

The Scope of Work shall consist of the following in accordance with the Drawings and Specifications, including Supplemental Agreement but is not limited to the following

E.1 GENERAL REQUIREMENTS

- a. Perimeter Fence
- b. Project Billboard
- c. Occupational Safety and Health Program
- d. Mobilization and Demobilization

E.2 DEMOLITION / EARTH WORKS

- a. Demolition/Removal of Structures and Obstructions
- b. Column Footing Excavation with Equipment
- c. FTB, WF, and Zocalo Manual Excavation with Small Tools
- d. Backfilling of Excavated Foundation Including Compaction
- e. Septic Tank Excavation with Small Tools
- f. Filling of Selected Borrow Materials including compaction with equipment
- g. Manual Filling of Gravel Bedding including Compaction with Small Tools

E.3 TERMITE CONTROL WORKS

- a. Termicide

E.4 CONCRETE WORKS

- a. RC for Footings, FTB wall footings
- b. RC for Beams, Cantilever Beams and Roof Beams
- c. RC for Columns
- d. RC for Slab in on Fill
- e. RC for Slab on Steel Decking
- f. RC for Stairs
- g. RC for Concrete Pathways, Platform, Ramps and Stair on Grade

E.5 FORMS AND FALSEWORKS

- a. Building Formworks and Falseworks (Scaffoldings)

E.5 MASONRY AND PLASTERING WORKS

- a. 100 mm Concrete Hollow Block (CHB) Non Bearing Wall
- b. 150 mm Concrete Hollow Block (CHB) Non Bearing Wall
- c. Cement Plater Finish

E.6 CARPENTRY AND JOINERY WORKS

- a. Installation of Fiber Cement Ceiling on Metal Framing System
- b. Installation of Metal Panel Ceiling on metal framing system
- c. Installation of Aluminum Composite Panels on Metal Framing System
- d. Fabrication of Cabinets

E.7 DOORS, WINDOWS, GLASS AND GLAZING, AND METAL RAILINGS

- a. Fabrication, Supply and Installation of All Doors
- b. Fabrication, Supply and Installation of All Windows
- c. Fabrication, Supply and Installation of Metal Railings

E.8 TILE AND COUNTERTOP WORKS

- a. Installation of Granite Floor Tiles including Tile Adhesive as Indicated in the Drawings
- b. Installation of Ceramic Wall Tiles including Tile Adhesive as Indicated in the Drawings
- c. Installation of Granite Counter Tops Indicated in the Drawings

E.9 METAL WORKS

- a. Fabrication, Supply and Installation of All Metal Sun Barriers
- b. Fabrication, Supply and Installation of Roof Truss
- c. Fabrication, Supply and Installation of Roof Framing System Including Bracing Support
- d. Supply and Installation of Metal Deck Panel
- e. Fabrication, Supply and Installation of Metal Fire Exit Stair
- f. Fabrication, Supply and Installation of Aluminum Built Up Signage

E.10 ROOFING WORKS

- a. Supply and Installation of Pre-Painted G.I. sheet roofing (Rib Type – Long Span)
- b. Supply and Installation of Fiber Cement Fascia Board

E.11 PAINTING WORKS

- a. Paint on Metal Surface
- b. Paint on Masonry/Concrete Surfaces and Fiber Cement Ceiling
- c. Paint on Wood Surface

E.12 PLUMBING WORKS

- a. Provision and Installation of Water Supply system including Fittings
- b. Provision and Installation of Sanitary Line System including Fittings
- c. Provision and Installation of Plumbing Fixtures
- d. Provision and Installation of Water Tanks and Water Pump with complete accessories

E.13 STORM DRAINAGE AND SEWERAGE SYSTEM

- a. Provision and Installation of G.I. Sheet Gutter
- b. Storm Drainage and Downspout, pipes and fittings PVC (S-1000)
- c. Construction of Septic Tank - Concrete / CHB

E.14 ELECTRICAL WORKS

- a. Provision and Installation of Conduits Boxes and Fittings
- b. Provision and Installation of Wires and Wiring Devices
- c. Provision and Installation of Lighting Fixtures/Power Fixtures
- d. Provision and Installation of Panel Boards including circuit breakers

E.15 MECHANICAL WORKS

- a. Provision and Installation of Fire Protection Sprinkler System
- b. Provision and Installation of 3 Storey, Passenger Panoramic Elevator

E.16 AUXILIARY WORKS

- a. Provision and Installation of Fire Detection and Alarm Systems (FDAS)
- b. Provision and Installation of Telephone, Public Address System / LAN Network System
- c. Provision and Installation of Close Circuit Television (CCTV) System

E.17 WATER PROOFING WORKS

- a. Application of Cementitious Waterproofing

E.18 AS-BUILT (RECORD) DRAWINGS AND RELATED DOCUMENTS

E.19 PERMITS AND CERTIFICATES

II. GENERAL REQUIREMENTS

The works shall be carried out according to the Technical Specifications and shall govern the methods of construction and the kind of materials to be used for the Renovation of the Nursing Simulation Laboratory with Facilities as shown in the plans and detail drawings.

The plans, detailed drawings and this Specification, shall be considered as complementing to 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 discrepancy, between the Technical Specifications and Approved Detailed Drawings, the Technical Specifications shall prevail.**

All works shall be carried out in coordination with carpentry, masonry, electrical, auxiliary, and other building works. Materials not conforming to Specifications shall be rejected

I.A. GENERAL CONDITIONS

Prior to execution of works, the Contractor shall verify the existing condition of the structural and project boundaries. Total demolition of existing portion of the structure within the proposed project site is required.

II.B. CONTRACTOR'S OFFICE & ACCOMODATION

Provision of Contractor's Temporary Facility is required. The structure of the building shall be adequate, rainproof, spacious, airy and hygienic with proper lightings and toilet facilities. The area shall be kept neat and clean. Any garbage or sewage shall be disposed at a location and in a manner approved by WMSU-Physical Plant and Engineering Services Office.

Space allocation for storage of various materials such as cement, reinforcement steel and petroleum products, etc. shall be clearly separated to avoid contamination. Petroleum products shall be stored and handled in a way that avoids contamination of ground water. Workshops shall be installed with oil and grease traps for the same purpose.

