare parts shall be supplied together with the equipment. Submittal of Warranty Certificate shall be on condition to the final payment.
- 1.4** The supplier shall submit at least two (2) copies of pumps performance curves showing among others, the pump rating and pump efficiency, properly marked thereon.
- 1.5** Price quoted shall include cost delivery of all quoted items to the jobsite. Pump and motor installation dimension drawings shall be submitted together with the quotation.
- 1.6** The brands, names, and place of manufacture of pump, motor, valves, controls and all accessories where applicable shall be indicated in the quotation. Also, a description of pump impellers being offered shall be included.
- 1.7** A metal nameplate indicating in indelible letters the correct specifications of the pump and motor shall be properly attached to the assembly at a location such that the information written thereon can be conveniently read by all concerned.
- 1.8** A separate price shall be quoted for installation work and preparation submittal of as installed drawing.
- 1.9 REFERENCES**

- 1.9.1** ASTM International (ASTM) Publications:

**B36** “Standard Specification for Brass Plate, Sheet, Strip and Roller Bar”



**B584** “Standard Specification for Copper Alloy Sand Castings for General Applications”

**1.9.2** National Fire Protection Association

**1.9.3** Underwriters Laboratories, Inc. (UL) Standards:

**486A** “Standard for Wire Connectors and Soldering Lugs for Use with Copper Conductors”

**486B** “Standard for Wire Connectors for Use with Aluminum Conductors”

**778** “Standard for Motor-Operated Water Pumps”

## **1.10 SUBMITTALS**

### **1.10.1 Product Data**

Include certified performance curves and rated capacities of selected models; shipping, installed and operating weights; furnished specialties; and accessories for each type and size of pump specified. Indicated pump’s operating point on curves.

### **1.10.2 Maintenance Data:**

For each pump specified to include in maintenance manuals.

### **1.10.3 Submit Materials Safety Data Sheet (MSDS)**

## **PART 2 PRODUCT**

### **2.1 Water Tank & Pumps**

#### **2.1.1 Constant Pressure Booster Pump (Potable)**

Shall be 3 units Triplex Type, with capacity per unit of 75 GPM vs 262 ft. TDH, approx. 10 HP each. Horizontal Centrifugal End-Suction, close coupled to electric motor on a common base, suitable for pumping domestic water by negative suction with pressure relief valves, factory pre-wired and pipe with section. Electric motor drive shall be 220/380/440V, 3-phase, 60 cycles, open drip proof, 10 HP.

Motor Controls: Microprocessors based variable frequency drive and soft motor starter. Designed for controlling and optimizing the speed and power requirement of one (1) electric motor driven pump. Motor control also consist of pressure transducer, speed potentiometer, overload relays, extra

quick trip overload current relay, phase failure relay, ground fault relay (liquid sensor type) and alternators. Enclosure shall be NEMA TEFC, IP54.

Accessories: Vibration insulating hose connections at suction and discharge lines, electrode type water level control or equal to prevent pumps from running dry.

### **2.1.2 Hydropneumatic Pressure Tank (Diaphragm Type of Bladder Type)**

Shall be one unit, diaphragm type, vertical mounted Cylindrical Tank with capacity per unit of 119 US gals, operating pressure of cut-in 95 psi and cut-off 115 psi. tank Material: Mild steel 3/16" minimum thickness, 100 psi pressure rating per ASME Code for Unfired Pressure Vessels. Bladder shall be FDA approved.

Accessories:

- Pressure gauge for operative pressure of 0 to 100 psi, dial face diameter – 100 mm
- Water level gauge, consisting of a sight glass copper tubing with sufficient opening and graduations to indicate the level of water inside pressure tank correct to one (1) mm.
- Pressure relief valve – to release pressure at 95 psi.
- Water drain valves
- Pressure switches to be set at cut-in 95 psi; and cut-off 115 psi

### **2.1.3 Constant Pressure Booster Pump (Non-Potable)**

Shall be 3 units Triplex Type, with capacity per unit of 90 GPM vs 250 ft. TDH, approx. 10 HP each. Horizontal Centrifugal End-Suction, close coupled to electric motor on a common base, suitable for pumping domestic water by negative suction with pressure relief valves, factory pre-wired and pipe with section. Electric motor drive shall be 220/380/440V, 3-phase, 60 cycles, open drip proof, 10 HP.

Motor Controls: Microprocessors based variable frequency drive and soft motor starter. Designed for controlling and optimizing the speed and power requirement of one (1) electric motor driven pump. Motor control also consist of pressure transducer, speed potentiometer, overload relays, extra quick trip overload current relay, phase failure relay, ground fault relay (liquid sensor type) and alternators. Enclosure shall be NEMA TEFC, IP54.

Accessories: Vibration insulating hose connections at suction and discharge lines, electrode type water level control or equal to prevent pumps from running dry.

#### **2.1.4 Hydropneumatic Pressure Tank (Diaphragm Type of Bladder Type)**

Shall be one unit, diaphragm type, vertical mounted Cylindrical Tank with capacity per unit of 119 US gals, operating pressure of cut-in 90 psi and cut-off 110 psi. tank Material: Mild steel 3/16" minimum thickness, 100 psi pressure rating per ASME Code for Unfired Pressure Vessels. Bladder shall be FDA approved.

Accessories:

- Pressure gauge for operative pressure of 0 to 100 psi, dial face diameter – 100 mm
- Water level gauge, consisting of a sight glass copper tubing with sufficient opening and graduations to indicate the level of water inside pressure tank correct to one (1) mm.
- Pressure relief valve – to release pressure at 95 psi.
- Water drain valves
- Pressure switches to be set at cut-in 95 psi; and cut-off 115 psi

### **2.2 UNDERGROUND POTABLE WATER STORAGE TANKS**

Refer to Plumbing/Structural Drawings for required details.

### **2.3 PIPING, FITTINGS AND MISCELLANEOUS METAL WORKS**

**2.3.1** Furnish and install all pipe fittings, valves, specials, pipe supports, miscellaneous metal work and all required appurtenances as shown on the plans and as required to make the entire piping system operable.

**2.3.2** All materials furnished and installed shall be new and guaranteed free from defect in design, materials and workmanship.

**2.3.3** Adequate protective measures shall be provided to protect pipes, fittings, valves and all other materials from damage or injury during storage and installation.

### **2.4 FLANGES, GASKETS, AND BOLTS**

**2.4.1** Flanges shall conform in dimensions and drilling to ASA B-16.1 Class 125.

**2.4.2** Gaskets shall be ring-type JOHN MANSVILLE or cranite.

**2.4.3** Bolts shall be standard square head machine bolts with heavy, hot, pressed hexagon nuts. Threads shall conform to ASA B-1.1, coarse thread series, Class 2 fit.

## **2.5 MANHOLE FRAME AND COVER**

**2.5.1** All castings for manhole frames shall be tough, gray iron free from warps, cracks, holes, swells and cold shuts, and approximately 3 mm thick.

**2.5.2** All casting shall conform to the requirements of ASTM Standard A-48 for gray iron castings.

## **2.6 LADDER RUNGS**

Ladder Rungs shall be of 20 mm diameter round stainless steel bar attached to the walls as shown from castings.

# **PART 3 EXECUTION**

## **3.1 TESTS FOR WATER**

**Tightness of Completed Tank** – The completed reinforced concrete ground tank and elevated tank shall be tested for water-tightness by filling it up with clean water after cleaning out all dirt and debris inside the tank. The water shall be allowed to stand for a minimum period of 24 hours reckoned from the time the free-board line was reached during filling up. After the 24-hour period there shall be no drop in water level in the tank more than 40 mm, otherwise, the leaks shall be located and plugged properly and the test for water-tightness be repeated.

## **3.2 DEFECTIVE WORKS**

**3.2.1** If the inspection and test show any defect such defective work or material shall be replaced and the test shall be repeated until such satisfactory to the Owner.

**3.2.2** All repairs shall be made with new material at the expense of the Contractor.

**3.2.3** No caulking of screwed joints or holes will be accepted.

## **3.3 DISINFECTION OF WATER DISTRIBUTION SYSTEM AND WATER TANKS (AS PER AWWA C-601)**

**3.3.1** The entire water system shall be thoroughly flushed and disinfected with chlorine before it is placed on operation. Water tanks shall be washed and swabbed.

**3.3.2** Chlorination materials shall be liquid chlorine or hypochlorite, as specified and shall be introduced into the water lines in manner approved by the

Engineer. Tanks shall be thoroughly cleaned of all debris, dirt or dust before swabbing

- 3.3.3** The chlorine dosage shall be such as to provide not less than fifty parts per million (50ppm) or available chlorine.
- 3.3.4** Following a contact period of not less than sixteen (16) hours, the heavily chlorinated water shall be flushed from the system with clean water until the residual chlorine is not greater than two tenth (0.20 ppm). All valves in water lines being sterilized shall be opened and closed several times during the 16-hour chlorinating period.

*END OF SECTION*

## **SECTION 221429**

### **SUMP PUMPS**

#### **PART 1 GENERAL**

##### **1.1 SUMMARY**

- 1.1.1** Section Includes: Submersible Sump Pumps, Sump-pump basins and basin covers.

##### **1.2 ACTION SUBMITTALS**

- 1.2.1** Product Data: For each type of product indicated. Include rated capacities, operating characteristics, electrical characteristics and furnished specialties and accessories.
- 1.2.1** Wiring Diagrams: For power, signal and control wiring.
- 1.2.3** Submit Materials Safety Data Sheet (MSDS)

##### **1.3 CLOSE OUT SUBMITTALS**

- 1.3.1** Operation and Maintenance Data: For pumps and controls, to include in operation and maintenance manuals.

##### **1.4 QUALITY ASSURANCE**

- 1.4.1** Electrical Components, Devices and Accessories. Listed and labeled as defined in NFPA 70, by a qualified testing agency and marked for intended location and application.
- 1.4.2** UL Compliance: Comply with UL 778 for motor-operated water pumps.

##### **1.5 DELIVERY, STORAGE AND HANDLING**

- 1.5.1** Retain shipping flange protective covers and protective coatings during storage.
- 1.5.2** Protect bearing and coupling against damage.
- 1.5.3** Comply with pump manufacturer's written rigging instructions for handling.

## **PART 2 PRODUCTS**

### **2.1 Elevator Sump pump**

Shall be portable submersible non-clog elevator pump pit with electric motor capacity of 220/440 volts, single phase 60 Hz. Submit product catalog for Architect's approval; refer to Sanitary Drawings for capacity and details.

## **PART 3 EXECUTION**

### **3.1 EARTHWORK**

**3.1.1** ~~Excavation and filling are specified in Division 31. N/A~~

### **3.2 EXAMINATION**

**3.2.1** Examine roughing-in for plumbing piping to verify actual locations of storm drainage piping connection before sump pump installation.

### **3.3 INSTALLATION**

**3.3.1** Pump Installation Standards: Comply with HI 1.4 for installation of sump pumps.

### **3.4 CONNECTIONS**

**3.4.1** Comply with requirements for piping specified in Division 22 Section "Sanitary Waste and Vent Piping" drawings indicates general arrangement of piping, fittings and specialties.

**3.4.2** Install piping adjacent to equipment to allow service and maintenance.

### **3.5 FIELD OF QUALITY CONTROL**

**3.5.1** Perform tests and inspections.

**3.5.2** Test and Inspection:

- a.** Perform each visual and mechanical inspection.
- b.** Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
- c.** Operational Test: After electrical circuitry has been energized, start units to confirm proper motor rotation and unit operation.

- d. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

**3.5.3** Pumps and controls will be considered defective if they do not pass tests and inspections.

**3.5.4** Prepare test and inspection report.

### **3.6 STARTUP SERVICE**

**3.6.1** Perform startup service – Complete installation and startup checks according to manufacturer's written instructions.

### **3.7 ADJUSTING**

**3.7.1** Adjust pumps to function smoothly, and lubricate as recommended by manufacturer.

**3.7.2** Adjust control set points.

### **3.8 DEMONSTRATION**

**3.8.1** Train Owner's maintenance personnel to adjust, operate and maintain pumps.

*END OF SECTION*



## **SECTION 264100**

### **FACILITY LIGHTNING PROTECTION**

#### **PART 1 GENERAL**

##### **1.1 SUMMARY**

This section shall include lightning protection system.

