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

BILL OF QUANTITIES

IMPROVEMENT OF ELECTRICAL POWER SYSTEM OF NAIC CAMPUS
- 2nd Posting
ABC: ₱ 3,998,285.35 **Bill of Quantities**
COLLEGE/UNIT/CAMPUS: CvSU NAIC CAMPUS

Item No.	Description	Unit	Quantity	Unit Price (Pesos)	Amount (Pesos)
I	**MOBILIZATION** (Pesos _____ _____ _____ and _____ centavos)				
II	**EXCAVATION WORKS** (Pesos _____ _____ _____ and _____ centavos)				
III	**CONCRETE WORKS** (Pesos _____ _____ _____ and _____ centavos)				
IV.	**MASONRY WORKS** (Pesos _____ _____ _____ and _____ centavos)				
V.	**MISCELLANEOUS WORKS** (Pesos _____ _____ _____ and _____ centavos)				
VI.	**CARPENTRY WORKS** (Pesos _____ _____ _____ and _____ centavos)				
VII.	**TRUSSES & ROOFING WORKS** (Pesos _____ _____ _____ and _____ centavos)				

VIII.	**PAINTING WORKS** (Pesos _____ _____ _____ and _____ centavos)				
IX.	**ELECTRICAL WORKS** (Pesos _____ _____ _____ and _____ centavos)				
	GRAND TOTAL				_____
	Write grand total in words	_____ _____ _____			

Submitted by: _____ Date: _____
Name of Bidder/Bidder's Representative: _____
Position: _____
Construction Company/Contractor: _____

SCOPE OF WORK:

A. IMPROVEMENT OF ELECTRICAL POWER SYSTEM OF NAIC CAMPUS - 2nd Posting

GENERAL NOTES:

1. The project should be finished in 120 calendar days.
2. Actual site inspection is a must.
3. The area should be cleared/cleaned before and after the construction work at least ten meters away from the building line. Unusable used formworks, excessive soil fill, and all other unwanted debris of construction works should be disposed properly.

B. Technical Description

I. Mobilization

A. Mobilization/Demobilization

Provide the following:

- Billboard
- Bunkhouse with office
- Temporary comfort rooms
- Site temporary enclosure may be blue sack or any suitable materials that may enclose the workplace.

B. Demolition Works

1. Demolition of existing wall on grid C(1-2) on existing floor plan.
2. Demolition of existing roofing for renovation.
3. Removal of 2 existing windows & 2 existing doors.

II. Excavation Works

1. This work includes excavation for footing (F1) and wall footings. (See plan for details)

III. Concrete Works

1. Concrete works include columns, footing (F1) and wall footings. (See plan for details)
2. Strength of concrete to be adopted shall be **3,000 psi** at 28 days.
3. Concrete works should be plain cement finish.
4. Provide necessary tools and equipment needed for concrete works.
5. Use deformed bar grade 40.
6. Provide 10 mm Ø RSB at 0.30m on center both ways for slab on fill. Provide necessary tools and equipment needed for steel works.
7. See plan for details and extent of work.

IV. Masonry Works

1. Supply and installation of CHB 5” reinforced with 10 mm Ø deformed bar spaced at 0.60 m. on center every three layers at Grid 2/B to C and Grid C/ 1 to 2.
2. Patching of wall opening due to demolition of existing doors and windows.
3. Masonry works should be plastered plain cement.

V. Miscellaneous Works

1. Supply and installation of the following:
   a. 1 set of 2.0m X 0.8m solid panel door with complete accessories (For Electrical Room)
   b. 1 set of 2.0m X 0.7m flush door with complete accessories (For Guard House)

VI. Carpentry Works

1. Provide necessary form lumber needed for the completion of the project
2. Drywall Partition at Grid 2 / A to B
   a. Use gypsum 12.0 mm thick for double wall partition.
   b. Use metal stud at 0.40 m. on center and metal tracks.
3. Ceiling Works
   a. This work includes supply and installation of ceiling components.
   b. Use fiber cement board 3/16” for ceiling board.
   c. Use metal furring as ceiling runner and ceiling joist at 0.40m on center both ways.
   d. Use 1” concrete nail for fastening wall angle at concrete.
   e. Use 0.60m mm x 19mm x 50 mm x 0.60mm thick J-furring as ceiling joist, parallel to the longer side of the room spaced at 0.40m on center.