The Contractor shall provide, at its own expense, adequate temporary accommodation and toilet facilities for its own workmen and keep the same in good conditions. The Contractor shall construct suitable soak pits along with room of pit-type latrines. Sufficient water must be provided and maintained in the toilets. Proper methods of sanitation and hygiene should be employed during the whole project duration. The above-mentioned temporary structures shall be removed on the completion of the works at Contractor's own cost. All materials and labor cost shall be provided by the Contractor.

The Contractor shall provide at his own expense calibrated meters for each water and electricity connection and pay billings thereof.

II.C. SAFETY MEASURES

The Contractor shall be responsible for safety of all workmen and other persons entering the Works and shall be all at his own expense take all measures necessary to ensure their safety. Such measures shall be subject to the approval of WMSU-Physical Plant and Engineering Services shall include but not limited to:


- 1 Appropriate personal protective equipment (helmet, dust mask, safety shoes, vest, and hand gloves) must be provided and worn by workmen.

- 2 First Aid Cabinet must be fully equipped and readily available for treatment of sickness and injuries;
- 3 Provide safety and emergency regulations for fire and electric shock
- 4 Safe control of flowing water; and
- 5 Conduct regular safety meeting.

II.D. NOTICE BOARD

The Contractor shall erect notice board (4' x 8') at the site giving details of the Contract in the format provided by WMSU-PPES. It shall be displayed upon the acceptance of notice to proceed and It shall be removed upon receipt of Certificate of Completion.

PROJECT TITLE	
LOCATION	
CONTRACTOR	:
DATE STARTED	:
CONSTRUCTION COMPLETION DATE	:
CONSTRUCTION DURATION	:
CONTRACT AMOUNT	:
SOURCE OF FUND	:
IMPLEMENTING OFFICE	: WESTERN MINDANO STATE UNIVERSITY



WESTERN MINDANO STATE UNIVERSITY
NORMAL ROAD, BARANGAY BALIWASAN, ZAMBOANGA CITY

II.E ENVIRONMENTAL PROTECTION WORKS

The environment means surrounding area including human and natural resources to be affected by execution and after completion of works. The Contractor shall take all precautions for safeguarding the environment during the course of construction of the works. He shall abide by all prevalent laws, rules and regulations governing pollution and environmental protection. The Contractor shall prohibit employees from cutting trees and the former shall be the responsible for the action of the latter.

Waste materials must be collected, stored, and transported to approved dump / disposal area.

The WMSU-Physical Plant and Engineering Services shall have the power to disallow the method of construction and / or the use of any borrow / quarry area, if the stability and safety of the works or any adjacent structure will be compromised, or there is undue interference with the natural or artificial drainage, or the method or use of the area will promote undue erosion.

II.F. MATERIALS AND WORKMANSHIP

All materials and equipment used in the Works shall be new and best in quality, design and performance. All materials used shall be of the quality specified and where not specified shall be in accordance with the relevant Standards Acceptable by the University Architect or the Physical Plant and Engineering Services Director

All materials and work necessary for the efficient functioning of the installation shall be provided even if not explicitly mentioned in the Contract Documents

All works shall be carried out to the best engineering practice by fully competent tradesmen.

II.G. DELAYS

In the event the Contractor falls behind the Project Schedule, then he may be required to accelerate his work. In such cases, the Contractor shall immediately apply appropriate extra resources at his own expense until such time as the schedule slippage has been recovered.

II.H. SITE DIARY OR MANUAL FIELD / LOGBOOK

The Contractor shall keep Site Diary or Manual Field Book wherein full details of the work carried out during each day shall be fully recorded. The Site Dairy or Manual Field Book shall be available for inspection by the WMSU-Physical Plant and Engineering Services anytime during normal office hours. It shall include:

- H.1 Project Name;
- H.2 Contractor's Name;
- H.3 Contractor's Representative;
- H.4 Weather Conditions, rainfall, and water level (indicate "NO WORK "if unworkable days)
- H.5 Description, quality, and location of work performed;
- H.6 Shift and working hours;
- H.7 Number and category of workers working at the site;
- H.8 Test carried out and results;
- H.9 Inspection carried out by PPO;
- H.10 Problems or abnormal occurrence;
- H.11 DEFECTIVE / Non-Compliant Work & Corrective Action.
- H.12 Site Instructions;
- H.13 Visitors; and
- H.14 Accidents (if any)

III. TECHNICAL SPECIFICATIONS

III.A GENERAL REQUIREMENTS


A-I. Perimeter Fence

1. The Contractor shall provide temporary perimeter fence constructed using G.I Roof Sheet nailed in coco lumber at every 1.2 meters distance, 2 meters offset from the construction site and shall not exceed 2.4 meters in height.
2. The contractor, upon completion of work, shall remove the temporary perimeter fence and all temporary facilities and clear the site acceptable to the procuring entity.

A-II. Project Billboard

1. The Contractor shall erect notice board (4' x 8') at the site giving details of the Contract in the format provided by WMSU-PPES. It shall be displayed upon the acceptance of notice to proceed and It shall be removed upon receipt of Certificate of Completion.

PROJECT TITLE	
LOCATION	
CONTRACTOR	:
DATE STARTED	:
CONSTRUCTION COMPLETION DATE	:
CONSTRUCTION DURATION	:
CONTRACT AMOUNT	:
SOURCE OF FUND	:
IMPLEMENTING OFFICE	: WESTERN MINDANO STATE UNIVERSITY

 **WESTERN MINDANO STATE UNIVERSITY**
NORMAL ROAD, BARANGAY BALIWASAN, ZAMBOANGA CITY

A-III. Occupational Safety and Health Program

1. The Contractor shall be responsible for safety of all workmen and other persons entering the project site and shall be all at his own expense to take all necessary measures to ensure their safety.
2. All Safety Measures to be taken shall be subjected to the approval of the WMSU-Physical Plant and Engineering Services Office Director and shall include but not limited to the following:
 - 2.a Appropriate Personal Protective Equipment such as hard hats, dusk mask, safety shoes, reflectorized vest, hand gloves and the like shall be provided and worn by all workmen on site;
 - 2.b First Aid Cabinet must be fully equipped and readily available for treatment of sickness and/or injuries;

- 2.c Provide Safety emergency regulations for fire and electric shock preventions;
- 2.e Safe control of flowing water, and
- 2.f Conduct regular safety meeting.