##### **1.2 REFERENCE STANDARDS**

**1.2.1** Inspection of Lightning Protection Systems.

**1.2.2** National Fire Protection Association: NFPA 780 – Standard for the Installation of Lightning Protection Systems.

**1.2.3** Underwriters Laboratories, Inc.

- UL 96 – Lightning Protection Components.
- UL 96A – Installation Requirements for Lightning Protection Systems.
- UL 497 – Protectors for Paired-Conductor Communications Circuits.
- UL 1449 – Surge Protective Devices.

##### **1.3 SUBMITTALS**

**1.3.1** Comply with Division 01 submittal requirements.

**1.3.2** Delegated Design Submittals: Submit for Architect's approval:

- Submit installation drawing, product data, and other information sufficient to describe lightning system and coordination with related work.
- Submittal shall be signed by System Designer and state that design complies with Quality Assurance standards.

**1.3.3** Qualifications Statements: Submit for Architect's approval:

- System Designer.
- Manufacturer.
- Installer.

**1.3.4** Closeout Submittals: Provide Field Quality Control documentation.

##### **1.4 QUALITY ASSURANCE**

**1.4.1** Manufacturer shall be firm with:

- UL-listing for lightning protection.
- Five years of experience on work of this size and type.
- Employee certified as Master Installer by Lightning Protection Institute.

**1.4.2** System Designer: Individual certified as Designer/Inspector or Master Installer by Lightning Protection Institute.

**1.4.3** Comply with: LPI 175, NFPA 780, UL 96, and UL 96A.

## **1.5 DELIVERY, STORAGE AND HANDLING**

Store in a secure, dry location.

## **PART 2 PRODUCTS**

### **2.1 MANUFACTURER**

Manufacturer shall be firms of long-term operation (minimum of 10 years of experience), technically proficient and experienced in this trade and has accomplished works similar to the project specifications.

### **2.2 Early Streamer Emission Lightning Arrester**

Shall be Early Stream Emission (E.S.E.) type lightning arrester with 60mm<sup>2</sup> SDBCW in 32mm diameter PVC conduit down conductor and stroke counter panel. Apply exothermic welding process for copper clad ground rods connection.

### **2.3 Accessories**

- Fasteners and Adhesives: Types suitable for conditions of use.
- Surge Protective Devices: Provide devices complying with UL 96A, UL 497, and UL 1449.

## **PART 3 EXECUTION**

### **3.1 INSTALLER**

#### **3.1.1 Installer Qualifications:**

- Regularly engaged in installation of lightning protection systems.
- Five years of experience on work of this size and type.
- UL-listing for lightning protection.
- Employee certified as Master Installer by Lightning Protection Institute.

### **3.2 EXAMINATION**

Verify that conditions are acceptable for work of this Section. Do not proceed until detrimental conditions are remediated.

### **3.3 PREPARATION**

Protect against damage or remove and store them until installation.

### **3.4 INSTALLATION**

#### **3.4.1 Scope:**

- Install lightning protection system to building. (Refer to Electrical Drawings for Location of installation)

#### **3.4.2** Comply with Quality Assurance requirements.

#### **3.4.3** To extent practical, locate components with sensitivity to architectural design.

#### **3.4.4** Down Conductors: To extent practical, locate on building exterior (Verify Electrical Drawings). Protect against damage in areas subject to abuse or damage.

*END OF SECTION*

## **SECTION 283100**

### **FIRE DETECTION AND ALARM SYSTEM**

#### **PART 1 GENERAL**

##### **1.1 DESCRIPTION**

- A.** Provide fire detection and alarm system in accordance with the Contract Documents.
- B.** The fire detection and alarm system shall be a stand-alone system operating independently of other control systems. It shall have an automatic dial-up feature to the BFP Fire Station.
- C.** Related work specified in other divisions of these specifications:
  - 1.** Sprinkler water flow and tamper switches.
  - 2.** Magnetic door holders and electric door locking hardware.
  - 3.** Public Address Emergency Announcement
  - 4.** Life Safety Equipment Interfaces.

##### **1.2 RELATED DOCUMENTS**

- A.** All work specified in this specification is subject to the provisions of Electronics General Provisions.
- B.** Refer to the following specification of related work in the connection with the Fire Detection and Alarm System: Background Music (BGM) and Public Address (PA) System.

##### **1.3 QUALITY ASSURANCE**

- A.** Fire Department approval of fire detection and alarm system.
- B.** Manufacturer and equipment supplier shall have a minimum of ten (10) years-experience as contractor of fire detection and alarm system and shall have at least five (5) completed or on-going FDAS installation in the Philippines.
- C.** Equipment supplier shall have twenty four (24) hour parts and labor service available with a maximum four (4) hour response time.
- D.** Prior to making required submittals, system supplier shall meet with the Fire Department and make an informal presentation of the fire alarm and

detection system. Meeting minutes shall be issued and comments incorporated into the required submittals.

- E. Engineer In-Charge supervising the work shall be a duly registered Electronics Engineer supervised by a Professional Electronics Engineer as required by RA 9292 and the revised IRR of the National Building Code of the Philippines.

#### **1.4 STANDARDS**

- A. Fire Department Requirements
- B. National Building Code of the Philippines
- C. National Fire Protection Association (NFPA 72, 101, 5000)
- D. RA 9614 Revised Fire Code of the Philippines of 2008 and its IRR

#### **1.5 ABBREVIATIONS**

- A. FACP : Fire Alarm Control Panel
- B. FTS : Firefighter's Telephone System
- C. FCC : Fire Command Center

#### **1.6 SUBMITTALS**

- A. Minutes of system supplier's meeting with the Fire Department
- B. Manufacturer's product data sheets for equipment including Fire Marshal listing numbers.
- C. Floor plans (minimum 1:100 scale) showing device locations and interconnecting conduit and wire. Floor plan (minimum 1:25 scale) of the FCC indicating fire management system equipment, equipment furnished by others, tables, plan racks, and required clearances. Elevations (minimum 1:25 scale) of each wall of the FCC.
- D. Riser diagram showing devices, equipment, and interconnecting conduit and wire. Indicate points of connection to other equipment such as fire pump controllers, dry pipe sprinkler systems, elevator machine rooms and shafts and kitchen hood fire protection systems.
- E. Scaled detail drawings of FACP.
- F. Wiring diagram of each device.

- G. Wiring diagram of smoke control sequence.
- H. Voltage drop calculations.
- I. Interface installation shop drawing for magnetic door holders, and electric door locking hardware.
- J. List of all devices with address identification.
- K. Seismic restraint calculations.
- L. Layout of Fire Alarm Sub-panels.

## **1.7 FIELD TESTING**

- A. Wiring shall be inspected and tested for continuity and short circuits. The minimum allowable resistance between any two conductors or between conductors and ground is ten mega ohms measured with 500 volt megger.
- B. Filed Test Reports:
  - 1. Certification that equipment has been properly installed and is in satisfactory operating condition.
  - 2. Sensitivity settings for smoke detectors.
  - 3. detailed operational test report in matrix for indicating each initiating device, each signaling device, each communication device, and each control and indicating light on each piece of equipment. Report shall certify the following:
    - a. Successful operation of each alarm and supervisory initiating device.
    - b. Successful operation of each signaling device.
    - c. Successful operation of automatic smoke control sequences.
    - d. Successful operation of FACP.
    - e. Successful operation of Fireman's Telephone Systems.
    - f. Successful operation of line supervision devices.
    - g. Successful operation of offsite alarm monitoring system connection (optional).
    - h. Successful operation of unlocking electronically locked doors.

## **1.8 IDENTIFICATION**

- A.** Provide an identification nameplate for each equipment cabinet.

## **1.9 SEQUENCE OF OPERATION**

- A.** A computerized intelligent addressable, non-coded, two stage evacuation system complete with integrated emergency voice two way communication system will be provided. The system will be designed using National Building Code and Fire Code of the Philippines and other related standards such as NFPA as reference.
- B.** The main design principle of the proposed system is to provide localized microprocessor based intelligent Fire Alarm Control Panel, FACP with Emergency Voice Evacuation System, Detectors and system are able to identify maintenance points, malfunctioning and line discontinuity.
- C.** The primary means of detection/suppression will be a system of smoke detectors integrated with the automatic sprinkler system. Smoke detectors will be provided in all areas of the building to comply with local codes, and will be supplemented by the following types or early warning detection.
- D.** All detectors and zone control and monitor modules will be connected on an addressable loop and will each possessed a unique address to allow specific identification in the case of alarm or malfunction and environmental sensitivity adjustment.
- E.** Upon activation of any alarm, initiating devices the system will send signal to:
  - 1.** Transmit an evacuation broadcast to the fire floor and floor above.
  - 2.** Transmit an alert broadcast, IF:
    - a.** Fire alarm within the floor is not acknowledged within 5 minutes.
    - b.** Manual pull station is activated within the fire alarm floor.
    - c.** Sprinkler flow switch/ supervisory switch is activated.
    - d.** Another detector is triggered/activated within the floor.
  - 3.** Automatically stop all building floors recirculating air handling systems (fans).
  - 4.** Automatically start all smoke removal and pressurization fan systems as well as open/close appropriate dampers.

5. Activate all fire shutters to stage position.
  6. Release all secured door magnetic locks.
  7. Annunciate all functions at the Fire Alarm Control Panel at the Ground Floor.
  8. Should the initial alarm not be acknowledged within five minutes an evacuation broadcast will be transmitted to the entire building complex.
  9. Transmit signal to the local fire department.
  10. A hard copy printout to be initiated at the printer.
- F.** A selective paging system will be integrated with the signaling system to allow authorized announcements.
- G.** An integrated UL or equivalent listed dedicated two way firefighter's telephone system will be provided at each exit stair entry to allow direct communication between the fire fighters and the Fire Command Center.
- H.** The main control panel will consist of a central processing unit, printer and color LCD unit annunciator with a complete graphics package identifying all fire zone status.
- I.** The printer shall be as an event and status printer; it shall be laser jet type with a minimum speed of 200 characters per second at 10 characters per inch.

**1.10 SYSTEM ZONING (To be further coordinated with the fire and life safety consultant)**

- A.** Firefighter's Telephone System:
1. Plug in jacks: Each stairwell shall be a separate, individual zone.
  2. Emergency telephones: Each stairwell shall be a separate, individual zone.
  3. Each bank of elevator cabs shall be a separate, individual zone.
  4. Each elevator lobby bank riser shall be a separate, individual zone.
- B.** Damper Override Control and Status Indication:
1. Separate zone for each damper actuator.



Damper switches each with open close and auto functions as well as positive indication shall be provided at each floor and are to be provided at the main control panel.

## **1.11 SCOPE**

The scope of work under this head shall include design, supply, and installation of additional Fire Alarm System devices to the whole building complex. The work under this system shall consist of supply, installation, testing, training & handing over of all materials, equipment and appliances and labor necessary to commission the said system, complete with Addressable fire alarm system for all common areas. The system shall comprise of Smoke Relays for interfacing with other systems. It shall also include laying of cabling, necessary for installation of the system as indicated in the specification and Bill of Quantities. Any openings/chasing in the wall/ceiling required to be made for the installation shall be made good in appropriate manner.

## **1.12 OTHER APPROVALS**

The system shall have proper listing and/or approval from the following nationally recognized agencies.

UL : Underwriters Laboratories Inc.

ULC : Underwriters Laboratories Canada

FM : Factory Mutual

MEA : Material Equipment Acceptance (NYC)

CSFM : California State Fire Marshal

## **PART 2 PRODUCTS**

### **2.1 ACCEPTABLE MANUFACTURERS**

- A. Fire Alarm and Detection System components shall be of the same manufacturer, unless otherwise noted.
- B. Contractor must have at least ten (10) years of experience and existence.

### **2.2 GENERAL**

- A. Alarm and trouble signals shall be digitally encoded by listed electronic devices onto a NFPA Style 6 or 7 (Class A) looped multiplex communication system.

