

## CAMPUS PLANNING, DEVELOPMENT & MAINTENANCE OFFICE

## UNIVERSITY OF THE PHILIPPINES MANILA

The Health Sciences Center
P. Faura Street, Ermita, Manila Tel. No. 525-2233 Telefax No. 526-8420



REF. NO.

WD164NPG09152016

PROJECT TITLE

PROPOSED RETROFITTING OF GAB

College of Arts and Sciences University of the Philippines Manila

SUBJECT

SCOPE OF WORKS AND SPECIFICATIONS

Division 1 - General

## 01000 General Requirements

- The Contractor shall furnish all materials, equipment, tools, apparatus, appliances, accessories, transportation, labor and supervision required for the complete construction of the subject project, as shown on the drawings and called for in these specifications, ready for use.
- 2. All Contractors submitting proposal for this project shall first examine the site. All proposals shall take into consideration all such conditions that may affect the work under this contract. The specifications and plans shall form part as one. Anything mentioned on plans and not mentioned on the scope of work and specifications and vice versa shall be properly consulted to the CPDMO Project Architect/Engineer for clarification. Any work or materials not in accordance with the drawings or specifications shall be replaced with new at the Contractor's expense.
- The Contractor shall coordinate his work with all parties to ensure proper phasing or schedule of works. The Contractor shall engage under him, a registered Engineer or Architect to supervise his work. He shall remain at all times in the construction site.
- 4. A logbook shall be available at the site. It shall contain the daily activities in the site, including weather condition, delivery, manpower and other matter pertaining to the condition of the project. It will also serve as data for Contractor and the Project Inspector.
- Identification Card of construction workers and engineer/representative shall be supplied by CPDMO with corresponding fees; it should be worn at all times while inside the building/campus premises. Those without IDs shall not be allowed to enter the premises for security purposes.
- No alteration or additional work that will result in an additive or deductive cost change from the Contract shall be allowed without the approval of the chancellor.
- Complete specifications with product sample shall be submitted by the contractor to CPDMO and end-user for evaluation. Inspection of the Project Architect/Engineer incharge shall be required prior to installation of any item/material on the construction.

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- Regular coordination meeting shall be conducted with CPDMO, Contractor and Enduser for proper project monitoring.
- Existing condition of the work site shall be documented by the contractor and photos shall be taken before commence of work to ensure such status. Any damage on the areas due to the contractor's on-going work shall be refurbished at his expense.
- 10. The Contractor shall provide a complete copy of "As built plans" of the project/unit concerned which shall include all the civil, architectural, plumbing, electrical and other related layouts in 20" x 30" original sheets. It should be properly drawn indicating all the specifications, layouts, tables and necessary data. An initial layout should be submitted in a B4 sheet for checking and approval of Project Architect/Engineer. Final "As built plans" shall be submitted with soft and hard copies.
- 11. After completion of all works, the Contractor shall promptly remove from the premises all rubbish, trash, debris, and all superfluous building materials and restore all areas that were damaged as affected by the construction works and leave the site clean to the satisfaction of the Project Inspector or his representative and End-user.
- All materials removed from the unit shall be properly documented prior to turn-over to the End-user for proper safe keeping.

#### 01510 Temporary Facilities

- Charges for the restoration or replacement of any damage facility, equipment, material
  and the like shall be made on the Contractor due to his negligence in providing suitable
  temporary covering.
- Provide the appropriate scaffoldings, board ups, safety nets and related items to ensure proper installation of all framing system and protection on the area, at the expense of the Contractor as its basic equipment.

### Division 2 - Site Construction

## 02200 Site Preparation

## Mobilization / Demobilization

- This work includes mobilization process, provision for warning signs, including barricades, temporary facilities, temporary fences, warning lights and similar safeguards shall be provided by the Contractor as they are required for protection of his manpower and others during the construction life of this project.
- Demobilization procedure shall include clearing of the affected areas from all rubbish, trash, debris, and all superfluous building materials and restore all areas that were damaged as affected by the works and leave the site clean to the satisfaction of the Project Inspector or his representative and End-user.