A-IV. Mobilization and Demobilization

1. The work shall consist of the mobilization and demobilization of the contractor's forces and equipment necessary for performing the work required under the contract.
2. Mobilization shall include all activities and associated costs for transportation of Contractor's personnel, equipment, and operating supplies to the site; building; and other necessary general facilities for the contractor's operation at the site.
3. Demobilization shall include all activities and costs for the transportation of personnel, equipment and supplies not required or included in the contract from the site; including the disassembly, removal and site cleanup, of offices, buildings and other facilities assembled on the site specifically for this project.
4. This work includes mobilization and demobilization required at the time of award.
5. If additional mobilization and demobilization activities and costs are required during the performance of the contract as result of changed, deleted or added items of work for which the Contractor is entitled to an adjustment in contract price, compensation for such cost will be included in the price adjustment for the item or items of work changed or added.

III.B DEMOLITION/EARTHWORKS

B.I DEMOLITION/REMOVAL OF STRUCTURES AND OBSTRUCUTIONS

- 1 Works in this item herein include the removal of existing Columns, Beams, Solid walls, Tiles, Red Cement Flooring, Plumbing and Electrical fixtures and Roughing-Ins, including handling, savaging, piling, and disposing off the cleared materials with all leads and lifts..
- 2 Materials obtained from the scope of demolition and removal of items inside the structure shall be properly turned over WMSU-Property Management Office (PMO) for assessment. Demolished materials assessed by PMO for discarding shall be disposed of by the Contractor.
- 3 Burning of demolished or any unwanted materials shall not be allowed.

III.C CONCRETE WORKS

- 1 Works under this section shall include the all reinforced concrete works as specified in the drawings
- 2 Materials for concrete shall be from approved source by the Engineer-In-Charge.
- 3 All concrete works shall be done in accordance with the standard specification for reinforced concrete.
- 4 Cement to be use shall be Portland cement or any brand in the market that passes ASTM Standard for Portland Cement.
- 5 Reinforced concrete- 3000 PSI @ 28-days. Concrete mix shall be subject to adjustment to attain the required strength or desired mix consistency, subject to approval of the Engineer-in-Charge.

- 6 Portland cement, Type 1
- 7 Manufactured or river-run Gravel G1 for structural concrete, ¾ "max properly graded
- 8 Coarse Sand for structural concrete
- 9 Water: Use potable water free from alkaline or deleterious substance that may affect the strength of concrete. Use of rain water will not be permitted.
- 10 All materials shall be free from clay, lumps or any deleterious object or matter that will impair the strength of concrete.
- 11 Mixing of concrete shall be in accordance with current industry standards or best
- 12 Slump of concrete shall not exceed 3 inches
- 13 Placement of concrete shall be in accordance to standard norms, when using portable concrete mixers.
- 14 Cure concrete sprinkling water and wetted continuously for 7-day period
- 15 Main Steel reinforcements shall be ASTM A615, deformed steel bars, Grade 60. Stirrups shall be ASTM Grade 40.
- 16 Supply, fabricate and install reinforcing steel as shown on Drawings. Placing of steel reinforcements shall be in accordance with current industry (local) code (or ACI-347)
- 17 Tie wires shall be Gauge 16
- 18 Provide concrete spacers or plastic spacers to meet the required concrete cover as shown on Drawings.
- 19 Steel reinforcements shall be free from mill scales, rusts, oils, contamination that will impair the bonding property to concrete.
- 20 Storage
 - 20.a All reinforcements shall be delivered to the site either in straight lengths or cut and bent.
 - 20.b No reinforcement shall be accepted in long lengths, which have been transported bent over double.
 - 20.c Any reinforcement, which is likely to remain in storage for a long period, shall be protected from the weather to avoid corrosion and pitting.
 - 20.d All reinforcement which has become corroded or pitted to an extent which, in the opinion of WMSU-PPES, will affect its properties, shall either be removed from site or may be tested for compliance at the contractor's expense.
 - 20.e Reinforcement shall be stored at least 150 mm above the ground on a clean area free of mud and dirt and sorted according to category, quality, and

III.D FORMS AND FALSEWORKS

D-I. Building Formworks and Falseworks (Scaffoldings)

- 1 All forms shall be designed by the Contractor for a safe construction activity and installed to dimensions shown on the Drawings.
- 2 All materials for formworks shall be durable and free from warps, dilapidation and shall produce a neat surface upon stripping.
- 3 All joints shall be free from mortar leak during placement of concrete
- 4 Stripping of forms shall only commence after the concrete has gained sufficient strength (min of 7 days) for major structural elements.
- 5 All Formworks shall be carefully removed without shock or disturbance to the concrete.
- 6 No formworks shall be removed until the concrete has attained sufficient strength to support its own weight and carry loads that maybe placed on it.
- 7 Side forms of beams and girders may be removed earlier than bottom forms, but the additional post or shoring must be placed under the beam or girder until it attains the sufficient strength.
- 8 The minimum periods, which shall elapse between completion of placing concrete and removal of forms, are given below:

	Minimum Time	Minimum % Design Strenght
Beams	14 Days	80%
Slabs	14 Days	70%
Columns	2 Days	70%
Sides of Beams	1Day	70%

III.E MASONRY AND PLASTERING WORKS

E-I. 100 mm and 150mmConcrete Hollow Block (CHB) Non Bearing Wall

- 1 All new CHB reinforcing bars must be properly anchored/attached to the reinforcing bars of the existing CHB walls. Adequate trimmer bars of size & length shall be provided within the new openings as indicated in drawings.
- 2 Deliver to site CHB units undamaged and free from breakage to edges or corners.

Concrete hollow block units shall be nominal 100 x 200 x 400 or 150 x 200 x 400 (as indicated in plan) stretcher blocks, all cells grouted with steel reinforcements shown on Drawings, (350min) psi when tested to applicable ASTM Standards and Industry norms.
- 3 Erect CHB units to plumb and true to alignment within acceptable tolerance.
- 4 Mix proportion for grouting and setting bed shall be 1: 4 (Cement: sand), maximum proportion. The Contractor shall make necessary adjustments to suit project requirements without extra cost to the Company.
- 5 Damaged unit masonry shall not be used
- 6 The Contractor shall provide and maintain extra units or numbers at site without extra cost to WMSU-Physical Plant and Engineering Services Office.
- 7 All masonry units and associated materials shall satisfy test requirements of ASTM C190, C140), non- load bearing test.
- 8

- 9 Install all CHB based on anchorage details as shown in drawings.
- 10 Interior walls shall be of Smooth Plain Cement Plaster finish unless otherwise specified in the plans.