- B.** Alarm and trouble signals from all addressable devices shall be digitally encoded NFPA Style 6 or 7 (Class A) signaling line conduit.
- C.** Digitized electronic signals shall employ check digits or multiple polling.
- D.** Response time between alarm initiation and recording is not to exceed **five (5) seconds**.
- E.** The fire alarm control panel (FACP) shall consist of low current, solid-state integrated circuits, and shall be powered from centralized emergency power line source and centralized standby battery power source.
- F.** Power for initiating and signaling devices may be from the fire alarm control panel to which they are connected.
- G.** A single ground or open on any system signaling line circuits, i.e., communication network (multiplex loop) shall not cause system malfunction or loss of operating power.
- H.** Alarm signals arriving at the FACP shall not be lost following a power failure (or outage) until the alarm signal is transmitted and recorded.
- I.** Speaker circuits shall be electrically supervised for open and short circuit per smoke zone.
- J.** Two-way telephone communication circuits shall be arranged so as to allow communication between the fire command center and remote telephone locations.
- K.** It shall be possible to connect the telephone circuits to the speaker circuits to allow voice communication over the speaker circuit from a telephone handset.

## **2.3 LINE SUPERVISION**

- A.** All system equipment and wiring shall be supervised.
- B.** Style 7 wiring shall be arranged so that the system shall not be affected by a single open, short, or ground condition. Report trouble condition and automatically switch over alternate wiring path.
- C.** Style Y wiring shall utilize end of line resistors.
- D.** Addressable Channel Wiring: Style 6.
- E.** Multiplex Channel Wiring: Style 7.

- F.** Non Addressable Initiating Device Wiring: Style Y.
- G.** VCS and FTS Device Wiring: Style Y.

## **2.4 STANDBY BATTERIES**

- A.** Provide sufficient battery (NiCd) capacity to operate the entire system upon loss of power under maximum normal load for a minimum period of 24 hours with a minimum of 5 minutes of alarm operation at the end of this period.
- B.** The system shall automatically transfer to the standby batteries upon power failure. Battery charging and recharging shall be automatic.

## **2.5 FIRE ALARM CONTROL PANEL (FACP)**

- A.** Solid state, microprocessor based, modular design, fully supervised. Steel enclosure in standard finish, with hinged, locking door. Integral power supply, standby batteries, and battery charger.
- B.** Provide power on LED, power failure LED, system trouble LED, system reset switch, alarm silence switch, trouble silence switch, manual evacuation switch, alarm acknowledge switch, lamp test button, tone alert, battery supervision LED, auxiliary relays, and other system indicators and controls necessary for processing alarm and signaling functions. Indicating lamps shall be LED type.
- C.** Provide appropriate permanent identification labeling of control and indicating functions.
- D.** Annunciation:  
  
Serial annunciator with back lit, alphanumeric, 80 character liquid crystal display indicating clear language information as to the type of alarm (device type), point status (alarm or trouble), number of alarms on the system, and custom location label. Ability to scroll back through prior system actions.
- E.** System shall utilize addressable type smoke detection with alarm verification, self-test feature, individual sensor automatic timed sensitivity adjustment, individual smoke sensor field adjustable sensitivity set from FACP, and automatic maintenance alarm feature.
- F.** Provide at least one (1) spare loop for maintenance purposes.
- G.** Networking Capable Panel (for FACP interconnection) for integration with other building facilities, for future expansion or for addition of initiating and notification devices during fit-out.

## **2.6 FIRE ALARM INITIATING DEVICES**

### **A. General:**

- 1.** Intelligent Addressable type.
- 2.** Provide auxiliary relays where required to satisfy system operational requirements.
- 3.** Smoke detectors shall be intelligent addressable type.

### **B. Manual Pull Stations**

- 1.** Furnish and install where indicated on plan.
- 2.** All manual pull station shall be single action non-coded break glass type.
- 3.** Manual station shall be constructed of Die Cast Metal or Lexan with clearly visible operating instruction.
- 4.** Station shall be suitable for surface mounting on matching back box.
- 5.** Pulling the alarm handle shall activate the toggle switch which shall cause the station alarm in position.
- 6.** Push button type manual station shall not be acceptable

### **C. Smoke and Heat Detectors:**

- 1.** Photoelectric smoke detector (addressable)
  - a.** LED light source, silicon photodiode receiving element. Line filter and time delay circuitry to prevent transient false alarms.
  - b.** 360° smoke entry, locking tamper screw, pulsating on power LED indicator, UL 268.
  - c.** Adjustable obscuration/smoke detection levels.
  - d.** Provides maintenance identification alarm.
  - e.** Provides two LED function/working indication.
  - f.** The Detector shall have UL/FM/EN approval.
- 2.** Photoelectric smoke detector (conventional)

- a.** The detector shall be able to send detection signal to the zone input module where this will give the zone address to FACP.
  - b.** This conventional optical smoke detector provides efficient reliable detection utilizing the light scatter sensing principle with rapid response to a fire signal.
  - c.** LED light source, silicon photodiode receiving element. Line filter and time delay circuitry to prevent transient false alarms.
  - d.** 360° smoke entry, locking tamper screw, pulsating on power LED indicator, UL 268.
  - e.** Adjustable obstruction/smoke detection levels.
  - f.** Provides maintenance indication alarm.
  - g.** Provides two LED function/working indication.
  - h.** The detector shall have UL/FM/EN approval.
- 3.** Heat Detector:
- a.** 135°F to 194°F combination fixed temperature and rate of rise heat detector.
  - b.** Locking tamper screw, UL 521.
  - c.** Provides maintenance identification alarm.
  - d.** Provides two LED function/working indication.
  - e.** The detector shall have UL/FM/EN approval.
- 4.** Detector Base:
- a.** All detector base shall fit into a common standard type base. Every base shall have a built-in option allowing mechanical locking of the detector head to prevent unauthorized removal or tampering.
  - b.** Detector insertion and removal shall be by simple push-twist movement through the use of an extended tool by one person at the floor level with the detector mounting height up to 7 meter even with the mechanical locking device activated.

- c. The base shall be equipped with screw-less terminals capable of securely retaining wires up to 1.5sq.mm. the base shall be suitable for use for both Class A & Class B wiring.
- d. The standard base shall consist of a sealing plate to prevent dirt, dust, condensation or water from the conduit reaching the terminals or detector contact points.
- e. The standard base shall be supplied with a removable base cover to protect the contact area during installation stage and to allow checking and commissioning of the individual loops before insertion of the detectors. The dust cover shall be removable by an extended tool up to 7 meters from the floor level.
- f. Special base assemblies with sounders from the same manufacturer shall have minimum of 76dBA output.

**D. Device Monitoring Module**

- 1. The device monitoring module shall permit the use of conventional detecting devices including sprinkler flow switches and supervisory switches on the addressable system. The module can be mounted together in the fire alarm cabinet or be in the standard outlet boxes located near the device being monitored.

**E. Control Module**

- 1. Interfaces a controlled device to the addressable system. This enables the fire alarm panel to direct an instruction only to the intended device by addressing to its control module.

**F. Aspirating Smoke Detector (Air Sampling Detector)**

- 1. The aspirating smoke detector should have combination of dual-source optical smoke detection with advanced algorithms to detect a wide range of fires while maintaining enhanced immunity to nuisance particulates.
- 2. The detector should be able to detect incipient fire conditions as early as 30 to 60 minutes before a fire actually starts for Early Warning Fire Detection and Very Early Warning Fire Detection.
- 3. The detector should be connected to the SLC loop to communicate five levels of events for display and use in control-by-event system programming. Using the SLC connection, the system operator can also review real-time information on percent of alarm, drift compensation

percent, and temperature. The system operator can also put the detector into service mode, or reset airflow baselines from the main FACP.

4. Maximum air sample transport time from the farthest sampling port to the detector shall not exceed 120 seconds.
5. Air-sampling detectors shall give a trouble signal if the airflow is outside the manufacturer's published instructions.
6. The sampling ports and in-line filter, if used, shall be kept clear in accordance with the manufacturer's specified range.
7. Air-sampling network piping and fittings shall be airtight and permanently fixed.
8. Sampling system piping shall be conspicuously identified as "SMOKE DETECTOR SAMPLING TUBE – DO NOT DISTURB", as follows:
  - a. At changes in direction or branches piping.
  - b. AT each side of penetrations of walls, floors, or other barriers.
  - c. At intervals on piping that provide visibility within the space, but no greater than 20ft (6.1m).
9. A single device should detect as precise as 0.00046%/ft obscuration to 4%/ft obscuration and protects from 8,000 square feet (740 square meters) to large scale 21,500 square feet (2,000 square meters). The total pipe length should be at least 80 meters and should be able to expand up to 4,000 linear meter.

## **2.7 FIRE ALARM NOTIFICATION APPLIANCE**

### **A. Speaker-Strobes**

1. Fire lights shall be a xenon-strobe type or equivalent. It shall be low-voltage (24VDC).
  - a. The maximum pulse duration shall be 2/10ths of one second (0.2 second with a maximum duty cycle of 40%). A pulse duration is defined as the same time interval between initial and final points of 10% of maximum signal.
  - b. The intensity shall be minimum of 75 candela.
  - c. The flash rate shall be minimum of 1Hz and a maximum of 3Hz.

2. The color shall be clear or nominal white (i.e. unfiltered or clear filtered white light).
3. Electric, utilizing solid state electronic technology operating on a nominal 24VDC, with a nominal rating of 82dBA at 3m,

**B. Annunciator Panel-Back Lit Graphic Type**

1. Graphic annunciator showing the site plan, and access way shall be provided and installed in FCC room and every Elevator lobby in each floor.
2. Indicating Lamps
  - a. Provide supervised light emitting diodes (LED's) for indication.

**2.8 FIREFIGHTER'S TELEPHONE SYSTEM (FTS)**

- A. Solid state, microprocessor based, modular design, fully supervised. Steel enclosure in standard finish, with hinged, locking door. Integral power supply, standby batteries, and battery charger. Wall mount in FCC Room.
- B. Two way voice communication between the FCC Room firefighter's phone jacks and emergency telephones. Selective zone paging to all or any combination of telephone zones. Provide sound powered type system where required by the Fire Department, otherwise, provide electrical type system.
- C. Each telephone zone shall have a manual selection switch, red LED to indicate active zone, and yellow LED to indicate speaker zone trouble.
- D. Acknowledge switch, system trouble, reset, and lamp test switch.
- E. Red telephone handset.
- F. Provide a remote handset in a lockable recessed cabinet.
- G. Auxiliary Devices:
  1. Firefighter's phone jack: Recessed wall mounted telephone jack, stainless steel faceplate engraved FIRE EMERGENCY PHONE.
  2. Emergency telephone: Recessed wall mounted cabinet, hinged locking door engraved LOCAL FIRE EMERGENCY PHONE, permanent handset with armored cable, and bread red glass.



- 3. Telephone handset cabinet: Surface mounted cabinet in FCR. Provide plug in type phones with coil cord and jack, quantity as required by the Fire Department.
- H. Provide a dedicated telephone outlet with a direct line for fireman connection.

## **2.9 EMERGENCY VOICE EVACUATION PANEL (EVAC)**

- A. A fully automatic combination voice communication and firefighter's intercom system which provides automatic and alarm signaling per NFPA 72.
- B. One or two-way communications system for relocation/evacuation of building personnel and assisting fire-fighting efforts in controlling smoke and fire.
- C. "ALL-CALL" tone and Voice Signaling.
- D. Selective Tone and Voice Signaling with Redundant tone generators.
- E. Module removal supervision.
- F. Service Diagnostic Center.
- G. "ALARM/RESOUND/RESTORE" feature.
- H. Short Circuit Speaker Disconnect
- I. "On/Normal/Off" auxiliary controls.
- J. Local annunciation with Time-out of selective alarm signal to general alarm "ALL-CALL".
- K. Fully integrable with any Public Address system.

## **2.10 CABLES**

- A. Refer to Wires and Cables Specifications for approved brand of cables.
- B. Cabling between UPS point to the controllers/devices shall be in the scope of the Vendor. All PVC insulated copper, multi-strand, FRLS, Twisted Pair, Shielded cables shall be 650V grades and shall generally conform to IS-1554-1988 and meet the signal cabling requirement of the system manufacturer.
- C. The strands of cable shall be cut to accommodate & connect the terminals. Terminals shall have sufficient cross sectional area to take in all the strands. Cables shall be laid by skilled and experienced workmen. Great care shall be

taken while laying cables to avoid kinks. At all changes in directions (vertical & horizontal planes) the cables shall be bent smooth with a radius as recommended by the manufacturers.

