



BILL OF QUANTITIES

REPAIR AND IMPROVEMENT OF OLD CEMDS BUILDING ABC: ₱ 12,800,000.00 COLLEGE/UNIT/CAMPUS: CEMDS					
Item No.	Description	Unit	Quantity	Unit Price (Pesos)	Amount (Pesos)
I	EARTHWORKS (Pesos _____ _____ and _____ centavos)				
II	CONCRETE WORKS (Pesos _____ _____ and _____ centavos)				
III	MASONRY/ TILE WORKS (Pesos _____ _____ and _____ centavos)				
IV	MISCELLANEOUS WORKS (Pesos _____ _____ and _____ centavos)				
V	TRUSSES AND ROOFING (Pesos _____ _____ and _____ centavos)				
VI	CARPENTRY WORKS (Pesos _____ _____ and _____ centavos)				
VII	PLUMBING WORKS (Pesos _____ _____ and _____ centavos)				
VIII	ELECTRICAL WORKS (Pesos _____ _____ and _____ centavos)				

IX	FIRE PROTECTION WORKS (Pesos _____ _____ _____ and _____ centavos)				
X	PAINTING WORKS (Pesos _____ _____ _____ and _____ centavos)				
GRAND TOTAL _____					
Write grand total in words _____ _____ _____					

Submitted by: _____ Date: _____

Name of Bidder/Bidder's Representative: _____

Position: _____

Construction Company/Contractor: _____

CAVITE STATE UNIVERSITY

SCOPE OF WORK:

REPAIR AND IMPROVEMENT OF OLD CEMDS BUILDING

GENERAL NOTES:

1. The project should be finished in 240 calendar days.
2. There is an existing structure. Site inspection is a must to verify 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.

A. Technical Description

I. Earthworks

- A. This work includes the following:
 - a. Site preparation
 - b. Site temporary enclosure may be blue sack or any suitable materials that may enclose the workplace.
 - c. Mobilization and Demobilization
 - d. Billboard
 - e. Office/Bunk house, etc.
- B. Demolition works
 - a. This work includes dismantling of existing trusses, roofing, concrete canopy, wooden wall and flooring, doors and windows.
 - b. All dismantled materials should be transported to PPS yard.
- C. Clearing
 - a. The area should be cleared/cleaned before and after construction work at least ten meters away from the building line. Notify the end-user regarding the properties that needed to be hauled away from the site prior to construction.
- D. Soil Poisoning
 - a. The whole area should be treated with termite proofing. Termite proofing should be administered by accredited termite treatment specialist.

II. Concrete Works

- A. Cast-in-place concrete
 1. Concrete works include columns, footings, stiffener columns, suspended slab, beams, roof beams, wall footings and all other concrete components needed to complete the structure.
 2. Removal and replacement of sinking/settling slab at hallway.
 3. Repair of dilapidated concrete baluster top at hallways.
 4. Concreting of entrance walk with CHB zocalo (from road to grid I).
Width = 7.0 m.; Thickness = 0.15 m.
 5. Strength of concrete to be adopted shall be 3,500 psi.
 6. Concrete works should be plain cement finish.
 7. Provide necessary tools and equipment needed for concrete works.
- B. Steel reinforcement
 1. Use deformed bar grade 40.
 2. Provide necessary tools and equipment needed for steel works.

III. Masonry and Tile Works

- A. CHB Laying
 1. Installation of CHB reinforced with 10mm Ø deformed bar spaced at 0.60 m. on center every three layers at Grid H / 1 to 3.
 2. Provide zocalo wall at entrance canopy.
 3. All masonry works should be plastered plain cement.

B. Tile Works (For the whole floor area of ground floor basement)

Supply and installation of the following:

1. Use ceramic tiles (locally made) 0.40m. x 0.40m. Tiles must be accented with dark colors.
2. Use colored homogenous granite tiles (locally made) 0.30m. x 0.30m. for the stairs and landing and 0.30m. x 0.30m. with groove for the steps.
3. Use unglazed granite tiles (locally made) 24" x 24" for flooring of comfort rooms.
4. Use glazed granite colored tiles (locally made) 24" x 24" for the entire wall of comfort rooms. Tiles must be installed from floor to ceiling. Tile must be accented with dark colored.
5. Tiles must be installed using tile adhesive and finish with appropriate tile grout.
6. Consult the end-user for color preference of tiles.