E-II. Cement Plaster Finish

- 1 All surfaces to be rendered or cement plastered shall be clean from any loose material or contamination to provide strong bond between plaster and the surface.
- 2 Mix proportion shall not be less than 1 part of cement to 4 parts of screened sand Necessary adjustments shall be made to provide a strong and consistent mix, free from cracking due to rapid hydration of plaster mix.
- 3 Tampering of previously mix concrete will not be permitted.
- 4 All surfaces to receive paint finish shall be smooth whilst surfaces to receive tiles shall be rough to provide better adhesion or bond
- 5 Water shall be potable and clean.

III.F CARPENTRY AND JOINERY WORKS

F-I. Installation of Fiber Cement Ceiling and Metal Panel Ceiling on Metal Framing System as Indicated in the Drawings

- 1 Works herein shall include supply and installation of fiber cement ceiling board and Spandrels on metal furring ceiling joist. All materials to be used herein shall be free of cracks, dents, and other imperfections.
- 2 All material herein shall be free from cracks, dents and other imperfections
- 3 All ceiling works (unless otherwise specified in the detailed drawings) shall be made of 0.35mm thk x 4' 8' fiber cement board. Interior ceiling joints shall be sealed with plaster of paris and non woven paper tapos without forming any bubble and joints shall be finished flushed to make the ceiling in one piece
- 4 Both Fiber Cement Boards and Pre Painted Metal Spandrels shall be riveted to metal furring 3/4" x 2" x 5m, spaced at 0.60m both ways. Metal Furring ceiling joist shall have adequate hangers and carrying metal runners to stay in perfect line and level
- 5 Metal wall angles must be 1" x 1" x 5m. Metal furring ceiling joist shall have adequate hangers and carrying metal runners to stay in perfect line and level.
- 6 Prior to enclosure of ceiling, all dimensions, alignment of metal frames, material specifications, electrical and auxiliary rough ins, carrying metal runners shall be checked to comply with standard installation requirements.

F-III. Installation of Aluminum Composite Panels on Metal Framing System

1. Works herein shall include supply and installation of Aluminum Composite Panel on metal furring framing system. All materials to be used herein shall be free of cracks, dents, and other imperfections

2. Use 25mm x 3.5m Polyethylene Backer Rods Round Foam.
3. Use 4' x 8' x 6mm Thick Aluminum Composite Cladding.
4. Use 1" x 2" x 3mm thick or equivalent, Rectangular MS. Hollow Steel Frame.
5. Use Silicon Sealant.
6. Use 1/2" x 1/2" x 2mm thick Aluminum Angle Bar
7. Prior to the execution of works, the contractor shall submit sample of materials to be used to the WMSU-PPES for the University Architects Approval

F-III. Fabrication of Cabinets

- 1 This work item includes the provision and materials for the fabrication and installation of cabinets as specified in the drawings.
- 2 The contractor shall furnish all materials, tools, equipment and labor required for the completion and satisfactory performance of work in strict compliance with this Materials should clean and dry and free from rust, dents, cracks and other imperfections thereby impairing its strength, durability and appearance.
- 3 All exposed woodwork shall be smoothly dressed and well sandpapered. All joints specifications and approved plans/drawings.
- 4 All materials to be used under this work shall be of approved quality.
- 5 and connections shall be glued and properly nailed or screwed.
- 6 All works under this item shall be done with complete accessories as specified in the drawings.

III-G DOORS, WINDOWS, GLASS AND GLAZING, AND METAL RAILINGS

G-I. Fabrication, Supply and Installation of All Doors

- 1 This work item includes fabrication or supply and delivery of all Doors
- 2 Furnish all materials and labor, use of tools for the fabrication, delivery and installation of doors as shown on Drawings and herein specified.
- 3 Door frames, jambs, and panels shall be of standard size and thickness, unless otherwise specified in the plans/drawings.
- 4 All Solid Wooden Doors shall be kiln dried and treated. Lever type doors, Panel doors ready for installation with the provisions for locksets, door keys, and hinge completely operational.
- 5 The frames shall be plumb-set and squared in the frames working of walls or building partitions. Locks of doors shall be filled at the lock block, 1000 mm above the finished floor level.
- 6 Locks shall be installed in conformity with the templates and instructions supplied with the locksets.

- 7 The Contractor shall submit sample cross sections of door frames to be installed to the WMSU-Physical Plant Office (PPO) or to the University Architect (OUA) for approval. Fabricated doors and shutter shall be finished square, smoothly sanded, and free from damage or dent.
- 8 Deliver all doors and windows free from any damage. Store materials to avoid contamination form soil or unwanted materials.

G-II. Fabrication, Supply and Installation of All Windows

- 1 This work item includes fabrication or supply and delivery of all Windows.
- 2 Furnish all materials and labor, use of tools for the fabrication, delivery and installation of doors and windows as shown on Drawings and herein specified.
- 3 Windows and window frames shall conform to the size, designs and kinds of materials in the details of windows as indicated in the plans. Aluminum (analok) window frames, jambs, and panels shall be of standard size and thickness.
- 4 All windows shall use 3/16" thick clear glass in 2"x6" Aluminum (Analok) window jamb and frame unless otherwise specified in the drawings.
- 5 Deliver all windows free from any damage. Store materials to avoid contamination form soil or unwanted materials.

G-III. Installation of Railings

- 1 Railings shall conform to the size, designs and kind of materials in the details of ramp railings detail as indicated in the plans and drawings.

III.H TILE AND COUNTERTOP WORKS

H-I. Installation of Granite Floor Tiles and Ceramic Wall Tiles including Tile Adhesive

- 1 Works herein shall include supply and placing of granite floor tiles as indicated in the plans and drawings.
- 2 The surface where the tile is laid must be level, true to elevation, dry and free from oil and other sediments.
- 3 Allow at least 7 days curing of the scratch coat and setting bed.
- 4 All areas and rooms including stairs, shall be finished with 6mm thick x 600mm x 600m granite floor tiles and 6mm thick x 300mm x 600m ceramic wall tiles for the wall finishes of Toilets. Provide and Install granite tile with grooving in all stairs
- 5 The Tile grout color and aluminum nosing with rubber for the stair nosing shall be subject for the WMSU-Physical Plant and Engineering Services Director's approval.
- 6 The Contractor shall submit sample of tiles to the WMSU-Physical Plant and Engineering Services for approval of type, quality, and color.
- 7 All materials to be used herein shall be brand new and passing Philippine Standard material quality control requirements. It shall have cast, stamp, or indelible marks on it like manufacturer's trademarks or name, weight, type, or classes of products when so required.