## **2.11 SHORT CIRCUIT ISOLATOR**

- A.** This unit shall be placed on the loop preferably after every 20 devices and shall be able to isolate electrical short circuit in the wiring. All the other detectors shall remain functional because of the Class A wiring on the loop.
- B.** Isolator modules/base shall be provided to automatically isolate wire-to-wire short circuits on an SLC Class A or Class B branch. The isolator module shall limit the number of modules or detectors that may be rendered inoperative by a short circuit fault on the SLC loop segment or branch. At least one isolator module shall be provided for each floor or protected zone of the building.
- C.** If a wire-to-wire short occurs, the isolator module/base shall automatically open-circuit (disconnect) the SLC. When the short circuit condition is corrected, the isolator module/base shall not require any address-setting, and its operations shall be totally automatic. It shall not be necessary to replace or reset an isolator module after its normal operation.
- D.** It shall provide a single LED that shall flash to indicate that the isolator is operational and shall illuminate steadily to indicate that a short circuit condition has been detected and isolated. The isolator shall have UL approval.

## **2.12 OPERATOR WORKSTATION**

The network reporting terminal shall be a high performance desktop computer with printer located in the Command Center Room or Control Room at 1st floor.

The system shall be capable of supporting simultaneous operator workstation connections using a TCP/IP local area network (LAN) subject to hardware capacity on the server computer.

The high performance desktop computer shall consist of the following as minimum requirements:

- A.** Intel Core i5 3.0GHz Processor or higher
  - 4GB DDR2 RAM
  - 1GB VRAM (Video Adaptor Card)
  - 1TB HDD

- Keyboard; mouse and CD ROM Drive
- Latest Windows Operating System and Fire Alarm System Software
- 21” Color LCD Monitor

**B.** Provide HP Laserjet Color Printer

### **2.13 BATTERY AND CHARGER**

**A.** Battery:

Nickel Cadmium (NiCd) type, 24 volt nominal with sufficient capacity to power the fire alarm system for not less than twenty four (24) hours upon a normal AC power failure.

**B.** Charger:

Automatic with constant potential charger maintaining the battery fully charged under all service conditions. Charger will operate at 230 volt, 60Hz source.

### **2.14 PRINTER**

Printer shall be of the automatic type with code, time date, location, category and condition. System printer shall be of a high reliability digital input device, UL approved, for fire alarm applications. The printer will operate at a minimum speed of 30 characters per second.

### **2.15 SYSTEM SOFTWARE**

- A.** Automatic detector addressing and status indication.
- B.** Secure signal transmission on unshielded cables.
- C.** Intelligence distributed across the detectors and the fire control panel.
- D.** Drag & drop graphics and GUI interface.
- E.** Graphic screens are created with a built-in drawing utility of the protected area and are linked to the fire alarm devices.
- F.** Should a device get to alarm, the appropriate graphic floor plan is displayed along with operator instructions.
- G.** History manager which tracks and stores events.
- H.** must be able to control and monitor the system.

- I. Must be able to connect to other networks using TCP/IP Local Area Network (LAN).

## **2.16 SPECIAL DETECTION SYSTEM AND DEVICES**

Where specified, special detection system, addressable and non-addressable type, such as beam detectors, linear detector, aspirating smoke detection system, gas detector, etc. shall be used. The detection system shall be of a type approved by Bureau of Fire Department/Authorities having jurisdiction and shall be suitable for a particular application, environmental condition and hazard. The Contractor shall submit detailed equipment catalogue, description, technical data and test certificate for approval. The Contractor shall submit information proving the suitability of the special detection system and devices for a particular application and hazard for approval.

## **PART 3 EXECUTION**

### **3.1 GENERAL**

- A. All equipment shall be installed and connected in accordance with the manufacturer's recommendations. Following the required specifications indicated here.
- B. Wiring shall be color coded, and in accordance with the manufacturer's recommendations and Fire Department requirements. Install wiring in an independent, dedicated metallic raceway system.
- C. Connections to devices installed in accessible tile ceilings shall be in flexible conduit. Device back boxes shall be securely attached to framing members.
- D. Provide wireways above and/or below equipment cabinets to accommodate large concentrations of wiring. Conductors within equipment cabinets shall be carefully formed and harnessed.
- E. Connect equipment to emergency power system.
- F. Furnish a fire alarm speaker and firefighter's plug in jack for each elevator. Coordinate installation with elevator equipment supplier.
- G. FCIP and smoke control sequence wiring shall be dedicated and independent from other systems.
- H. Provide a 25mm empty conduit from the FACP to the nearest telecom terminal backboard.

- I. Speaker circuits on individual floor are to be wired in alternate pattern e.g. 'a'-'b'-'a'-'b'-'a'.

### **3.2 TESTING AND COMMISSIONING**

- A. Provide the service of a competent factory-trained engineer or technical authorized by the manufacturer of the fire detection and alarm system equipment to technically supervise and participate during all of the adjustments and tests for the system. Make all adjustments and tests in the presence of the Project Manager.
- B. When the system has been completed, and prior to the final inspection, furnish testing equipment and perform the following tests in the presence of the Engineer and the local authority having jurisdiction.
  - 1. Check installation, supervision and operation to ascertain that they will function as specified.
  - 2. When any defects are detected, make repairs or install replacement components, and repeat the test.

### **3.3 ADDRESSABLE FIRE ALARM TESTING**

The correctness of cabling with continuity as per the approved shop drawings. System design & configuration check, Access Control & P.A. System integration test.

#### **A. Photoelectric Smoke Detector**

The testing shall be carried out for each loop/zone, initially one detector in a zone and subsequently 2 or more are disassociated detectors in each zone with time lapse between the detectors to test for Alarm Priority, Alarm Queuing and Call Logging.

An identified detector will be subjected to smoke aspiration from burning paper/cigarette puffs, rubber and other materials which give dense smoke held at 0.30m distance from the detector. The FACP should indicate increased analogue output for that address and after the programmed delay time, a fire alarm signal shall be indicated. This delay shall be utilized for alarm verification.

The same test shall be carried out for two detectors in the same loop but in different rooms. The FACP shall indicate Pre Alarm higher analogue levels for both detectors in its display with separate identification for both fires. One of the detectors in question is subjected to higher and longer levels of smoke aspiration. The FACP should give priority alarm for this address. The printout shall indicate individual addresses of the detectors which achieved

analogue values and the time of event. This test shall be carried out for different loops as well as for 2 loops simultaneously. One detector of each type will be disconnected and subjected to slow dust build-up by means as desired by the bidder and again connected in the circuit. The FACP shall indicate the changed ambient levels and automatically adjust the analogue values for the same. These detectors shall then be replaced by new detectors of identical type and the FACP shall then be programmed accordingly and checked. The Bidder will take custody of the removed detectors without additional cost to the Owner.

**B. Manual Pull Station**

Manual Pulls Station in each area is opened & tested for its alarm. Every manual call point will be actuated in every zone in all locations to check for the alarm response. One half of the testing shall be made on a standby battery power.

**C. Loop**

Any part of the loop shall be short circuited. The FACP shall indicate the communication failure of all the devices connected in the short circuited segment. After the short circuit is corrected, the Fault Isolator shall return to its normal status automatically, this being reflected in the FACP. The loop shall then be in normal operation again. Any part of the loop shall be de-wired and tested as given above.

Any other test that is required for checking the quality & performance of the system and all other tests as required by the client at the time of handing over.

*END OF SECTION*

## **SCHEDULE OF DOORS:**

### **1. SWING TYPE GRILLE WORKS**

Shall be 1.5mm thick x 50mm x 50mm Steel Tubular Main Grille Works Framing with 1.5mm thick x 50mm x 100mm Top and Bottom Connectors Fully welded to 10mm thick x 50mm Flat Bars Vertical Decorative Design (Refer to Drawings for the Design Layout) Coated with High Performance Water-Based Acrylic Epoxy Paint Finish, Complete with Hardware and Accessories.

- 1.1. D-1a; 5.30M x 2.60M
- 1.2. D-1b; 5.00M x 2.60M
- 1.3. D-1c; 2.825M x 2.60M
- 1.4. D-1d; 1.60M x 2.60M
- 1.5. D-1e; 1.10M x 2.60M

### **2. FRAMELESS GLASS DOOR WITH ALUMINUM FRAMED FIXED GLASS PANELS AND TRANSOM**

Shall be 12mm thick Tempered Clear Frameless Swing Glass Doors with 10mm thick Tempered Clear Fixed Glass Panels and Transom on a Mullion Type Aluminum Framing System in Powder-Coated Finish, Complete with Push/Pull Handle, Hardware and Accessories, Provide White Frosted Sticker Film Applied on Both Sides.

- 2.1. D-2a; 3.10m x 2.60m
- 2.2. D-2b; 3.40m x 2.60m
- 2.3. D-2c; 2.90m x 2.60m
- 2.4. D-2d; 3.95m x 2.60m
- 2.5. D-2e; 12.575m x 2.60m
- 2.6. D-2f; 2.90m x 2.60m
- 2.7. D-2g; 5.25m x 2.60m
- 2.8. D-3a; 1.80m x 2.60m
- 2.9. D-3b; 2.60m x 2.60m

**3. SEMI-SOLID WOODEN DOOR WITH VIEW GLASS PANELS AND JALOUSIE TRANSOM**

Shall be 44mm thick swing type semi-solid wooden door, made from double vacuum treated kiln-dried (TKD) tanguile solid wood framing and alternating solid wood core covered with 8mm thick ribbon grain plywood (Class A) Through a high compact machine press process in stain/varnish finish: Door jamb framing shall be 45mm x 140mm treated kiln-dried (TKD) tanguile single rabbeted stop wooden jamb. Complete with locksets, hardware and accessories (see division 8.3 hardware for specifications). Provide 10mm thick x 25mm solid wood decorative lining. View glass panel shall be 8mm thick annealed glass and jalousie transom shall be 8mm thick x 152mm width tempered clear glass louver blades: jalousie framing shall be made from polypropylene mechanism that will break and flexible, with EPDM rubber from tighter sealing in between blades and single control mechanism, complete with hardware and accessories.

3.1. D-4; 1.50m x 2.60m

**4. SEMI-SOLID WOODEN DOOR AND GLASS TRANSOM**

Shall be 44mm thick swing type semi-solid wooden door, made from double vacuum treated kiln-dried (TKD) tanguile solid wood framing and alternating solid wood core covered with 6mm thick ribbon grain plywood (Class A) through a high compact machine press process in stain/varnish finish; Door jamb framing shall be 45mm x 140mm treated kiln-dried (TKD) tanguile single rabbeted stop wooden jamb, complete with locksets, hardware and accessories, provide 6mm thick annealed glass transom and 10mm thick x 25mm solid wood decorative lining.

4.1. D-5; 0.90m x 2.60m

**5. SEMI-SOLID WOODEN DOOR WITH LOUVERS WITH GLASS TRANSOM**

Shall be 44mm thick swing type flush hollow core door, made from double vacuum treated kiln-dried (TKD) Tanguile solid wood framing covered with 6mm thick ribbon grain plywood (Class A) Through a high impact machine press process in stain/varnish finish; Door jamb framing shall 45mm thick x 140mm thick x 30mm treated kiln-dried (TKD) tanguile solid wood louver blades (see drawing for design) and 6mm thick annealed glass transom.

5.1. D-6; 0.90m x 2.60m

**6. FLUSH WOOD DOOR WITH LOUVERS AND GLASS TRANSOM**

Shall be 44mm thick swing type flush hollow core door, made from double vacuum treated kiln-dried (TKD) tanguile solid wood framing covered with 5mm thick ribbon grain plywood (Class A) through a high compact machine press process in stain/varnish finish; Door jamb framing shall be 45mm x 140mm treated kiln-dried (TKD) tanguile wood jamb complete with locksets, hardware and accessories, provide 10mm x 30mm treated kiln-dried (TKD) tanguile solid wood louver blades and 6mm thick annealed glass transom.



6.1. D-7a; 0.80m x 2.60m

6.2. D-7b; 0.70m x 2.60m

**7. Steel door with vision glass panel with glass transom 1)**

Shall be 1.3mm thick, gauge 18 base metal thickness, 45mm thick, cold rolled steel door made of chromate-free electro galvanized steel sheet with zinc coating layer applied on base metal and mineral rockwool with honeycomb core insulation framing shall be fully welded, 1.6mm thick, gauge 18 x 45mm x 140mm single rebate, hollow metal frames of the same door panel material provide 6mm thick annealed clear glass vision panel and transom, complete with hardware and accessories; door finish shall be coated with low voc high build, high solid surface tolerant epoxy maintenance coating in semi-gloss finish. Provide 6mm x 10mm decorative grooves.