IV. Miscellaneous Works

Fabrication, supply and installation of all doors, windows and railings needed to complete the project.

A. Doors

- 28 sets of D – 1 Powder coated steel door & jamb with view window complete with all accessories. Provide heavy duty hinges and lever locksets.
- 2 sets of D – 2 Stainless flush door; 1" x 2" stainless tubular framing with ga.18 stainless sheet (double wall) complete with heavy duty accessories.
- 4 sets of SG – 1 Stainless gate; complete with all accessories (4 sets). Provide 1.5 mm thick (304) stainless tubular; Use 2" x 2" & 1" x 1" tubing.

B. Windows

- 28 sets of W-1 Aluminum frame jalousie window complete with all accessories; with 1/4" thick smoked glass.
- 56 sets of W-2 Aluminum casement window complete with all accessories; 1/4" thick colored glass on colored powder coated aluminum frame; 12 mm. square bar grills.
- 8 sets of W-3 Aluminum casement window complete with all accessories; 1/4" thick colored glass on colored powder coated aluminum frame.
- 6 sets of W-4 Aluminum casement window complete with all accessories; 1/4" thick colored glass on colored powder coated aluminum frame.
- 2 sets of W-5 Aluminum awning window complete with all accessories; 1/4" thick colored glass on colored powder coated aluminum frame.

C. Repair of all existing stair railings.

V. Trusses and Roofing Works

A. Trusses

- a. See plans for sizes of bar and other details for the installation of steel trusses.
- b. This work also includes painting of two (2) coats of epoxy primer and two (2) coats of quick dry enamel black.
- c. Provide necessary tools and equipment.
- d. All joint connections should be fully welded.
- e. Use galvanized CEE purlins gauge 16, 2" x 6" @ 0.60 m. on center.
- f. Use galvanized CEE purlins gauge 16, 2 - 2" x 6" for fascia board.
- g. Provide 12 mm Ø with nut and washer for sag rod.
- h. Provide 16 mm Ø plain bar with standard turnbuckle for horizontal cross bracing
- i. Provide 4-16 mm Ø anchor bolts with nut and washer for each support.

B. Roofing Works

- a. Adopt gauge 26 (0.5 mm) rib type pre-painted roof sheet.
- b. Adopt gauge 26 (0.5 mm) x 18 pre-fabricated and pre-painted ridge roll and fascia cover.
- c. Adopt gauge 26 (0.5 mm) x 24 stainless valley gutter.
- d. Adopt gauge 26 (0.5 mm) x 24 stainless gutter and flushing.
- e. All attachment for roofing sheet and ridge roll shall be 2 1/2" tek screw for metal.

- f. Provide water sealant for all attachment (water sealant should be provided for both inside and outside surface of tek screw head)

VI. Carpentry Works

1. Provide necessary form lumber and scaffolding needed for the completion of the project.
2. Provide ceiling works.
 - a. Use 3/16" thick fiber cement board for ceiling board.
 - b. Use metal furring as ceiling runner and ceiling joist at 0.40 m. on center both ways.
 - c. Provide decorative wooden molding to all ceiling perimeter and corners (3").
 - d. Use pre-painted spandrel 4" for the whole area of eaves.
 - e. Provide ceiling ventilation for every 0.50 meter and all corners of the eaves.