- 8 Before the tiles are placed, the surfaced shall be brushed cleaned and wetted. The surface shall be tested for levelness or conformity of slope by flooding it with water.
- 9 Tiles shall be installed by applying heavy duty adhesive to backs of tile and firmly pressing tile into the floating coat to true plane and position.
- 10 Joints shall be maintained uniformly wide by aligning spacer lugs on tile edges. All joint lines shall be kept straight and true to profiles, plumbed and internal corners rounded using the appropriate trims.
- 11 Flooring shall be sloped to floor drain as shown in the plans.
- 12 All tile work finishing shall be adequately protected from damage during the progress of construction. Chipped, cracked, or broken tile shall not be used, and all defective work shall be replaced and repaired to the approval of the WMSU-Physical Plant and Engineering Services at Contractor's expense.

H-I. Installation of Granite Countertop as Indicated in the Drawings

1. Works herein shall include supply and placing of Granite Slab for Countertops as indicated in the plans and drawings.
2. All finishes of pantry countertop shall be of 1" thick granite slab
3. Granite Slab shall be installed by applying heavy duty adhesive to backs of tile and firmly pressing tile into the floating coat to true plane and position.
4. Prior to the execution of works, the contractor shall submit sample of materials to be used to the WMSU-PPES for the University Architects Approval
5. All tile work finishing shall be adequately protected from damage during the progress of construction. Chipped, cracked, or broken tile shall not be used, and all defective work shall be replaced and repaired to the approval of the WMSU-Physical Plant and Engineering Services at Contractor's expense.

III.I METAL WORKS

I.I. Roof Truss & Roof Framing including Bracing Support

- 1 Materials steel and metals for the Works shall meet the requirements of ASTM A36, hot-rolled shapes and plates.
- 2 All steels shall be primed with epoxy-based paint with -2- finish coats, grey colored paint. Substrate preparation shall meet the requirements of the applicable Clauses of the Steel Structures Painting Council, for industrial type of construction. All surfaces shall be free from mill scale, rusts, oils or any contaminants detrimental to adhesion of paint.
- 3 Welding works shall be in accordance with Structural Welding Code (American Welding Society-D1.1, latest edition). Welding electrodes shall be as indicated in drawings, minimum, meeting the requirements of AWS A.5. All welders shall meet the qualifications under the AWS Codes and standards.
- 4 All Works under this item shall be subject to verification by the University Engineer prior to commencement of fabrication. Contractor is to submit SHOP DRAWINGS for WMSU-PPES Director review prior to execution.

- 5 Roof framing Trusses/Rafters shall be constructed, erected, and properly anchored to the roof beams or columns as indicated in drawings

I.II. Roof Framing including Bracing Support

- 1 Works herein include supply, fabrication and installation of roof framing system as shown in the plans. Before assembling and installing, the Contractor shall submit sample of all roof framing member sections for approval of University Engineer.
- 2 All steel materials to be used herein shall be free of rust, dirt and oil. All materials to be used herein shall be brand new and passing Philippine Standard material quality control requirements. It shall have cast, stamp or indelible marks on it like manufacturer's trademarks or name, weight, type or classes of products when so required.
- 3 Welding works being done for rafters shall be verified by University Engineer for welding penetration and length requirements.
- 4 Steel purlins are then placed equidistantly as per plans and should have angle straps and sag rods to prevent lateral buckling. It should be placed properly to fit the length of the roofing sheets.
- 5 The top of the ridge line purlins should be at the same plane. All steel materials herein shall be painted with metal primer for rust protection. The Contractor shall provide temporary erection bracing and shoring, and make actual measurements in the field prior to fabrication and installation of roof framing system.

III.J ROOFING WORKS

J.I. Pre-Painted Roofing Pre Painted G.I. Sheet roofing (Rib Type - Long Span)

- 1 Works herein shall include supply and installation of 0.60mm thick pre-painted G.I sheet, (Long span, Rib Type) roofing sheets, roofing sheets and accessories as shown in the plans.
- 2 All roofing materials should be free from rust, dirt, and oil during time of installation. 2-1/2" Screws and 1/8 x 3/8 rivets shall be placed at top of corrugation and shall have gutter or silicon sealant application to prevent leakage.
- 3 Unnecessary holes made on the roofing materials shall be rejected.
- 4 Pre painted stainless steel box type gutter shall be bolted with at least 450 mm each way under the roofing sheets and shall be properly secured to the framework. Rivets alongside of the valley shall be fastened at every second corrugation.

J.II. Fiber Cement Fascia Board

- 1 Fiber cement board fascia flashing running parallel to sheet corrugation or at an angle thereto, shall lap at least 250 mm and the edge of flashing turned down at each corrugation. Fascia cover shall be 12" x 300mm.
- 2 All roofing accessories like flashing, valley gutters, ridge cap shall be bent mechanically for best result. All ends of sheets at junctions of pieces shall be hooked into each other and beaten flush to avoid leakage.

III.K PAINTING WORKS

- 1 Painting works shall be as indicated on Drawings and described in the Bill of Quantities. Includes substrate preparation, application of neutralizers, putty, sanding, cleaning, protection, etc. to provide a strong or durable paint coating, following manufacturer's written instructions and acceptable trade practices.
- 2 Provide materials that are suitable for the job and or type of construction.
- 3 Paint materials shall be of the brand specified herein or approved equal by the University Architect.
- 4 Examine substrate and conditions under which painting will be performed. Proceed with the work only when conditions are satisfactory.
- 5 Do not paint over dirt, rust, scale, grease, moisture, scuffed surfaces, or conditions otherwise detrimental to formation of a durable paint film.
- 6 Clean surfaces to be painted before applying paint or surface treatments. Remove oil and grease prior to mechanical cleaning. Program cleaning and painting so that contaminants from cleaning process will not fall into wet, newly-painted surfaces.
- 7 Perform preparation and cleaning procedures in accordance with paint manufacturer's instructions and as herein specified, for each particular substrate condition.