7.1. D-8a; 1.80m x 2.60m

7.2. D-8b; 1.80m x 2.60m

7.3. D-8c; 1.00m X 2.60m

7.4. D-8d; 0.90m x 2.60m

7.5. D-8e; 1.40m x 2.60m

**8. STEEL DOOR WITH GLASS TRANSOM**

Shall be 1.3mm thick, gauge 18 base metal thickness, 45mm thick, cold rolled steel door made of chromate-free electro galvanized steel sheet with zinc coating layer applied on base metal and mineral rockwool with honeycomb core insulation, framing shall be fully welded, 1.6mm thick, gauge 16mm x 45mm x 140mm single rebate, hollow metal frames of the same door panel materials provide 6mm thick annealed clear glass vision panel and transom, complete with hardware and accessories; Door finish shall be coated with low voc high build high solid surface tolerant epoxy maintenance coating in semi-gloss finish. Provide 6mm x 10mm decorative grooves.

8.1. D-9a; 1.80m x 2.60m

8.2. D-9b; 1.80m x 2.60m

8.3. D-9c; 0.90m x 2.60m

**9. STEEL DOOR WITH LOUVERS AND FIXED GLASS TRANSOM**

Shall be 1.3mm Gauge 18 Base-Metal Thickness, 45mm Thick Hollow Metal Door with 5mm Thick x 50mm Flat Bar Alternating Louver Blades ss Shown in Drawings, Made of Chromate-free Electro Galvanized Steel Sheet with Zinc Coating Layer

Applied on Base Metal. Framing Shall be Fully Welded, 1.6mm Thick gauge 16 x 45mm x 140mm Single Rebate, Hollow Metal Frames of the Same Door Panel Material. Door Finish shall be in low VOC High Build. High Solid Surface Tolerant Epoxy Maintenance Coating in Semi-Gloss Finish. Complete with Hardware and Accessories, Provide 6mm Thick Annealed Clear Glass Transom and 6mm x 10mm decorative Grooves.

9.1. D-10a; 1.80m x 2.60m

9.2. D-10b; 0.90m X 2.60m

9.3. D-10c; 0.80m x 2.60m

9.4. D-10d; 0.70m x 2.60m

#### **10. STEEL DOOR WITH VISION GLASS PANEL AND JALOUSIE TRANSOM**

Shall be 1.3mm Gauge 18 Base-Metal Thickness, 45mm Thick, Cold Rolled Steel Door Made of Chromate-free Electro Galvanized Steel Sheet with Zinc Coating Layer Applied on Base Metal and Mineral Rockwool with Honeycomb Core Insulation, Framing Shall be Fully Welded, 1.6mm Thick gauge 16 x 45mm x 140mm Single Rebate, Hollow Metal Frames of the Same Door Panel Material. Provide 6mm Thick Annealed Clear Glass Vision Panel and Glass Jalousie Transom, Complete with Hardware and Accessories; Door Finish shall be in low VOC High Build. High Solid Surface Tolerant Epoxy Maintenance Coating in Semi-Gloss Finish. Provide 6mm x 10mm Decorative Grooves.

10.1. D-11a; 1.80m x 2.60m

10.2. D-11b; 1.60m x 2.60m

10.3. D-11c; 1.40m x 2.60m

10.4. D-11d; 1.00m x 2.60m

10.5. D-11e; 0.90m x 2.60m

#### **11. STEEL DOOR WITH VISION GLASS PANEL WITH GLASS TRANSOM 2**

Shall be 1.3mm Gauge 18 Base-Metal Thickness, 45mm Thick, Cold Rolled Steel Door Made of Chromate-free Electro Galvanized Steel Sheet with Zinc Coating Layer Applied on Base Metal and Mineral Rockwool with Honeycomb Core Insulation, Framing Shall be Fully Welded, 1.6mm Thick Gauge 16 x 45mm x 140mm Single Rebate, Hollow Metal Frames of the Same Door Panel Material. Provide 6mm Thick Wired Glass Vision Panel and Transom, Complete with Push/Pull Handle, Kick Plate, Hardware and Accessories; Door Finish shall be Coated with low VOC High Build. High Solid Surface Tolerant Epoxy Maintenance Coating in Semi-Gloss Finish. Provide 6mm x 10mm Decorative Grooves.

11.1. D-12; 0.90m x 2.60m

**12. FIRE EXIT DOOR; FIRE RATED STEEL DOOR WITH WIRED GLASS VIEW PANEL**

Shall be 1.3mm Thick, Gauge 18 Minimum Thickness (for Interior Exits). 1.6mm, Gauge 16 Minimum Thickness (for Exterior Exits), 45mm Thick, Prefabricated 1.5 or 2-Hours Fire Resistant Steel Door Panel Made from Chromate-free Electro Galvanized Steel Sheets with Mineral Rockwool Honeycomb Core Insulation On 1.6mm Thick Gauge 16 x 57mm x 143mm Double Rebate Galvanized Steel Door Framing, with 5mm Thick x 124mm x 659mm Wired Glass; Door Finish Shall be in "Red" Color Coated Low VOC High Build, High Solid Surface Tolerant Epoxy Maintenance Coating in Semi-Gloss Finish, Complete with U.L. Listed Panic Hardware, Door Closer and Recessed Type Expandable Graphite Intumescent Seal Strip Applied In Between the Door and Framing Gap. Clearance from Finish Floor Line Shall be in Accordance with UL10B and UL10C Positive Pressure Under Underwriter's Laboratories Inspection and Labeling Service Program. Provide Floor Level Markings on Fire Exit Stairs Side.

12.1. D-13a; 1.80m x 2.10m

12.2. D-13b; 1.00m X 2.10m

12.3. D-13c; 0.90m x 2.10m

**13. EXTERIOR LOUVER DOOR**

Steel Louver Gate Made from 1.2mm Thick x 50mm x 100mm Steel Tubular Frame with 1.2mm Thick x 25mm x 50mm Steel Tubular Horizontal Louvers, Gate Jamb Shall be 1.2mm x 50mm x 100mm Tubular Framing; Complete with Prefabricated Heavy Duty Gate Hinges, 20mm Diameter Steel Round Bar for Barrel Bolt and 6mm Thick Flat Bar Hasp with 15mm Diameter Padlock Eye and Heavy Duty Padlocks, Gate Finish Shall be Coated with High Performance Acrylic Water-Based Epoxy Paint.

13.1 D-14; 1.80m x 2.10m

**14. STEEL DOOR WITH FULL LOUVERS**

Shall be 1.3mm Thick Gauge 18 Base-Metal Thickness, 45mm Thick Hollow Metal Door with 1.2mm Thick GA. 18 x 45mm x 75mm Z Profile Full Louver Blades as Shown in Drawings, Made of Chromate-Free Electro Galvanized Steel Sheet with Zinc Coating Layer Applied on Base Metal. Framing Shall be Fully-Welded, 1.6mm Thick Gauge 16 x 45mm x 140mm Single Rebate, Hollow Metal frames of the Same Door Panel Material; Complete with Hardware and Accessories; Door Finish Shall be in Polyurethane Semi-Gloss Finish.

14.1. D-15a; 1.80m x 2.10m

14.2. D-15b; 0.90m x 2.10m

14.3. D-15c; 0.80m x 2.10m

**15. Steel door with louvers)**

Shall be 1.3mm Thick Gauge 18 Base-Metal Thickness, 45mm Thick Hollow Metal Door with 1.2mm Thick GA. 18 x 45mm x 75mm Z Profile Full Louver Blades as Shown in Drawings, Made of Chromate-Free Electro Galvanized Steel Sheet with Zinc Coating Layer Applied on Base Metal. Framing Shall be Fully-Welded, 1.6mm Thick Gauge 16 x 45mm x 140mm Single Rebate, Hollow Metal frames of the Same Door Panel Material. Door Finish Shall be in Low VOC High Build, High Solid Surface Tolerant Epoxy Maintenance Coating in Semi-Gloss Finish. Complete with Hardware and Accessories.

15.1. D-16; 0.80m x 2.10m

**16. STEEL DOOR**

Shall be 1.3mm Thick Gauge 18 Base-Metal Thickness, 45mm Thick Cold Rolled Steel Door Made of Chromate-Free Electro Galvanized Steel Sheet with Zinc Coating Layer Applied on Base Metal and Honeycomb Core Insulation. Framing Shall be Fully-Welded, 1.6mm Thick Gauge 16 x 45mm x 140mm Single Rebate, Hollow Metal Frames of the Same Door Panel Material by "LEC Steel Manufacturing Corp.", "Main Hardware - Shakti-Dor", Metrotech Steel Industries Inc." or Approved Equal. Complete with Hardware and Accessories. Door Finish Shall be Coated with Automotive Lacquer Paint Finish.

16.1. D-17; 0.80m x 1.70m

**17. FIRE RATED STC-ACOUSTICAL STEEL DOOR**

Shall be 1.3mm Thick Gauge 18 Base-Metal Thickness, 45mm Thick Cold Rolled Steel Door, Made of Chromate-Free Electro Galvanized Steel Sheet with Zinc Coating Layer Applied on Base Metal and Filled in with Rockwool on Honeycomb Insulation for Sound Absorption and with STC and 1.5 to 2 hours Fire Rating with Perimeter Seal. Framing Shall be Fully-Welded, 1.6mm Thick Gauge 16 x 45mm x 140mm Single Rebate, Hollow Metal Frames of the Same Door Panel Material Complete with Vertical Pull Handle, Hardware, Concealed Door Closer, Jamb and Head Seal, Threshold, Automatic Door bottom, Meeting Stile Seal and Accessories; Provide Recessed Type Expandable Graphite Intumescent Seal Strip Applied in Between the Door Panel and Framing Gap for Additional Fire Retardant. Door Finish Shall be Covered with 100% Polyester Foam and Fabric with Stainless Steel Hairline Finish Kick Plate.

17.1. D18a; 2.00m x 2.10m

17.2. D18b; 1.00m x 2.10m

17.3. D18c; 0.70m x 2.10m

**18. GASKETED STEEL DOOR**

Shall be 1.3mm Thick Gauge 18 Base-Metal Thickness, 45mm Thick Cold Rolled Steel Door, Made of Chromate-Free Electro Galvanized Steel Sheet with Zinc Coating Layer Applied on Base Metal and Filled in with Rockwool on Honeycomb Insulation for Sound Absorption and with STC and 1.5 to 2 hours Fire Rating with Gasketed Seal on Door Opening. Framing Shall be Fully-Welded, 1.6mm Thick Gauge 16 x 45mm x 140mm Single Rebate, Hollow Metal Frames of the Same Door Panel Material Complete with Vertical Pull Handle, Hardware, and Accessories. Door Finish Shall be Covered with 100% Polyester Foam and Fabric with Stainless Steel Hairline Finish Kick Plate.

18.1. D-19; 1.00m x 2.10m

**19. FROSTED GLASS DOOR FOR SHOWER ROOM**

Shall be 12mm Thick Tempered Frosted Glass Shower Door Complete with Patch Fittings, Water Tight Rubber Gasket, Hardware and Accessories.

19.1. D-20; 0.60m x 2.00m

**20. ALUMINUM FRAMED FIXED GLASS PANELS WITH SEAMLESS AWNING TRANSOM**

Shall be 10mm thick tempered clear glass panels and seamless awning transom on a mullion type aluminum framing system, complete with hardware and accessories, provide white frosted sticker film applied on both sides.

20.1. GP-1; 5.20m x 2.60m

20.2. GP-2; 3.725m x 2.60m

## **SCHEDULE OF WINDOWS**

### **1. JALOUSIE WINDOW**

Shall be 6mm thick x 152mm width annealed reflective “Smoke Grey” glass louver blades; jalousie framing shall be made from polypropylene mechanism that will break and flexible, with EPDM rubber for tighter sealing in between blades and single control mechanism, complete with hardware and accessories, main framing shall be tubular aluminum frame in powder coated finish.