## 02220 Site Demolition

 This work shall include demolition existing slab as indicated in the plan and shall be coordinated properly with the project architect to ensure the effect and safety of such demolition with the adjacent and connecting structures.

## 02230 Site Clearing

 Clear the area from all obstructions or as affected by the construction works, except those structures indicated on the drawings or designated by the Project Architect/Engineer to be left standing. It shall be properly protected from incidental damage due to construction works by the erection of suitable barriers upon approval of the Project Architect/Engineer.

#### 02290 Site Monitoring

- Site monitoring shall be a must to the contractor for the effective implementation of the project. Any discrepancies on plans and actual site conditions shall be properly coordinated with the Project Architect/Engineer concerned for verification.
- Regular coordination meeting shall be done between the contractor or its representative and the Project Architect/Engineer concerned at CPDMO.

### 02500 Utility Services

Utility Service/Consumption

Provision of electric and water meter shall be included in the quotation to be charged to
the contractor's overhead. All utility consumption shall be provided with meters to limit
the usage of such during working period. Payments of bills shall be made thru the
Cashiers Office after the renovation period presenting the statement of account issued
by Accounting upon recommendation of the Chief of CPDMO.

#### Division 3 - Concrete

## 03050 Basic Concrete Materials and Methods

#### **Construction Notes**

Concrete Mixes and Placings

- Unless otherwise specified, the minimum 28-days cylinder compressive strength of slab is 20MPa
- All concrete must be deposited, vibrated and cured in accordance with ACI Standard

#### Concrete Slabs

- All reinforcement shall be 0.019m clear minimum from top and bottom of slab.
- Unless otherwise detailed in conditioning slab having same reinforcement running in one direction, reinforcing shall be bend, extended or cut as shown on plans
- Temperature bars for slab shall be generally placed near the tension
- Unless otherwise noted, all bended slab be reinforced with 10mm dia. bar at 0.20m on center E.W. at center of slab. Construction joint for slab shall not be more than 3.00m apart.
- Provide extra reinforcement at corner slab(two adjacent discontinuous edges)
- Provide supplementary reinforcement at small unframed openings in floor slabs as shown on the plans.
- Coring to insert reinforcement bars in existing structural members, use Hilti hit or approved equal as injectable mortar

#### 03100 Concrete Forms and Accessories

### Scope of Work

- The work covered by this Item shall consist of furnishing all concrete requirements in accordance with Plan and/or standard detail and as herein specified.
- · Materials and workmanship shall conform to the requirements of the following building

codes:

1) ACI 318-97, 2) AISC 1998, 3) NSCP 2001

#### Material Requirements

- Use Portland cement which conforms to the requirements as ASTM C-150 Type for normal Portland cement.
- Use fine aggregates, which shall be free from injurious, amount of clay loam and deleterious materials and shall conform to ASGM C-330.
- Gravel shall be river run gravel or broken stone. The maximum size shall be 1/5 of the
  nearest dimension between sides of forms of the concrete or % of the minimum clear
  spacing between reinforcing bars or between rebars and forms whichever is smaller.
- # 16 Tie wire shall be used for reinforcement bars connections.

## Construction Requirements

- Follow plan for dimensions and rebar details slabs
- Contractor is required to submit the testing result at his expense.
- Confer to CPDMO Project Architect/Engineer and End-users for any discrepancies on plan and actual condition on site.

#### 03200 Concrete Reinforcement

#### Scope of Work

 The work covered by this Item shall consist of furnishing all concrete reinforcement requirements in accordance with Plan and/or standard detail and as herein specified.

#### 03700 Concrete Rehabilitation

#### Scope of Work

- The work covered by this Item shall consist of installing Carbon Fiber Reinforcement.
- Submit sample of Carbon Fiber to be installed for approval of CPDMO.

## Material Requirements

Minimum Carbon Fiber Reinforcement properties as follows:

- Areal Weight: 600 g/m²
- Thickness = 0.334 mm
- Tensile Strength = 4,900 MPa
- Tensile E-modulus = 230GPa

#### Construction Requirements

- Follow plan for retrofitting details
- Line markers must be drawn prior to laying of Carbon Fibers

## NOTE

The foregoing list of item of works does not in anyway limit the responsibility of the Contractor to perform all other works necessary for the completion of the project, PROPOSED RETROFITTING OF GAB.

