Republic of the Philippines
CAVITE STATE UNIVERSITY
Don Severino delas Alas Campus
Indang, Cavite

BILL OF QUANTITIES

PROJECT: IMPROVEMENT OF ELECTRICAL POWER SYSTEM OF FIVE-STOREY ACADEMIC BUILDING AT CvSU BACOOR CAMPUS
ABC: ₱ 6,999,987.96 **Bill of Quantities**
COLLEGE/UNIT/CAMPUS: BACOOR CAMPUS

Item No.	Description	Unit	Quantity	Unit Price (Pesos)	Amount (Pesos)
I	MOBILIZATION (Pesos _____ _____ _____ and _____ centavos)				
II	DISMANTLING WORKS (Pesos _____ _____ _____ and _____ centavos)				
III	ELECTRICAL WORKS (Pesos _____ _____ _____ and _____ centavos)				
	GRAND TOTAL				_____
	Write grand total in words	_____ _____ _____			

Submitted by: Date: _____
Name of Bidder/Bidder's Representative: _____
(Signature over Printed Name)
Position: _____
Construction Company/Contractor: _____

SCOPE OF WORK:

A. **IMPROVEMENT OF ELECTRICAL POWER SYSTEM OF FIVE-STOREY ACADEMIC BUILDING AT CvSU BACOOR CAMPUS**

GENERAL NOTES:

1. The project should be finished in 150 calendar days.
2. Site inspection is a must. Verify actual site condition.
3. This set of specifications shall govern the methods of construction and the kinds of materials to be used for the proposed project shown in the plans and detailed drawings.
4. All parts of the construction shall be finished with first class workmanship, to the fullest talent and meaning of the plans and these specifications, and to the entire satisfaction of the project inspector and the end-user.

B. Technical Description

I. Site Clearing and Mobilization

A. Mobilization/Demobilization

Provide the following:

1. Billboard with project information
2. Bunkhouse with office
3. Temporary comfort rooms
4. Site temporary enclosure may be blue sack or any suitable materials that may enclose the workplace.
5. Demobilization includes cleaning up of site, clearing, hauling and disposal of waste and construction debris.
6. The area should be cleared/cleaned before and after construction work at least six meters away from the building line. Notify the end-user regarding the properties that need to be hauled away from the site prior to construction.

II. Dismantling Works

1. This work includes dismantling of all existing electrical components from ground floor to third floor.
2. Consult the project inspector for the other scope and technical details of the project.

III. Electrical Works

1. Supply and installation of panel board and circuit breakers. Use G.E. Himel, Schneider or approved equal. Refer to the Schedule of Load for rating and specification.
   a. Main (1250AT, 1300AF, 3P, 230V, MCCB) and Branches (1-500 AT 3P, 3-300 AT 3P, 1-150 AT 3P, 1-50 AT 3P, 1-15 AT 2P) **1 set of panel for MDP**
   b. Main (150AT, 200AF, 3P, 230 V, MCCB) and Branches (1-150 AT 3P, 3-50 AT 2P) **1 set for panel FPP**
   c. Main (150AT, 200AF, 3P, 230 V, MCCB) and Branches (4-150 AT 3P, 1-15 AT 2P) **3 sets for panels DP1, DP2, and DP3**
   d. Main (150 AT, 200AF, 3P, 230V, MCCB) and Branches (4-50 AT 2P, 2-20 AT 2P, 2-15 AT 2P) **10 sets of panels for DPA, DPB, DPE, DPF, DPG, DPH, DPI, DPJ, DPK, and DPL.**
   e. Main (150 AT, 200AF, 3P, 230V, MCCB) and Branches (8-30 AT 2P, 2-20 AT 2P, 2-15 AT 2P) **2 sets of panels for DPC and DPD.**
   f. 1250 AT, 1300 AF, 3P ECB in NEMA 3r panel enclosure **1 set for ECB (Disconnecting Mean) to be installed at the service entrance concreted pedestal.**
   g. 50 AT, 2P, 230V, Circuit breaker with NEMA 3r panel enclosure **40 sets for ACU power supply**
   h. 30 AT, 2P, 230V, Circuit breaker with NEMA 3r panel enclosure **16 sets for ACU power supply**