- 1.1. W-1a; 1.90m x 2.85m
- 1.2. W-1b; 1.90m x 2.75m
- 1.3. W-2a; 6.00m x 2.40m
- 1.4. W-2b; 5.00m x 2.40m
- 1.5. W-2c; 3.00m x 2.40m
- 1.6. W-3; 4.00m X 1.70m
- 1.7. W-4; 3.00m X 1.70m
- 1.8. W-5; 2.00m X 1.70m
- 1.9. W-6a; approx. 1.70m x 1.70m
- 1.10. W-6b; approx. 1.60m x 1.70m
- 1.11. W-7; approx. 1.50m x 1.70m
- 1.12. W-8; approx. 1.40m X 1.70m
- 1.13. W-9; approx. 1.30m X 1.70m
- 1.14. W-10; approx. 1.20m X 1.70m
- 1.15. W-11; approx. 1.10m x 1.70m
- 1.16. W-12; approx. 1.00m X 1.70m
- 1.17. W-13; approx. 0.95m X 1.70m
- 1.18. W-14; approx. 0.85m X 1.70m
- 1.19. W-15a; approx. 3.00 x 0.75m
- 1.20. W-15b; approx. 2.00m x 0.75m

- 1.21. W-15c; approx. 1.60m x 0.75m
- 1.22. W-15d; approx. 1.50m x 0.75m
- 1.23. W-15e; approx. 1.40m x 0.75m
- 1.24. W-15f; approx. 1.00m x 0.75m
- 1.25. W-19a; 6.75m X 3.85m

## **2. ALUMINUM FRAMED FIXED GLASS PANELS WITH JALOUSIE TRANSOM 1**

Shall be 6mm thick, fixed annealed clear glass panels on a tubular type aluminum framing system in powder-coated finish with jalousie transom made from 6mm thick x 152mm width annealed clear glass louver blades; jalousie framing shall be made from polypropylene mechanism that will break and be flexible, with EPDM rubber for tighter sealing in between blades and single control mechanism. Complete with hardware and accessories. Follow manufacturer's standard sizes and thickness. Submit powder coating swatches and glass samples for architect's approval.

- 2.1. W-16a; 6.00m x 1.70m
- 2.2. W-16b; 5.00m x 1.70m
- 2.3. W-16c; 4.00m x 1.70m
- 2.4. W-16e; 2.00m x 1.70m
- 2.5. W-16f; 1.00m x 1.70m

Shall be 6mm thick, fixed annealed clear glass panels on a tubular type aluminum framing system in powder-coated finish with jalousie transom made from 6mm thick x 152mm width annealed reflective "Smoke Grey" glass louver blades; jalousie framing shall be made from polypropylene mechanism that will break and be flexible, with EPDM rubber for tighter sealing in between blades and single control mechanism, complete with hardware and accessories, follow manufacturer's standard sizes and thickness, submit powder coating swatches and glass samples for architect's approval.

- 2.6. W-16d; 3.00m x 1.70m

## **3. ALUMINUM FIXED GLASS PANELS AND SLIDING WINDOWS WITH JALOUSIE TRANSOM**

Shall be 6mm thick, fixed annealed reflective "smoke grey" fixed glass panels with sliding windows on a mullion type aluminum framing system in powder-coated finish with jalousie transom made from 6mm thick x 152mm width annealed reflective "Smoke Grey" glass louver blades; jalousie framing shall be made from polypropylene mechanism that will break and flexible, with EPDM rubber for tighter

sealing in between blades and single control mechanism, complete with hardware and accessories, follow manufacturer's standard sizes and thickness, submit powder coating swatches and glass sample for architect's approval.

3.1. W-17; 1.00m x 1.70m

#### **4. ALUMINUM FRAMED FIXED GLASS TRANSOM**

Shall be 6mm thick annealed clear fixed glass transom on a mullion type aluminum framing system in powder coated finish. Submit powder coated swatches and glass samples for architect's approval.

4.1. W-18a; 5.00m X 0.50m

4.2. W-18b; 3.00m x 0.50m

#### **5. ALUMINUM FRAMED FIXED GLASS PANELS WITH JALOUSIE**

Shall be 6mm thick, fixed annealed reflective "smoke grey" fixed glass panels on a mullion type aluminum framing system in powder-coated finish with jalousie transom made from 6mm thick x 152mm width annealed reflective "Smoke Grey" glass louver blades; jalousie framing shall be made from polypropylene mechanism that will break and flexible, with EPDM rubber for tighter sealing in between blades and single control mechanism, complete with hardware and accessories, follow manufacturer's standard sizes and thickness, submit powder coating swatches and glass sample for architect's approval.

5.1. W-19b; 6.75m x 3.85m

5.2. W-19c; 6.75m x 2.75m



## **Terms of Reference**

### **COMPLETION OF ACADEMIC BUILDING FOR SENIOR HIGH PROGRAM**

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- V. Approved Budget**
- VI. Time Frame**

## **I. ABBREVIATION AND DEFINITION OF TERMS**

Whenever the following terms, titles, or abbreviations are used in these Terms of Reference or in any document or instrument where these References govern, the intent and meaning are as noted.

ABAA	Arce-Bailon-Arce Architects
ACI	American Concrete Institute
ANSI	American National Standards Institute
ASRAE	American Society of Heating, Refrigeration and Air Conditioning Engineers
ASTM	American Society for Testing Materials
AWS	American Welding Society
BFP	Bureau of Fire Protection
BPS	Bureau of Product Standards
CDC	Center for Disease Control and Prevention (Manual)
DOH	Department of Health
EN	European Standard
EPA	Environmental Protection Agency
FM	Factory Mutual
FSIC	Fire Safety Inspection Certificate
ICRA	Infection Control Risk Assessment
IEC	International Electrotechnical Commission
IMC	Intermediate Metal Conduit
MBT	Master Builders Technologies
ME Code	Mechanical Engineering Code of the Philippines
MOA	Memorandum of Agreement
NAMPAP	National Plumbers Association of the Philippines
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NPCP	National Plumbing Code of the Philippines
NSCP	National Structural Code of the Philippines
NWRB	National Water Resources Board
PNS	Philippine National Standards
PSHS-MC	Philippine Science High School - Main Campus
PSSE	Philippine Society of Sanitary Engineers, Inc.
SHGC	Solar Heat Gain Coefficient
UL	Underwriter's Laboratories

## **DEFINITION OF TERMS**

For purposes of this Clause, boldface type is used to identify defined terms.

- 1.1. The **Arbiter** is the person appointed jointly by the Procuring Entity and the Contractor to resolve disputes in the first instance.
- 1.2. **Bill of Quantities** refers to a list of the specific items of the Work and their corresponding unit prices, lump sums, and/or provisional sums.
- 1.3. The **Completion Date** is the date of completion of the Works as certified by the Procuring Entity's Representative.
- 1.4. The **Contract** is the contract between the Procuring Entity and the Contractor to execute, complete, and maintain the Works.
- 1.5. The **Contract Price** is the price stated in the Letter of Acceptance and thereafter to be paid by the Procuring Entity to the Contractor for the execution of the Works in accordance with this Contract.
- 1.6. **Contract Time Extension** is the allowable period for the Contractor to complete the Works in addition to the original Completion date stated in this Contract.
- 1.7. The **Contractor** is the juridical entity whose proposal has been accepted by the Procuring Entity and to whom the Contract to execute the Works was awarded.
- 1.8. The **Contractor's Bid** is the signed offer or proposal submitted by the Contractor to the Procuring Entity in response to the Bidding Documents.
- 1.9. **Days** are calendar days; months are calendar months.
- 1.10. **Day Works** are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.
- 1.11. A **Defect** is any part of the Works not completed in accordance with the Contract.
- 1.12. The **Defects and Liability Certificate** is the certificate issued by Procuring Entity's Representative upon correction of defects by the Contractor.
- 1.13. The **Defects and Liability Period** is the one-year period between contract completion and final acceptance within which the Contractor assumes the responsibility to undertake the repair of any damage to the Works at his own expense.
- 1.14. **Drawings** are graphical presentations of the Works. They include all supplementary details, shop drawings, calculations, and other information provided or approved for the execution of this Contract.
- 1.15. **Equipment** refers to all facilities, supplies, appliances, materials or things required for the execution and completion of the Work provided by the Contractor and which shall nor form or are not intended to form part of the Permanent Works.
- 1.16. The **Intended Completion Date** refers to the date when the Contractor is expected to have completed the Works. The Intended Completion Date may be revised only by the Procuring Entity's Representative by issuing an extension of time or an acceleration order.
- 1.17. **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.

- 1.18. The **Notice to Proceed** is a written notice issued by the procuring entity of the Procuring Entity's Representative to the Contractor requiring the latter to begin the commencement of the work not later than a specified or determinable date.
- 1.19. **Permanent Works** all permanent structures and all other project features and facilities required to be constructed and completed in accordance with this Contract which shall be delivered to the Procuring Entity and which shall remain at the Site after the removal of all Temporary Works.
- 1.20. **Plant** refers to the machinery, apparatus, and the like intended to form an integral part of the Permanent Works.
- 1.21. The **Procuring Entity** is the party who employs the Contractor to carry out the Works.
- 1.22. The **Procuring Entity's Representative** refers to the Head of the Procuring Entity or his duly authorized representative, who shall be responsible for supervising the execution of the Works and administering this Contract.
- 1.23. The **Site** is the place provided by the Procuring Entity where the Works shall be executed and any other place or places, or notified to the Contractor by the Procuring Entity's Representative as forming part of the site.
- 1.24. **Site Investigation Reports** are those that were included in the Bidding Documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.
- 1.25. **Slippage** is a delay in work execution occurring when actual accomplishment falls below the target as measured by the difference between the scheduled and actual accomplishment of the Work by the Contractor as established from the work schedule. This is actually described as a percentage of the whole Works.
- 1.26. **Specifications** means the description of Works to be done and the qualities of materials to be used, the equipment to be installed and the mode of construction.
- 1.27. The **Start Date** is the date when the Contractor is obliged to commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.
- 1.28. A **Subcontractor** is any person or organization to whom a part of the Works has been subcontracted by the Contractor, as allowed by the Procuring Entity, but not any assignee of such person.
- 1.29. **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Permanent Works.
- 1.30. **Work(s)** refer to the Permanent Works and Temporary Works to be executed by the Contractor in accordance with this Contract, including (i) the furnishing of all labor, materials, equipment and other incidental, necessary or convenient to the complete execution of the Works; (ii) the passing of any tests before acceptance by the Procuring Entity's Representative; (iii) and the carrying out of all duties and obligations of the Contractor imposed by this Contract.

## **II. PROJECT COMPONENTS**

A. The scope of the works is listed below:

1. Architectural Works
  - Metals (Railings)
  - Openings (Doors and Windows)
  - Specialties (Ground Floor Specialties)
2. Engineering Works
  - Conveying Equipment
  - Fire Suppression
  - Plumbing
  - Electrical
  - Electronic Safety and Security

B. The Contractor shall seek approval from the designer through the project manager of all materials, and equipment needed for the fit out works of the New Building. Building Design shall conform with the provisions of the National Building Code of the Philippines (PD 1096), Accessibility Law (BP 344), National Structural Code of the Philippines, Electrical Engineering Law (RA 7920), Mechanical Engineering Law (RA 5336), Plumbing Code (RA 1378, 1993-1994 Revisions), Fire Code (RA 9514) and other laws and regulations covering environmental concerns and local ordinances and regulations.

C. Construction Work

As a rule, contract implementation guidelines for procurement of infrastructure projects shall comply with Annex “E” CONTRACT IMPLEMENTATION GUIDELINES FOR THE PROCUREMENT OF INFRASTRUCTURE PROJECTS from RIRR of R.A. 9184. The following provisions shall supplement these procedures:

1. The Contractor shall be responsible for obtaining all necessary information as to risks, contingencies and other circumstances which may affect the works and shall prepare and submit all necessary documents specified by the Building Official to meet all regulatory approvals as specified in contract documents.
2. The Contractor shall submit a detailed program of works, S-Curve, PERT CPM or Master Schedule within fourteen (14) calendar days after the issuance of the Notice to proceed for approval by the procuring entity that shall include, but will not be limited to:
  - i. The order in which it intends to carry out the work including anticipated timing for each stage of detailed planning and construction;
  - ii. Periods for review of specific outputs and any other submissions

- and approvals;
  - iii. Sequence of timing for inspection and tests;
  - iv. General description of the design and construction methods to be adopted;
  - v. Number and names of personnel to be assigned for each stage of the work;
  - vi. List of equipment required on site for each stage of the work; and
  - vii. Description of the quality control system to be utilized for the project.
3. The Contractor, PSHS-MC Infra Com shall schedule a Kick-Off Meeting before the Construction Day 1 to set construction prerequisites, deliverables, clear and approved Master Schedule of the Project signed by all parties.
  4. Annex “E” of RA 9184 guidelines shall govern approval of all variation orders.