VII. Trusses and Roofing Works

A. This work includes removal and replacement of all existing roofing sheets and trusses.
B. Roofing
   1. Adopt gauge 26 (0.5mm) rib type pre-painted roofing sheet.
   2. All attachments for roofing sheet shall be 4" teck screw for metal connection.
   3. Provide water sealant for all attachment (water sealant should be provided inside and outside).
   4. Use metal flashing.
C. Trusses and Rafters
   1. Install 2" x 6" tubular rafters on the existing wall for support on roofing trusses.
   2. Use 16 mm expansion bolts on 2" x 6" tubular at 1.0m on center for supports.
   3. One additional 4" GI pipe for middle span support for 7.5 meters long space
   4. Use 2” X 4” C purlins spacing as indicated on the plan
   5. This work also includes painting of two coats of epoxy primer.

VIII. Painting Works

A. For CHB Wall
   1. Treat the concrete with concrete neutralizer and mix one part with 16 parts water by volume.
   2. Apply latex paint as primer. Repair minor imperfections with a suitable putty.
   3. Apply at least two layers of colored dirt resistant semi-gloss latex paint.
B. For Dry Wall Partition
   1. Apply latex paint as primer. Repair minor imperfections with skim coat.
   2. Apply at least two layers of colored dirt resistant semi-gloss latex paint.

IX. Electrical Works

A. Retirement/dismantling of existing electrical equipment, conductor wires and conduits needed to be replaced.
B. Supply and Installation of panel boards and circuit breakers in accordance with the plan.
   1. Panel board MDP, 1 Main with 4 Branches and 2 Spare, 3P
      Main: 1000AT, 1100 AF, 3P, 230V, MCCB
      Branch : 1-500 AT 3P; 2-300 AT 3P, 1-150 AT 3P, 2-SPARE
   2. Panel board DP1, 1 Main with 4 Branches, 3P
      Main: 300 AT, 400 AF, 3P, 230V, MCCB
      Branch : 3-200 AT 2P; 1-15 AT 2P, 2-SPARE
   3. Disconnecting switch
      1000 AT/1100 AF/ 3P/230V, MCCB with NEMA 3R Metal Enclosure.
   4. 1DP1, 1-200 AT/300 AF/ 3P/230V, MCCB with NEMA 3R Metal Enclosure.
      2DP1, 1-200 AT/300 AF/ 3P/230V, MCCB with NEMA 3R Metal Enclosure
      3DP1, 1-200 AT/300 AF/ 3P/230V, MCCB with NEMA 3R Metal Enclosure

   Note: Bolt-on type, Nema Standard should be used. Refer to plan for exact location of panel boards and circuit breakers. Any discrepancies or changes shall be promptly notified to the designer or consultant.
C. Supply and Installation of conductors wires, conduit pipes and support brackets in accordance with the plan.
   1. PVC conduit orange pipe or equivalent.
   2. Utility and junction boxes should be PVC and deep type.
   3. Galvanized steel for fabricated support brackets, hangers, rods and clamps.
   4. THHN and THW CU. stranded copper wire, Phelp dodge or approved equal.
      - Refer to the Schedule of loads for size and color coding of conductor wires.
D. Supply and Installation of electrical fixtures/switches/outlets and other electrical devices.
   1. 9W LED light bulb (6 sets)
   2. Emergency light twin head (1 unit)
   3. 1-gang switch, 15A 300 VAC
E. Repair and repainting of concrete wall and road for conduit pipe raceway.
F. Energization of circuit breakers including test and commissioning.
   1. Phase sequence test.
   2. Continuity test.
   3. Insulation test.
   4. Load test.

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

G. Include testing and commissioning.

H. Consult inspectors for details and extent of work.

Note: Contractor's representative should assist MERALCO crew during the energization, testing and commissioning of electric KWH-meter. Load balancing shall be done if necessary.

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. Contractor of the project must provide at least 1 boom/basket truck during the execution of electrical works.

F. 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. **Note: In the event that discrepancies on plans and scope of work occur, 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. Likewise, master plumbers must supervise plumbing works. It can be considered when only one person is the master plumber and master electrician at the same time as long as his major duty is supervision of both fields. 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. 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.