VII. Plumbing Works

- A. Water Supply Line (Removal and replacement all water lines)
 1. Adopt PPR pipes and fittings for water line.
 - a. ½" Ø for water line
 - b. Provide gate valve for every comfort room.
 - c. Provide PPR stop valve with water meter from main line.
 2. Tapping to the source is included.
 3. No pipe should be embedded without testing it to leak.
- B. Sewer Line (Removal and replacement all sewer lines)
 1. Adopt PVC heavy duty orange pipes and fittings (Sanimold type with O-ring or its equivalent) for ventilation and the whole sewer line system including the septic vault fittings.
 - a. Use 4" Ø for main line and water closet.
 - b. Use 2" Ø for lavatory and ventilation.
 2. Provide 3" Ø PVC pipe for downspout.
 3. Provide one unit septic tank with pipes extending to the nearest disposal area. (2.5m.x 2.0m.x 1.5m.)
- C. Fixtures (Removal and replacement of all plumbing fixtures)
Supply and installation of the following (Note: All fixtures must be HCG, American Std, or approved equivalent complete with all accessories.):
 1. Brass floor drain (2 pcs.)
 2. Colored tank type water closet (2 sets)
 3. Colored lavatory with faucet (2 sets)
 4. One heavy duty faucet for every cubicle

VIII. Electrical Works

1. This work includes the furnishing of materials, labor, tools and equipment and all necessary services to complete and make ready for operation the electrical power and lighting system of the project.
2. This work also includes the dismantling of all existing electrical devices.
3. Supply and installation of panel boards and circuit breakers in accordance with the plan including the tapping/connection to the source.
NOTE: Bolt-on type, NEMA Standard should be used.
4. Concrete wall chipping for conduit pipe raceways. Including repair and re-painting of walls.
5. Supply and installation of conductors and PVC conduit/junction box/utility box from main panel to convenience outlet/light outlet.
 - a. PVC orange conduit pipe for all embeded electrical raceway.
 - b. RSC or IMC pipe for service entrance and all exposed electrical raceway.
 - c. THHN/THW copper conductor wire. Phelp dodge or approved equal. Refer to Schedule of loads for wire size and proper color coding of wires.
 - d. Utility and junction boxes should be PVC and deep type.
 - e. Support brackets/hangers, clamps and rods should be galvanized steel.
6. Supply and Installation of electrical fixtures/switches/outlets and other electrical devices (Bticino, National or its equivalent)

- a. Switches
 - b. Convenience outlets
 - c. Outlets for ACU and Emergency light
 - d. Pin light with LED 9W bulb
 - e. 1-32W LED Fluorescent lamp with aluminum louver diffuser
7. Supply and installation of ACU window type 1.5 HP inverter type (30 units). Carrier/LG/Panasonic or approved equal.
 8. Supply and installation of CT rated three phase kWh meter.
 9. Electrical wiring and layout is to be connected from MDP to existing Distribution Transformer. Provide the necessary connectors, wiring accessories, messenger wires & equipment for the wiring installation.
 10. Construction of service entrance post.
 11. Include tapping to the distribution transformer, testing and commissioning.
- NOTE: Electrical testing and guarantee, electrical supervision and final electrical inspection report should be signed and sealed by Professional Electrical Engineer with notary public.

IX. Fire Protection Works

Supply and installation of the following:

1. Supply and Installation of 4 – wire conventional smoked detector with relay complete with all accessories (20 units). Honeywell/Edwards or approved equal.
2. Supply and Installation of 2 units fire alarm bell with control panel. Honeywell/Edwards or approved equal.

X. Painting Works

Repainting of the **WHOLE** building both interior and exterior.

- A. Scraping of existing paints and chipping should be done.
- B. This works also includes repainting of interior and exterior walls of the whole building including ceiling, steel casement windows and grills.
- C. Formworks/scaffolding needed shall be provided by the contractor.
- D. Clean/clear all areas affected by the works.
- E. Wood/Metal
 - a. Apply epoxy primer by brush or spray. Allow to dry for 24 hours. Apply suitable putty on imperfections, then, sand.
 - b. Apply at least two coats of Quick Dry Enamel in the desired color.
- F. Concrete
 - a. Treat the surface with concrete neutralizer. Mix one part with 16 parts water by volume.
 - b. Apply Latex flat as primer. All concrete surface must be applied with skim coat. Repair minor surface imperfections with a suitable putty. Let dry, then sand.
 - c. Apply at least two coats of colored dirt resisting semi gloss latex paint (factory mixed).

Note: Color of paint will depend upon the preference of the end-user. Paints and its accessories should be BOYSEN or approved equal.

- D. 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.
- 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. 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.