



**BILL OF QUANTITIES**

REPAIR AND IMPROVEMENT OF IMUS GUARD HOUSE ABC: ₱ 1,023,595.78 COLLEGE/UNIT/CAMPUS: IMUS CAMPUS			Bill of Quantities		
Item No.	Description	Unit	Quantity	Unit Price (Pesos)	Amount (Pesos)
I	PRELIMINARY WORKS AND EARTHWORKS (Pesos _____ _____ and _____ centavos)				
II	CONCRETE WORKS (Pesos _____ _____ and _____ centavos)				
III	MASONRY WORKS (Pesos _____ _____ and _____ centavos)				
IV	CARPENTRY WORKS (Pesos _____ _____ and _____ centavos)				
V	MISCELLANEOUS WORKS (Pesos _____ _____ and _____ centavos)				
VI	TRUSSES AND ROOFING WORKS (Pesos _____ _____ and _____ centavos)				
VII	ELECTRICAL WORKS (Pesos _____ _____ and _____ centavos)				
VIII	PLUMBING WORKS (Pesos _____ _____ and _____ centavos)				

IX	PAINTING WORKS (Pesos _____ _____ and _____ centavos)				
<b>GRAND TOTAL</b> _____					
<b>Write grand total in words</b> _____ _____ _____					

Submitted by: \_\_\_\_\_ Date: \_\_\_\_\_

Name of Bidder/Bidder's Representative: \_\_\_\_\_  
 \_\_\_\_\_  
*(Signature over Printed Name)*

Position: \_\_\_\_\_

Construction Company/Contractor: \_\_\_\_\_

## CAVITE STATE UNIVERSITY

### SCOPE OF WORK:

#### A. **REPAIR AND IMPROVEMENT OF IMUS GUARD HOUSE**

##### GENERAL NOTES:

1. The project should be finished in 120 calendar days.
2. Actual site inspection is a must. Verify the actual condition of the site, since there is an existing structure.
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. **Preliminary Works and Earthworks**

###### A. Mobilization / Demobilization

Provide the following:

1. Billboard with project information
2. Bunkhouse with temporary office
3. Temporary comfort rooms
4. Site temporary enclosure may be blue sack or any suitable materials that may enclose the workplace.
5. It includes cleaning up of site, clearing, hauling and disposal of waste and construction debris before and after the 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. All waste materials shall be disposed of by the contractor at his expense.
6. Any excess materials resulting from all earthwork operations not required or unsuitable for backfill as directed by the project inspector, shall be disposed of by the contractor at his expense.
7. Restoration of any damages shall also be done before exiting the area.

###### C. Demolition Works

1. This work includes demolition of the existing guard house.

###### D. Earthworks

###### a. Staking out the building lines

1. The building lines shall be staked out and all lines and grades shown in the drawing shall be established before any excavation is started. Batter boards and reference marks shall be erected at such places where they will not be disturbed during the excavation of the building.

###### b. Excavation

1. This work includes excavation for all footings, columns, wall footings, and tie beams.

###### c. Backfilling Works

1. Backfill and fills shall be placed in layers not exceeding 150 mm in thickness, and each layer shall be thoroughly compacted by wetting, tamping and rolling.

###### d. Gravel fill

1. Gravel fill should be 0.05m thick.

###### E. Soil poisoning

1. The area should be treated with termite proofing. Termite proofing should be conducted by an accredited termite specialist.
2. The contractor shall provide a service guarantee covering the treatment of termite infestation or the repetition of the above termite control services without extra cost to the end-user if any manifestation of recurrence or infestation occurs during the guarantee period of one year.

##### II. **Concrete Works**

###### A. Cast-in place concrete

1. Concrete works include columns, footings, slab on fill, beams, roof beams, and all other concrete components needed to complete the structure.
2. Provide lintel beams for the opening of windows and doors. Use 0.15m x 0.20m reinforced with 2-12 mm Ø bars enclosed with 10mm Ø bars spaced @ 0.20m on

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- center.
  - 3. Strength of concrete to be adopted shall be 3,500 psi at 28 days equivalent to Class A mixture.
  - 4. Provide trial mix for cast-in place concrete.
  - 5. Concrete works should be plain cement finish.
  - 6. Provide necessary tools and equipment needed for concrete works.
  - 7. Reasonable number of tests on the concrete is required by the implementing agency during the progress of the work. Not less than two (2) cylindrical specimens shall be reserved for the 28th day test. The Contractor shall pay for the cost of material testing.
  - 8. In case of failure of test cylinders to meet the specified strengths, the Contractor shall at his expense obtain concrete core samples from the poured concrete and the compressive strength of same be taken by a competent testing authority to determine the conclusive strength and integrity of the concrete poured.
- B. Steel reinforcement**
- 1. Provide 10 mm Ø deformed bars at 0.30m on center both ways for slab on fill .
  - 2. Use deformed bar grade 40.
  - 3. See plan for the quantity and sizes of steel reinforcement
  - 4. Provide necessary tools and equipment needed for steel works.
  - 5. See plan for details and extent of work.
  - 6. The contractor shall furnish 2 copies of the manufacturer's certificate of mill tests of all reinforcing steel. The contractor shall at his own expense employ an approved testing laboratory which shall conduct testing of all reinforcement sizes of each bulk under the supervision of the project inspector.
- III. Masonry Works**
- A. CHB laying**
- 1. Installation of CHB reinforced with 10 mm Ø deformed bar spaced at 0.60 m. on center every three layers.
    - a. CHB 5" for the walls.
  - 2. Masonry works should be plastered plain cement.
- IV. Carpentry Works**
- A. Formworks and Scaffolding**
- 1. Provide necessary form lumber and scaffolding needed for the completion of the project.
- B. Ceiling Works**
- 1. Provide ceiling works for the whole area.
  - 2. Use 3/16" thick fiber cement board for ceiling board.
  - 3. Use metal furring as ceiling runner and ceiling joist at 0.40m on center both ways.
  - 4. Use wall angle on the perimeter walls.
  - 5. Use rivet or black screw for connections.
  - 6. Provide 3" decorative ceiling cornice/wooden molding to all ceiling perimeter and corners.
- V. Miscellaneous Works**
- 1. Supply and Installation of Doors
    - a) 1.0 set D-1 - 0.80m x 2.10m Flush door with complete accessories
    - b) 1.0 set D-2 - 0.70m x 2.10m Flush door with complete accessories
  - 2. Supply and Installation of Windows
    - a) 1.0 set W-1 - 1.20m x 1.20m Aluminum sliding window with ¼" thick clear glass; complete with all accessories
  - 3. Pathwalk railing
    - a) Provide 1.5mm thick (304) steel tubing for railings. Use 2" and 1" tubing.
- VI. Trusses and Roofing Works**
- A. Trusses**
- 1. See plans for sizes of bar and other details for the installation of steel trusses.
  - 2. This work also includes painting of two (2) coats of epoxy primer and two (2) coats of quick dry enamel black.
  - 3. Provide necessary tools and equipment.
  - 4. All joint connections should be fully welded and shall be provided with 10mm. thick gusset plates for member connections and 0.2m x 0.3m x 12mm thick base plates for truss to column connections.
  - 5. Use galvanized CEE purlins ga. 16, 2" x 4" x 20' (1.5mm thick).