### **III. IMPLEMENTATION ARRANGEMENT**

#### **A. Reporting Protocol**

- PSHS-MC InfraCom
- Arce-Bailon-Arce Architects

### **IV. ELIGIBILITY REQUIREMENTS**

#### **A. BASIC**

1. The eligibility requirements shall comply with all provisions of Section 23 of the RIRR of RA 9184.
2. A modified set of requirements integrating eligibility documents and criteria for infrastructure projects shall be adopted in accordance with Annex “E” CONTRACT IMPLEMENTATION GUIDELINES FOR THE PROCUREMENT OF INFRASTRUCTURE PROJECTS from RIRR of R.A. 9184.
3. The Contractor must have completed a similar project in the amount of at least fifty percent (50%) of the ABC within the last 5 years.
4. Must have Certificate of Completion and Good Performance based on the Contractor’s Performance Evaluation.
5. Must not have been blacklisted by any government agency in the last five years.

B. Key Personnel for the Project

1. The Contractor shall provide the following key personnel during the construction phase, the Bidder must assign the project professionals as shown below:

- 1.1. Project Manager (1)

- i. Licensed Engineer/Architect
    - ii. At least 10 years and above of experience in construction management
    - iii. Should have a proven record of managerial capability through the directing/managing of major engineering works, including projects of a similar magnitude
    - iv. Good oral and written communication skills

- 1.2. Project Engineer/Architect (1)

- i. Licensed Civil Engineer or Architect
    - ii. At least five (5) years relevant experience on similar and comparable projects in different locations
    - iii. Preferably be knowledgeable in the application of Green Building and Rapid Construction Technologies

- 1.3. Construction Safety Officer (1)

- i. Licensed Engineer/Architect
    - ii. Must have undergone the prescribed 40-hour Construction Safety and Health (COSH) Training by the Occupational Safety and Health Center or any accredited training institution

- 1.4. Master Plumber (1)

- i. Licensed Master Plumber
    - ii. At least five (5) years relevant experience on similar and comparable projects in different locations

- 1.5. Electrical Engineer (1)

- i. Licensed Professional Engineer
    - ii. At least five (5) years relevant experience on similar and comparable projects in different locations

- 1.6. Mechanical Engineer (1)
  - i. Licensed/Registered Mechanical Engineer
  - ii. With experience in construction
- 1.7. Foreman (1)
  - i. At least three (3) years of experience in similar and comparable projects.
  - ii. At least five (5) years as foreman within the company.
- 1.8. Civil Engineer (1)
  - i. Licensed Civil Engineer
  - ii. At least five (5) years supervisory/managerial experience in interior fit-out works.
- 1.9. Electronics and Communications Engineer (1)
  - iii. Licensed Professional Electronics and Communications Engineer
  - iv. At least five (5) years relevant experience on similar and comparable projects in different locations.

The key professionals listed are required. The CONTRACTOR may, as needed and at its own expense, add additional professionals and/or support personnel for the optimal performance of all Construction Services, as stipulated in the Bid Documents for the PROJECT.

Each key position shall be filled by different persons unless the professional personnel are duly licensed and certified to serve in the multiple professions – subject to approval.

The contractor shall inform the PSHS-MC or its authorized representative should there be a change in any of its assigned personnel.

## **V. APPROVED BUDGET FOR THE CONTRACT**

- A. The total approved budget cost for the Project is Eighty Million Pesos Only (Php 80,000,000.00).



## VI. TIME FRAME

The Contractor is required to complete the Project within 210 calendar days as shown below, to start within seven (7) calendar days upon the Contractor's receipt and signing of Notice to Proceed.

Item	Activity	1	2	3	4	5	6	7
1	NTP							
	PRE-CONSTRUCTION PHASE							
	Site Possession Certificate							
	1. General Requirements							
	2. Building Permits							
	Submission of the following							
	1. DOLE Construction Safety and Health Plan							
	2. Updated Construction Methodology							
	3. Traffic Management Plan							
	Finalization and Submission of the following							
	(14 days after NTP)							
	1. Final BOQ							
	2. PERT CPM							
	3. MANPOWER SCHEDULE							
	4. EQUIPMENT SCHEDULE							
	5. COST SCHEDULE							
	6. S-CURVE							
2	CONSTRUCTION PHASE							
	Kick-off Event							
	Daily Toolbox							
	Weekly Technical Meeting							
	Monthly Management Meeting							
	50% Construction Update Meeting/Report							
3	POST-CONSTRUCTION PHASE							
	Final Inspection							
	1. Punch Listing Schedules							
	2. Project Site Inspection							
	Final Safety Health and Security Report/Close-out							
	DOLE Submission							
	Submission of As-Built Drawings and Plans							
	Acceptance Certificate or Turn-Over							
	Project Close-out Report of contractor							

## ***Section VII. Drawings***

Please refer to the documents titled:

**Bidding Phase Drawings: Completion of Academic Building for Senior High Program**

## ***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.

Please refer to the document titled:

**PSHS MC BID FORM  
BILL OF QUANTITIES  
COMPLETION OF ACADEMIC BUILDING FOR SENIOR HIGH PROGRAM**

1. An Excel file will be provided for your convenience.
2. Kindly follow the indicated format.
3. Please be reminded that each page of the Bill of Quantities must be signed.
4. *19.4 Each and every page of the Bid Form, including the Bill of Quantities, under Section IX hereof, shall be signed by the duly authorized representative/s of the Bidder. Failure to do so shall be a ground for the rejection of the bid.*
5. We suggest that a signature box may 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.
6. Please also be reminded that a required item left blank will be considered unresponsive and shall be a cause for rejection of the bid.

## ***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.

*Additional documentary requirements by the Procuring Entity*

- ☐ (j) Certificate of Site Inspection; **and**
- ☐ (k) Supplemental Bid Bulletin/s (if any).

**II. FINANCIAL COMPONENT ENVELOPE**

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

*Other documentary requirements under RA No. 9184*

- ☐ (m) Original of duly signed Bid Prices in the Bill of Quantities; **and**
- ☐ (n) Duly accomplished Detailed Estimates Form, including a summary sheet indicating the unit prices of construction materials, labor rates, and equipment rentals used in coming up with the Bid; **and**
- ☐ (o) Cash Flow by Quarter.

## Annex “A”

### Statement of All Ongoing Government and Private Contracts

#### Statement 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)*

*The statement of the Bidder's all Ongoing Government and Private shall be supported by the **Notice of Award** and/or **Notice to Proceed**. In case of contracts with the private sector, an equivalent document shall be submitted.*

#### STATEMENT OF ALL ONGOING GOVERNMENT AND PRIVATE CONTRACTS

Bidder's Name:

Bidder's Address:

Name and Date of the Contract	(a) Owner's Name (b) Address (c) Telephone Numbers	Nature of Work	Bidder's Role		(a) Amount at Award (b) Amount at Completion (c) Contract Duration	(a) Date Awarded (b) Date Started (c) Dated Completed	Accomplishments		Value of Outstanding Works/ Undelivered Portion
			Description	% of Participation			Planned	Actual	
<b><u>GOVERNMENT</u></b>									
<b><u>PRIVATE</u></b>									
								<b>TOTAL</b>	

Submitted by:

Designation:

Date:



## Annex “B”

### Statement of Single Largest Completed Contract

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#### Statement of the Bidder’s SLCC similar to the Contract to be Bid

(in accordance with ITB Clause 5.4)

*The statement of the Bidder’s SLCC shall be supported by the **Notice of Award** and/or **Notice to Proceed**, **Project Owner’s Certificate of Final Acceptance** issued by the Owner other than the **Contractor or the Constructors Performance Evaluation System (CPES) Final Rating**, which must be at least Satisfactory. In case of contracts with the private sector, an equivalent document shall be submitted*

#### STATEMENT OF SINGLE LARGEST COMPLETED CONTRACT (SLCC)

**Bidder’s Name:**

**Bidder’s Address:**

Name and Date of the Contract	(a) Owner’s Name (b) Address (c) Telephone Numbers	Nature of Work	Bidder’s Role		(a) Amount at Award (b) Amount at Completion (c) Contract Duration	(a) Date Awarded (b) Date Started (c) Dated Completed	A. Date of Acceptance B. Rating
			Description	% of Participation			

Submitted by:

Designation:

Date:

## Bid Securing Declaration

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(REPUBLIC OF THE PHILIPPINES)

CITY OF \_\_\_\_\_ ) S.S.

X-----X

### **BID SECURING DECLARATION** **Project Identification No.: [Insert number]**

To: *[Insert name and address of the Procuring Entity]*

I/We, the undersigned, declare that:

1. I/We understand that, according to your conditions, bids must be supported by a Bid Security, which may be in the form of a Bid Securing Declaration.
2. I/We accept that: (a) I/we will be automatically disqualified from bidding for any contract with any procuring entity for a period of two (2) years upon receipt of your Blacklisting Order; and, (b) I/we will pay the applicable fine provided under Section 6 of the Guidelines on the Use of Bid Securing Declaration, within fifteen (15) days from receipt of written demand by the procuring entity for the commission of acts resulting to the enforcement of the bid securing declaration under Sections 23.1(b), 34.2, 40.1 and 69.1, except 69.1 (f), of the IRR of RA 9184; without prejudice to other legal action the government may undertake.
3. I/We understand that this Bid-Securing Declaration shall cease to be valid on the following circumstances:
  - a. Upon expiration of the bid validity period, or any extension thereof pursuant to your request;
  - b. I am/we are declared ineligible or post-disqualified upon receipt of your notice to such effect, and (i) I/we failed to timely file a request for reconsideration or (ii) I/we filed a waiver to avail of said right; and
  - c. I am/we are declared as the bidder with the Lowest Calculated Responsive Bid, and I/we have furnished the performance security and signed the Contract.

**IN WITNESS WHEREOF**, I/We have hereunto set my/our hand/s this \_\_\_\_ day of *[month]* *[year]* at *[place of execution]*.

***[Insert NAME OF BIDDER'S AUTHORIZED REPRESENTATIVE]***  
***[Insert signatory's legal capacity]***

Affiant

**SUBSCRIBED AND SWORN** to before me this \_\_\_\_ day of *[month]* *[year]* at *[place of execution]*, Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her *[insert type of government identification card used]*, with his/her photograph and signature appearing thereon, with no. \_\_\_\_\_.

Witness my hand and seal this \_\_\_\_ day of *[month]* *[year]*.

**NAME OF NOTARY PUBLIC**

**Serial No. of Commission** \_\_\_\_\_  
**Notary Public for** \_\_\_\_\_ **until** \_\_\_\_\_  
**Roll of Attorneys No.** \_\_\_\_\_  
**PTR No.** \_\_, *[date issued]*, *[place issued]*  
**IBP No.** \_\_, *[date issued]*, *[place issued]*  
**Doc. No.** \_\_\_\_  
**Page No.** \_\_\_\_  
**Book No.** \_\_\_\_  
**Series of** \_\_\_\_.

## Annex “D1”

### Personnel Requirements

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Please submit Curriculum Vitae using the template in **Annex D2** with a clear photocopy of Professional I.D. or accreditations for the respective position as required below as part of the Technical component of the Bid. The same person can take on multiple roles during the project provided that they meet the qualifications of each role. The underlined personnel must be directly employed by the bidder, and not by the subcontractor.