K.I. Paint on Steel

- 1 Structural Steel
 - a Apply one coat of Wash Primer (mix 4 parts by volume of DS Wash Primer base to 1 part of wash Primer Catalyst)
 - b Apply two coats of Zinc Chromate Yellow
 - c Apply two coats of Silver Aluminum Paint
- 2 Architectural Steel
 - a Apply one coat of Wash Primer (mix 4 parts by volume of DS Wash Primer base to 1 part of wash Primer Catalyst)
 - b Apply one coat of Zinc Chromate Yellow
 - c If necessary, apply Home Buddy Filler by using spatula
 - d Apply one coat of Zinc Chromate Yellow
 - e Apply two coats of Liquid Tile Topcoat Semi-Gloss

K.II. Paint of Masonry and Concrete Surfaces

- 1 Perimeter Concrete Facade
 - a Concrete, concrete masonry, rendered smooth
 - b One (1) coat of Acrylic Concrete Primer and Sealer by roller, let dry for 2 hours
 - c Putty surface imperfections, hairline cracks with Concrete Putty using putty knife.
 - d One (1) coat Acrylic Concrete Primer and Sealer by roller let dry for 2 hours
 - e Finish with two coats Latex Semi-Gloss by roller allow two hours' interval between coats.
- 2 Interior Walls
 - a Concrete, concrete masonry, rendered smooth
 - b One (1) coat of Acrylic Concrete Primer and Sealer by roller, let dry for 2 hours
 - c Putty surface imperfections, hairline cracks with Concrete Putty using putty knife.
 - d One (1) coat Acrylic Concrete Primer and Sealer by roller let dry for 2 hours
 - e Finish with two coats latex semi-gloss paint by roller allow two hours' interval between coats.

- 3 All fiber cement board ceiling surfaces shall be painted as follows;
 - a Apply one coat of Acrylic Concrete Primer Sealer by brush, roller or spray. Let it dry for 2 hours.
 - b Repair surface imperfections with Concrete Putty using putty knife let it dry for 2 hours and sand
 - c Apply one coat of Acrylic Concrete Primer Sealer by brush, roller or spray. Let it dry for 2 hours.
 - d Finish with two coats Premium Washable Paints by brush, roller or spray allow 2 hours between coats
 - e Reduction / Cleaning - Water

K.III. Paint on Wood Surface

- 1 Surfaces shall be clean and dry during paint/primer application.
- 2 No paint/primer shall be applied until the prepared surfaces have been inspected and approved for paint/primer application.
- 3 Surfaces of new wood shall be painted with 1 brush coat of exterior primer paint and two brush coats of exterior oil paint unless otherwise specified in section 7 of this specification.
- 4 Paints/primers shall be thoroughly mixed at the time of application.
- 5 Each paint and primer coat shall be applied in such a manner as to produce a coating film of uniform thickness with a finished surface free of runs, drops, ridges, laps, or excessive brush marks.
- 6 The minimum drying time between applications shall be as prescribed by the manufacturer of the paint/primer and not before the previous paint/primer application being thoroughly dry.
- 7 The surface of each dried coating shall be cleaned as necessary before application of the next coat.
- 8 The first coat of exterior oil paint shall be tinted off-color by the addition of 3 ounces of an appropriate tinting color per gallon of paint.

III.J ELECTRICAL WORKS

- 1 All works herein shall be done in accordance with the latest edition of the Philippine Electrical Code (PEC). Relatively the same, it should follow rules and regulations of the National Building Code enforced by the Building Official of the City of Zamboanga, and of the Local Electric Cooperative, the Zamboanga City Electric Cooperative (ZAMCELCO)
- 2 Motor Loads shall be provided with magnetic contactor coupled with overload relay as over-current -protection, and the setting shall be 125% of the motor full load current.
- 3 All non current carrying electrical materials such as motor frames, metal enclosures, pull boxes and panel shall be 20mm diameter electrical trade.
- 4 Electrical Wiring installation shall be done, in polyvinyl chloride conduits (PVC). Minimum Size for all conduits shall be 20mm diameter electrical trade.

5 All electrical wires shall be copper and thermoplastic insulated type THHN except for the main feeder conductors which is THN. The minimum size of wires for power lines shall be 3.5mm and 2.0mm for lighting with color coding as follows;

- a Line A RED
- b Line B.....BLUE
- c Line C.....YELLOW
- d NeutralYELLOW WITH GREEN STRIPES
- e Equipment groundings GREEN

6 All lamps fixtures shall be LED type and lamps shall be daylight white.

7 All convenience outlet shall be three (3) prong type, 2 gang, except for special purpose outlet for pullboxes must be 3 gang to address proper grounding.

8 The mounting height of all wiring devices shall be as follows:
Light switches 1400 mm
Convenience outlets 300 mm
Panel board 1800 mm
Special Purpose Outlets for pullboxes must be installed inside the pullbox

9 There shall be adequate and effective equipment grounding. Ground resistance should be no more than 5 ohms. If ground resistance is more than 5 ohms, additional ground rod shall be installed.

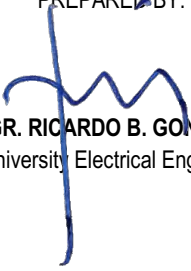
10 Conductors, Main Breaker, Feeders and Circuit Protection to be used shall be of quality type to ensure safety.

11 Grounding Electrode Conductor shall not be smaller than 80mm²/ copper9Cu) or 125mm²/Aluminum (Al).

10 All electrical works herein shall be done under the direct supervision of a duly registered Electrical Engineer (PEE or PE).

No Revisions in the design shall be done without the prior knowledge and approval of the WMSU-Physical Plant and Engineering Services Office, any revisions done without approval shall cause responsibility of the designer to cease as a whole.

PREPARED BY:



ENGR. RICARDO B. GONZALES
University Electrical Engineer

III.L PLUMBING WORKS

- 1 All plumbing works included herein shall be executed according to the requirements of the National Plumbing Code of the Philippines, and the Rules and Regulations of the Local Municipality (Zamboanga Water District).
- 2 Read the drawing in connection with other related drawing and specifications. The Physical Plant and Engineering Services director and the Master Plumber shall be notified immediately of any discrepancy found therein.
- 3 The contractor shall determine the actual location depth and invert discrepancy of all existing pipe and structures to conform with the proposed sanitary utilities.
- 4 The location of pipes can be transferred whenever required for proper execution of other trades or condition that such changes of locations meet the requirements.
- 5 All slopes for horizontal branches shall maintain 1 – ½% as minimum unless noted otherwise.
- 6 Unless otherwise indicated, all fixtures shall be vented.
- 7 Size of water supply pipes to fixtures shall be in accordance with the manufacturer's instructions.
- 8 Unless otherwise specified, all downspout shall be PVC.
- 9 Unless otherwise specified, all sewer and vent pipes shall be PVC pipes.
- 10 All floor drain shall be 4" Stainless steel in good quality.
- 11 All water supply line from main water line shall have individual control gate valve.
- 12 All sewer pipe must be taped to the existing septic vault.
- 13 Use 3 Ø PVC pipe S-1000 for ventilation.
- 14 Use 3 Ø PVC pipe S-1000 for sanitary.
- 15 Use ½" Ø PPR pipe PN-20 for water supply.
- 16 In every water closet, lavatory and sink must provide 3 Ø PVC S-1000 pipe for ventilation.