6. Provide 4-16mm Ø anchor bolts with nuts and washer for each support.
  7. Provide 12 mm. Ø with nuts and washers for sag rod.
  8. Provide 12mm Ø plain bar with standard turnbuckle for horizontal cross bracing.
- B. Roofing**
1. Adopt gauge 26 (0.5 mm.) twin rib type pre-fabricated colored roofing sheets.
  2. Adopt gauge 26 (0.5 mm) 0.40m x 0.5mm thick colored G.I. ridge roll.
  3. All attachment for roofing sheet and ridge roll shall be 4" teck screw for metal.
  4. Provide water sealant for all attachment (water sealant should be provided for both inside and outside surface of teck screw head).

**VII. Electrical Works**

1. Supply and installation of copper conductor wires, PVC/MC/RSC conduits, junction, AMCO and utility box from electrical panels to electrical devices.
  - a. PVC orange conduit pipe for all embedded electrical raceway.
  - b. RSC or IMC pipe for service entrance and all exposed electrical raceway.
  - c. THHN/THW copper wire. Use Phelp dodge or approved equal.
  - d. Utility and junction boxes should be PVC deep type.
  - e. Support brackets/hangers, clamps and rods should be galvanized steel.
2. Supply and installation of electrical fixtures/ switches/outlets and other electrical devices in accordance with the plan.
  - a. Pin light 20W (15 pcs)
  - b. LED panel light (60 cm x 62.5cm) 36W ( 5 sets)
  - c. Three pin ACU outlet ( 1 set)
  - d. Two-gang convenience outlet (5 sets)
  - e. 1 set panel board
    - 1 - 30 A Main
    - 1 - 20 A
    - 1 - 15 A
3. Include tapping to the source, electrical testing and commissioning
  - a. Phase sequence test
  - b. Continuity test
  - c. Insulation test

**VIII. Plumbing Works**

1. Water Supply Line
  1. Adopt (PN 20) PPR pipes and fittings for water lines.
    - a. Use 25 mm. Ø from the source to comfort rooms.
    - b. Use 20 mm. Ø for inside of comfort rooms.
    - c. Provide gate valve for comfort room.
  2. Tapping to the source is included.
  3. No pipe should be embedded without testing it to leak.
2. Sewer Line
  1. Adopt PVC heavy duty orange pipes and fittings (Sanimold type with O-ring or its equivalent) for the whole sewer line system.
    - a. Use 4" Ø for sewer lines and down spout.
    - b. Use 2"Ø for lavatory.
    - c. Use 3" Ø for floor drain
3. Fixtures
 

Supply and Installation of the following:

  1. 1 set of Colored Water Closet (tank type)
  2. 1 set of wall hung lavatory
  3. 2 pcs. Floor drain (brass)

**Note:** All fixtures must be HCG, American Std, or approved equivalent complete with all accessories.

**IX. Painting Works**

1. Concrete and Masonry
  1. This work includes the painting of the interior and exterior concrete and masonry components of the structure.

2. Repair minor surface imperfections with skim coat. Let dry, then sand. Spot coat with top coat color.
  3. Apply two coats of colored factory mixed dirt resistant semi-gloss latex.
2. Ceiling
1. This work includes painting of all newly installed ceiling components in the building.
  2. Apply one coat of flatwall enamel white. Allow to dry overnight.
  3. Repair minor surface imperfections with glazy putty. Let dry then sand.
  4. Apply at least two coats of Quick Dry Enamel in the desired color. Allow an overnight inter coating interval.
3. Metal and Roofing
1. This work includes painting of all roofing sheets.
  2. Apply red oxide primer by brush or spray. Allow to dry for 24 hours. Apply suitable putty on imperfections.
  3. Apply at least two coats of Quick Dry Enamel in the desired color.
- Note:** Color of paint will depend upon the preference of the end-user. Paints and its accessories should be Boysen or approved equal.
- 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. 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.
- E. 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.**
- F. 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.**
- G. 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.
- H. Construction safety and health program as well as construction schedule (PERT/CPM/S-Curve) shall be provided by the winning bidder.
- I. 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.
- 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.