**To be submitted also is the clear photocopy of a valid and unexpired Professional Tax Receipt applicable to the professional positions.**

#### KEY CONSTRUCTION PERSONNEL REQUIRED

The minimum required qualifications of the respective CONSTRUCTION PERSONNEL shall be as follows:

- 1.1. Project Manager (1)
  - i. Licensed Engineer/Architect
  - ii. At least 10 years and above of experience in construction management
  - iii. Should have a proven record of managerial capability through the directing/managing of major engineering works, including projects of a similar magnitude
  - iv. Good oral and written communication skills
- 1.2. Project Engineer/Architect (1)
  - i. Licensed Civil Engineer or Architect
  - ii. At least five (5) years relevant experience on similar and comparable projects in different locations
  - iii. Preferably be knowledgeable in the application of Green Building and Rapid Construction Technologies
- 1.3. Construction Safety Engineer/ Officer (1)
  - i. Licensed Engineer/Architect
  - ii. Must have undergone the prescribed 40-hour Construction Safety and Health (COSH) Training by the Occupational Safety and Health Center or any accredited training institution
- 1.4. Master Plumber (1)
  - i. Licensed Master Plumber
  - ii. At least five (5) years relevant experience on similar and comparable projects in different locations

- 1.5. Electrical Engineer (1)
  - i. Licensed Professional Engineer
  - ii. At least five (5) years relevant experience on similar and comparable projects in different locations
  
- 1.6. Mechanical Engineer (1)
  - i. Licensed/Registered Mechanical Engineer
  - ii. With experience in construction
  
- 1.7. Foreman (1)
  - i. At least three (3) years of experience in similar and comparable projects.
  - ii. At least five (5) years as foreman within the company.
  
- 1.8. Civil Engineer (1)
  - i. Licensed Civil Engineer
  - ii. At least five (5) years as supervisory/managerial experience in structural works (rebars, concreting).
  
- 1.9. Electronics and Communications Engineer (1)
  - i. Licensed Professional Electronics and Communications Engineer
  - ii. At least five (5) years relevant experience on similar and comparable projects in different locations

The key professionals listed are required. The CONSTRUCTION CONTRACTOR may, as needed and at its own expense, add additional professionals and/or support personnel for the optimal performance of all Construction Services, as stipulated in the Bid Documents for the PROJECT.

**Annex “D2”**

**Curriculum Vitae Format for Key Construction Personnel (maximum of 5 pages per person)**

---

Name:

Birthdate:

PRC I.D. Number:

Expiry Date:

PTR No.:

PTR Date:

Projects Constructed: (2018-2023)  
(max 10, preferably schools or gov't projects)

<i><b>CLIENT</b></i>	<i><b>PROJECT NAME</b></i>	<i><b>LOCATION</b></i>	<i><b>DATE</b></i>	<i><b>CONTACT NUMBER</b></i>

Projects constructed involving green technologies: (2018-2023)  
*\*optional*

<i><b>CLIENT</b></i>	<i><b>PROJECT NAME</b></i>	<i><b>LOCATION</b></i>	<i><b>DATE</b></i>	<i><b>CONTACT NUMBER</b></i>

Seminars/Trainings Attended: (2018-2023)

*(max 5, preferably including trainings on green technology integration)*

<b><i>TOPIC</i></b>	<b><i>VENUE</i></b>	<b><i>DATE</i></b>

Work Experience (2018-2023)

*(or most recent 5 companies you've worked for as a site personnel)*

<b><i>COMPANY / CLIENT</i></b> <i>(if freelance)</i>	<b><i>DATE</i></b>	<b><i>CONTACT NUMBER</i></b>

## Annex “E”

### Omnibus Sworn Statement

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REPUBLIC OF THE PHILIPPINES )  
CITY/MUNICIPALITY OF \_\_\_\_\_ ) S.S.

#### AFFIDAVIT

I, [Name of Affiant], of legal age, [Civil Status], [Nationality], and residing at [Address of Affiant], after having been duly sworn in accordance with law, do hereby depose and state that:

1. *[Select one, delete the other:]*

*[If a sole proprietorship:]* I am the sole proprietor or authorized representative of [Name of Bidder] with office address at [address of Bidder];

*[If a partnership, corporation, cooperative, or joint venture:]* I am the duly authorized and designated representative of [Name of Bidder] with office address at [address of Bidder];

2. *[Select one, delete the other:]*

*[If a sole proprietorship:]* As the owner and sole proprietor, or authorized representative of [Name of Bidder], I have full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached duly notarized Special Power of Attorney;

*[If a partnership, corporation, cooperative, or joint venture:]* I am granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for [Name of the Project] of the [Name of the Procuring Entity], as shown in the attached [state title of attached document showing proof of authorization (e.g., duly notarized Secretary’s Certificate, Board/Partnership Resolution, or Special Power of Attorney, whichever is applicable)];

3. [Name of Bidder] is not “blacklisted” or barred from bidding by the Government of the Philippines or any of its agencies, offices, corporations, or Local Government Units, foreign government/foreign or international financing institution whose blacklisting rules have been recognized by the Government Procurement Policy Board, **by itself or by relation, membership, association, affiliation, or controlling interest with another blacklisted person or entity as defined and provided for in the Uniform Guidelines on Blacklisting;**

4. Each of the documents submitted in satisfaction of the bidding requirements is an authentic copy of the original, complete, and all statements and information provided therein are true and correct;



5. [Name of Bidder] is authorizing the Head of the Procuring Entity or its duly authorized representative(s) to verify all the documents submitted;

6. *[Select one, delete the rest:]*

*[If a sole proprietorship:]* The owner or sole proprietor is not related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

*[If a partnership or cooperative:]* None of the officers and members of [Name of Bidder] is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

*[If a corporation or joint venture:]* None of the officers, directors, and controlling stockholders of [Name of Bidder] is related to the Head of the Procuring Entity, members of the Bids and Awards Committee (BAC), the Technical Working Group, and the BAC Secretariat, the head of the Project Management Office or the end-user unit, and the project consultants by consanguinity or affinity up to the third civil degree;

7. [Name of Bidder] complies with existing labor laws and standards; and
8. [Name of Bidder] is aware of and has undertaken the responsibilities as a Bidder in compliance with the Philippine Bidding Documents, which includes:
- Carefully examining all of the Bidding Documents;
  - Acknowledging all conditions, local or otherwise, affecting the implementation of the Contract;
  - Making an estimate of the facilities available and needed for the contract to be bid, if any; and
  - Inquiring or securing Supplemental/Bid Bulletin(s) issued for the [Name of the Project].
9. [Name of Bidder] did not give or pay directly or indirectly, any commission, amount, fee, or any form of consideration, pecuniary or otherwise, to any person or official, personnel or representative of the government in relation to any procurement project or activity.

10. **In case advance payment was made or given, failure to perform or deliver any of the obligations and undertakings in the contract shall be sufficient grounds to constitute criminal liability for Swindling (Estafa) or the commission of fraud with unfaithfulness or abuse of confidence through misappropriating or converting any payment received by a person or entity under an obligation involving the duty to deliver certain goods or services, to the prejudice of the public and the government of the Philippines pursuant to Article 315 of Act No. 3815 s. 1930, as amended, or the Revised Penal Code.**

IN WITNESS WHEREOF, I have hereunto set my hand this \_\_\_\_ day of \_\_\_\_, 20\_\_ at \_\_\_\_\_, Philippines.

***[Insert NAME OF BIDDER'S AUTHORIZED REPRESENTATIVE]***  
***[Insert signatory's legal capacity]***

**SUBSCRIBED AND SWORN** to before me this \_\_\_\_ day of [month] [year] at [place of execution], Philippines. Affiant/s is/are personally known to me and was/were identified by me through competent evidence of identity as defined in the 2004 Rules on Notarial Practice (A.M. No. 02-8-13-SC). Affiant/s exhibited to me his/her [insert type of government identification card used], with his/her photograph and signature appearing thereon, with no. \_\_\_\_\_ and his/her Community Tax Certificate No. \_\_\_\_\_ issued on \_\_\_\_ at \_\_\_\_\_.

Witness my hand and seal this \_\_\_\_ day of [month] [year].

**NAME OF NOTARY PUBLIC**

Serial No. of Commission \_\_\_\_\_

Notary Public for \_\_\_\_\_ until \_\_\_\_\_

Roll of Attorneys No. \_\_\_\_\_

PTR No. \_\_\_\_\_ [date issued], [place issued]

IBP No. \_\_\_\_\_ [date issued], [place issued]

Doc. No. \_\_\_\_\_

Page No. \_\_\_\_\_

Book No. \_\_\_\_\_

Series of \_\_\_\_\_

\* This form will not apply for WB funded projects.

## Annex “F”

### Bid Form

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Date: \_\_\_\_\_

Project Identification No: \_\_\_\_\_

To: *[name and address of PROCURING ENTITY]*

Having examined the Philippine Bidding Documents (PBDs) including the Supplemental or Bid Bulletin Numbers *[insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, declare that:

- a. We have no reservation to the PBDs, including the Supplemental or Bid Bulletins, for the Procurement Project: *[insert name of contract]*;
- b. We offer to execute the Works for this Contract in accordance with the PBDs;
- c. The total price of our Bid in words and figures, excluding any discounts offered below is: *[insert information]*;
- d. The discounts offered and the methodology for their application are: *[insert information]*;
- e. The total bid price includes the cost of all taxes, such as, but not limited to: *[specify the applicable taxes, e.g. (i) value added tax (VAT), (ii) income tax, (iii) local taxes, and (iv) other fiscal levies and duties]*, which are itemized herein and reflected in the detailed estimates,
- f. Our Bid shall be valid within a period stated in the PBDs, and it shall remain binding upon us at any time before the expiration of that period;
- g. If our Bid is accepted, we commit to obtain a Performance Security in the amount of *[insert percentage amount]* percent of the Contract Price for the due performance of the Contract, or a Performance Securing Declaration in lieu of the the allowable forms of Performance Security, subject to the terms and conditions of issued GPPB guidelines<sup>2</sup> for this purpose;
- h. We are not participating, as Bidders, in more than one Bid in this bidding process, other than alternative offers in accordance with the Bidding Documents;
- i. We understand that this Bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal Contract is prepared and executed; and

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<sup>2</sup> currently based on GPPB Resolution No. 09-2020

- j. We understand that you are not bound to accept the Lowest Calculated Bid or any other Bid that you may receive.
- k. We likewise certify/confirm that the undersigned, is the duly authorized representative of the bidder, and granted full power and authority to do, execute and perform any and all acts necessary to participate, submit the bid, and to sign and execute the ensuing contract for the [Name of Project] of the [Name of the Procuring Entity/].
- l. We acknowledge that failure to sign each and every page of this Bid Form, including the Bill of Quantities, shall be a ground for the rejection of our bid.

Name: \_\_\_\_\_

In the capacity of: \_\_\_\_\_

Signed: \_\_\_\_\_

Duly authorized to sign the Bid for and on behalf of: \_\_\_\_\_

Date: \_\_\_\_\_

## Annex “G”

### Guidelines to Contractors



Republic of the Philippines  
**PHILIPPINE SCIENCE HIGH SCHOOL MAIN CAMPUS**  
Finance and Administrative Division  
Agham Road, Diliman  
1104 Quezon City

[insert date]



To Whom It May Concern:

The contractor/personnel involved for the project: **COMPLETION OF ACADEMIC BUILDING FOR SENIOR HIGH PROGRAM**, shall abide by the following Guidelines while within the PSHS main Campus:

1. No I.D. No Entry policy.
2. Bringing-in of firearms inside the school premises is strictly prohibited.
3. PSHS campus is a non-smoking, non-drinking (liquor) and non-gambling area.
4. Campus speed limit for vehicles is 15 kph.
5. The personnel of the above-named company shall log in and log out at the visitor's logbook and shall submit for security check their hand-carried bags, luggage, baggage, package and other similar containers by the guard-on-duty upon entry and upon leaving the school premises. Vehicle/s of the company shall be subject for inspection by the Security Personnel.
6. Personnel should wear appropriate attire at all times.
7. Personnel should limit their movements inside the workplace and avoid staying in areas designated for the use of students, faculty and staff. Roaming around the campus is prohibited.
8. Personnel shall observe the official working hours from 8:00 AM to 5:00 PM.  
Work extension or overtime shall be coordinated for approval before the rendition to the PSHS Main Campus FAD Chief.
9. Personnel are required to observe proper behavior and cleanliness within their workplace.
10. The company shall register all equipment/ materials to be brought in to the campus as basis for the security when it will be brought out of the school premises.
11. The company shall inform the Administrative Officer/ Property Office if there is a scheduled delivery of construction materials/ supplies.
12. All construction materials/ supplies shall be dumped on the designated area only.

Conforme:

\_\_\_\_\_  
Representative of the Contractor

Noted:

**LAWRENCE V. MADRIAGA, Ph.D.**  
Campus Director

Republic of the Philippines

gppb