## GUARANTEE

The Contractor shall guarantee all works under this contract to be free from any technical, mechanical and electrical defects and shall replace and repair to the satisfaction of the

Project Architect / Engineer and/or to the Chief of CPDMO on any part or partlen of the work which may fail within a period of one (1) year after the final acceptance of the system provided such failure is due to defects in the material or workmanship.

#### COMPLETION PERIOD

The Contractor is given **One Hundred Twenty (120) calendar days** to execute the renovation works including the installation all system requirements. The Contractor shall coordinate to the CPDMO Inspector and End-users for the schedule of testing of systems and other related job.

Prepared by:

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Certified Correct:

AR. ALLEN R. BUENAVENTURA, MSCM

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## BILL OF QUANTITIES - BID PROPOSAL FORM

PROJEC	T TITLE	:	RETROFITTING OF GAB  College of Arts and Sciences University of the Philippines Manik	1			
NAME OF BIDDER		:					
ADDRESS		:				• )	
		:					
TOTAL LU	IMP SUM BID	:				PhP	
ПЕМ	QTY.	UNIT(S)	DESCRIPTION(	S)		UNIT COST	TOTAL COST
1.00	GEN. REQ'Ts.	/ SITEWORI	KS				
1.10	Mobilization	/Demobilize	otlon				
	1.00	lot	Permits and Licences		PhP	PhF	,
	1.00	lot	Mobilization / Demobilization				-
				Sub-Direct Cost		PhP,	
1.20	Clearing Wo	rks					
	20.00	sq.m	Demolition of existing slabs		PhP	PhP	
		K 385(3)		Sub-Direct Cost		PhP	
		Total for	General Requirements / Siteworks				
2.00	CIVIL WORK						57
2.10	Concreting		Name and the property of the party of the pa				
	1.00	cu.m	Concrete @ 20MPa Injectible mortar		PhP	PhP	
	1.00	ioi	injectible monar	Material Cost		PhP	
				Labor Cost		%	
				Sub-Direct Cost	v	PhP	
2 20	Formworks						
2.20	10.00	200	1 / 4" the count of the DL count of		ill.		
	10.00	pcs.	1/4" thk. x 4' x 8' Plywood Coco lumber		PhP	PhP	
	5.00	kgs.	Coco lumber CWN 3"				
	2.00	pcs.	1"x 8" x 12' kd s2s Fascia Board				
	2.00	pcs.	1 A U X 12 KU SZS PUSCIO BOOTO	Material Cost			
				Labor Cost		PhP	
				Sub-Direct Cost			
				200-Dueci Cost		PhP	

2.00	Scattolding										
	1.00	lot	Scaffoldings	PhP	PhP						
			Material Cost								
			Labor Cost		%						
			Sub-Direct Cost		PhP						
			Total Civil Works								
3.00	RETROFITTING	WORKS									
3.10	Surface Preparation of Beams and Girders										
	357,70	sq.m	Beams and Girders	PhP	PhP						
			Material Cost	Action 1	PhP						
			Labor Cost		%						
			Sub-Direct Cost	_	PhP						
3.20	Retrofitting of Beams and Girders										
	357.70	sq.m	Supply and Installation of Carbon Fiber	PhP	PhP						
			Material Cost		PhP.						
			Labor Cost		%						
			Sub-Direct Cost		PhP						
			Total Retrofitting Works								
ΑМΑ	RY										
			KS		Di D						
.00	GEN. REQ'Ts.	/ SITEWOR									
	GEN. REQ'Ts. CIVIL WORKS				PhP						
.00											
.00	CIVIL WORKS		Total Materials and Labor Cost		PhP						
.00	CIVIL WORKS			<b>@</b>	639300						
.00	CIVIL WORKS		Total Materials and Labor Cost	@	PhP						
.00	CIVIL WORKS		Total Materials and Labor Cost Overhead Cost	_	PhP						
2.00 3.00	CIVIL WORKS		Total Materials and Labor Cost Overhead Cost Tax	_	PhP						