   Note: Bolt-on type, NEMA standard should be used.
2. Provide scaffolding for chipping of concrete walls for conduit pipe raceway.
3. Construction of service entrance pedestal. See E-12 for details.
4. Supply and installation of copper conductor wires, RSC/IMC conduits, AMCO surface type box and electrical metal box with cover in accordance with the plan.

a. From service entrance concrete pedestal to panel MDP.
b. From panel MDP to panel FPP, DP1, DP2, DP3, and existing panel DP4.
c. from panel DP1 to panel DPA, DPB, DPC, and DPD located at the ground floor of the building.
d. From panel DP2 to panel DPE, DPF, DPG and DPH located at the second floor of the building.
e. From DP3 to panel DPI, DPJ, DPK, and DPL located at the third floor of the building.
f. From distribution panels to electrical fixtures/ switches/ outlets and other electrical devices in accordance with the plan.

Specifications of materials to be used:

1. THHN/ THWN copper wire 99.99% pure copper conductor, fire retardant. Use Phelp dodge, Philflex or approved equal.
2. RSC or IMC metal conduit pipe.
3. Electrical metal utility/ square/ junction box with cover.
4. AMCO surface type boxes
5. Support brackets/ hangers, clamps, and rods should be galvanized steel.

5. Supply and installation of electrical fixtures/ switches/ outlets and other electrical components in accordance with the plan.

Specifications of materials to be used:

a. 2-18W LED tube light with diffuser (387 sets). Use Philips, firefly or approved equal.
b. 1-18W LED tube light with diffuser (26 sets). Use Philips, firefly or approved equal.
c. 12W LED downlight with 6” surface type round casing (34 sets)
d. Emergency light twin head and outlet (71 sets). Use Philips, firefly or approved equal.
e. Wide series switches. Use Panasonic, Omni or approved equal.
f. Two-gang convenience outlet, universal type with ground (228 sets). Use Panasonic or approved equal.

6. Restoration and repainting of all damaged walls is also included in this work.
7. Include tapping to the source, electrical testing and commissioning.
   a. Phase sequence test
   b. Continuity test
   c. Insulation test
8. Consult inspectors for details and extent of work.

   Note: Electrical testing and guarantee, electrical supervision and final electrical inspection report should be signed and sealed by Professional Electrical Engineer with notary public.

C. Contractor of the said project must provide an as-built plan of the project at the end of the contract as a requirement for the release of their final billing.

D. Contractor’s PCAB license should have specialization in electrical works.

E. For color/types of any fixtures or materials to be used on site, consult the end-user and the inspector for approval. Consult the plan and the scope of work for the extent of tasks of the contract. If possible, let the end-user sign your sample as proof of approval.

F. The plans, detailed drawings and these specifications shall be considered as complementing each other, so that what is mentioned or shown in one, although not mentioned or shown in the other, shall be considered as appearing on both. **In case of conflict between the two, generally, the scope of work prevails.**

G. Resident site engineer is a must for the projects to be undertaken by the contractor of the university. In cases where there are electrical works, it is required that an electrical engineer or a master electrician be a part of the contractor's team to supervise all electrical works. Safety engineer is a must as per DOLE requirement. **Note: All key personnel should be included in the list of personnel for submission.**

H. In cases of participation in two or more projects, the set of workers and foreman shall be different per project, however, the set of engineers and equipment may be reused**.**

I. Construction safety and health program as well as construction schedule (PERT/CPM/S-Curve)

shall be provided by the winning bidder.

J. All public utilities used by the winning contractor in the construction of the project, such as electricity, water, telephone, etc., shall be for the sole account of the contractor.

K. See plans/consult the end-user and project inspector for details and extent of work. The silence of specifications, plans, special provisions and supplementary specifications as to any detail, or the apparent omission therein of detailed description or definition of the quality of materials and workmanship shall be regarded to mean that only materials and workmanship of first class quality are to be used or employed.