CONSTRUCTION OF SEPTIC TANK

- 1 All works herein shall be done in accordance with the latest edition of the Philippine Plumbing Code, rules and regulations of the National Building Code and shall comply with the requirements of the Local City Ordinances and issued Approved Plans.
- 2 All materials and fixtures to be used herein shall be brand new and passing Philippine Standard material quality control requirements
- 3 Septic tank shall not be installed below in any structures.
- 4 Tanks must be built water tight of concrete, (100mm Thick CHB with 25mm plaster and 100mm thick concrete slab cover) as specified in the drawings.
- 5 The bottom of the tank shall be made of 100mm thick concrete slab on 100mm thick gravel bedding.

- 6 The bottom of the tank should have 10% slope towards the manhole in the center to facilitate cleanout.
- 7 Septic tank must have 2 (two) leaching chambers and 1 (one) digestive chamber as indicated in the drawing.
- 8 Components are provided with 500mm x 500mm manholes and tight covers for maintenance and necessary repairs.
- 9 Inlets and outlets shall be of 4" Ø PVC pipe S-1000 and shall be submerged and arranged in such a way that neither sludge nor scum be unduly disturbed.
- 10 Inlets and outlets shall be arranged so as to deliver the sewage to the middle thirds of the tank dept. for instance, in tank 1.20m deep, the inlet and outlet shall be submerged 0.40m.
- 11 The vault shall be vented through the sanitary tees in the outlet and inlet having top ends open and screened to make the tank mosquito-proof.
- 12 Not less than 0.20m of air space should be left between the top of the sewage and under part of the tank cover.
- 13 Additional length of 1000mm shall be added to the vault for the for the filter (leaching well).

No Revisions in the design shall be done without the prior knowledge and approval of the designer and owner, any revisions done without approval shall cause responsibility of the designer to cease as a whole.

III.M MECHANICAL WORKS

M-I. Provision and Installation of Fire Protection Sprinkler System

- 1 This work item shall conform to the size, designs and kind of materials such as pipes and fittings, valves, pupes and sprinkler heads as indicated in the plans and drawings.
- 2 All materials and fixtures to be used herein shall be brand new and passing Philippine Standard material quality control requirements.
- 3 Type of Pumps shall be:

Item No	Description	Capacity	Driver
FP-1	Fire Pump, Horizontal Split Case Electric Driven, NFPA Standard, Non-UL/FM approved	240 GPM, 100 PSI	30 HP, 220 V, 3 ø, 60 Hz
JP-1	Jockey Pump, Horizontal Split Case Electric Driven, NFPA Standard, Non-UL/FM approved	40 GPM, 100 PSI	5.5 HP, 220 V, 3 ø, 60 Hz

- 4 All systems must be fully functional upon completion

M-II. Provision and Installation of 3 Storey Passenger Panoramic Elevator

- 1 This work item shall strictly conform to the size, designs and kind of materials such as Elevator Car, Car Finishes, Entrance and Hoistways as indicated in the plans and drawings.

- 2 Upon completion of the work, the Elevator must be tested and must be fully functional

- 3 All finishing works shall be adequately protected from damage during the progress of construction. Chipped, cracked, or broken element shall not be used, and all defective work shall be replaced and repaired to the approval of the WMSU-Physical Plant and Engineering Services at Contractor's expense.

III.N AUXILLIARY WORKS

- 1 Wiring shall be in a concealed conduit/trunking unless otherwise specified

- 2 The specialty contractor shall be responsible for the labeling of all equipment throughout

- 3 The overall resistance for the earthing system shall comply with the latest edition of the Philippine electrical and electronics code

- 4 The specialty contractor shall be responsible for the sealing of all cable/conduit penetration opening between floor slabs, and walls, etc with approved

- 5 The specialty contractor shall be responsible for the equipotential grounding /all metal parts completed to the nearest bonding electrical panel

- 6 All installation shall be in accordance with the latest edition of Philippine electrical/electronics code, EIA and BISC code. They shall be painted with a coat of anti-rust paint and two coats of semi-gloss teak paint of best quality to the approval of the consultant

- 7 All conduit layout and installation shall be identical in all rooms as much as possible.

- 8 Telecommunications outlet shall be Category 6 or otherwise stated

- 9 The contractor shall ensure that the power supplies for all equipment are adequately

- 10 All cable runs, either power, cable or signal shall be of continuous length and if splicing extension is necessary, all shall be done in either pull boxes, terminal box, or junction

N-I. Provision and Installation of Close Circuit Television (CCTV) System

- 1 The purpose of the schematic diagram is to provide a general concept and principle of the proposed CCTV surveillance system.

- 2 All materials and fixtures to be used herein shall be brand new and passing Philippine Standard material quality control requirements.

3 The contractor shall provide the materials and installation of CCTV surveillance system to include all wiring and accessories, devices, equipment software and video analytics as may deem necessary for a successful operation of the system.

4 Quantity of CAT6 conduit shall be

CONDUIT SIZE	20mm	25mm	32mm
#24 AWG CAT 6	4	6	9

5 CCTV camera exposed in weather condition must be in a weatherproof enclosure.

6 All CCTV cameras for indoor are fixed dome type and for outdoor fixed outdoor camera.

7 PB2 and PB4 are 4u-wall mounted server rack/data cabinet attached near ceiling.

N-II. Provision and Installation of Fire Detection and Alarm Systems (FDAS)

1 All fire detection and alarm system shall be done in accordance with the revised fire code of the Philippines.

2 The minimum size of metal conduit for fire detection and alarm system shall be 20mmØ IMC or RSC.

3 Activation of Smoke detectors, and manual pull stations shall initiate the following for the Fire Alarm Control Panel (FACP):

- a The activation of both audio and visual alarms
The LCD display shall indicate all applicable information
- b associated with the fire alarm condition including the zone.
- c Document all system activities and changes.

4 Provide additional power supply for notification circuit if the fire alarm notification circuit is insufficient.

5 Panel must be addressable FACP.

N-III. Provision and Installation of Telephone, Public Address System and LAN Network System

1 A pull box shall be placed in a conduit runs when cable pull would be more severe than that represented by combination of length of conduits.

2 Pull box shall be used at appropriate locations accessible to workmen

3 Provide a minimum of 900mm working space in front of either a pull box or splice box

4 MTTC shall be located above ground preferable on the ground floor accessible to the service provider technical personnel at 1.0m above finished floor level.

5 All cable runs for telephone must be continuous length using 1-4c cable

6 Telephone and LAN outlet shall be 0.3meters above floor finish unless otherwise indicated by the field conditions.

III.O AS-BUILT (RECORD) DRAWINGS AND RELATED DOCUMENTS

- 1 The Contractor shall maintain a neat and accurately marked set of As-Built Drawings which shall be provided to WMSU-Physical Plant and Engineering Services Office for review and approval prior to final acceptance of the Work.

- 2 The As-Built Drawings shall represent the Work as constructed and document changes to the Work shown on the Project Plans, and shall show the actual as-constructed conditions of installed or modified systems, equipment, and material.

- 3 The As-Built (Record) Drawings shall show, by field measured dimensions, the exact locations of all underground work, including all piping and components, and the final elevations and locations of all improvements constructed, modified or adjusted.

- 4 Record drawings shall be available for inspection by the agency at all times and shall be updated at least weekly with all Field or Site Instructions and other written directives, Contract Change Orders, and Contract adjustments shown thereon and initialed by the Agency. Progress payments

- 5 Unless otherwise specified in the Special Provisions, the Contractor shall submit two (2) sets of As-Built Drawings to WMSU-Physical Plant and Engineering Services Office at the final inspection. These As-Built Drawings shall include certification by the Contractor that the As-Built Drawings are a true representation of the Work as actually constructed.

- 6 The Work will not be formally accepted until the As-Built Drawings are provided to and approved by the to the WMSU-Physical Plant and Engineering Services Office. Final payment or a portion thereof may be withheld if final As-Built Drawings are not provided.

III.P

PERMITS AND CERTIFICATES

1. All works covered by this specification shall be complete and functional in all respects and shall comply with the rules, regulations and requirements of local authorities having jurisdiction over the installations and all other relevant statutory requirements.

2. The Contractor shall apply from all local authority necessary permits and certificates. These shall include but are not limited to building permit, occupancy permits and associated construction permits. The timing for the applications shall be such that, to the opinion of the WMSU-Physical Plant and Engineering Services Office, the overall work progress will not be affected.

3. Upon completion of the Works, the Contractor shall carry out all necessary tests on the various systems of the installations as required by agency or the local authorities, and shall apply for and obtain all certificates and approval from the relevant authorities for the work done and shall submit same to WMSU-Physical Plant and Engineering Services Office.

4. The Contractor shall arrange for local authorities' inspections and obtain the required approval and permits or certificates from the local authority at a time as directed by WMSU-Physical Plant and Engineering Services Office.

5. The Contractor is to note that the contracted works will not be considered as practically complete prior to the receipt of the approval of certificates.

APPROVED BY:



JAR. JOSEPH ANDREW L. SAHIAL
University Architect/
Director, Physical Plant and Engineering Services



Republic of the Philippines
WESTERN MINDANAO STATE UNIVERSITY
 Normal Rd., Baliwasan, Zamboanga City
PHYSICAL PLANT AND ENGINEERING SERVICE



WMSU-PPES-FR-008A.00
 Effective Date: 08-Sept-2021

CONTRACT ID: WMSU - PPES - 2023 - 01
 CONTRACT NAME: CONSTRUCTION OF TECHNOPRENEURSHIP DEVELOPMENT CENTER
 LOCATION: WMSU LOT A, NORMAL ROAD, BALIWASAN, ZAMBOANGA CITY
 PROJECT DURATION (C.D.): 375 CALENDAR DAYS

SUMMARY OF BILL OF QUANTITIES (BIDDER)

PART NO.	DESCRIPTION	TOTAL AMOUNT
A	General Requirements	
B	Earthworks	
D	Termicide	
E	Concrete Works	
F	Forms and Falsework	
G	Masonry and Plastering Works	
H	Carpentry Works	
I	Doors, Windows, Glass & Glazing, and Railings	
J	Tile and Countertop Works	
K	Metal Works	
L	Roofing Works	
M	Painting Works	
N	Plumbing Works	
O	Storm Drainage & Sewerage System	
P	Electrical Works	
Q	Mechanical Works	
R	Auxilliary Works	
S	Water Proofing Works	
Total Amount:		

 COMPANY NAME

 POSITION

 NAME OF THE REPRESENTATIVE



Republic of the Philippines
WESTERN MINDANAO STATE UNIVERSITY
 Normal Rd., Baliwasan, Zamboanga City
PHYSICAL PLANT AND ENGINEERING SERVICE



WMSU-PPES-FR-008.00
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BILL OF QUANTITIES (BIDDER)

Item No.: **A**

Description: **GENERAL REQUIREMENTS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
A.1.1	PERIMETER FENCE	l.s	1.00		
A.2	PROJECT BILLBOARD	set	2.00		
A.3	OCCUPATIONAL SAFETY AND HEALTH PROGRAM	days	375.00		
A.4	MOBILIZATION/DEMOBILIZATION	l.s	1.00		
Total for this Page:				(In Words):	
				(In Figure):	

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BILL OF QUANTITIES (BIDDER)

Item No.: **B**

Description: **DEMOLITION/EATHWORKS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
B.3	DEMOLITION/REMOVAL OF STRUCTURES AND OBSTRUCTIONS	l.s	1.00		
B.4.8	COLUMN FOOTING EXCAVATION WITH EQUIPMENT	cu.m	244.37		
B.4.9	FTB, WF, AND ZOCALO MANUAL EXCAVATION WITH SMALL TOOLS	cu.m	32.16		
B.4.14	BACKFILLING OF EXCAVATED FOUNDATION WITH SMALL TOOLS	cu.m	238.68		
B.4.15	SEPTIC TANK EXCAVATION WITH SMALL TOOLS	cu.m	14.49		
B.5.2	FILLING OF SELECTED BORROW MATERIALS INCULDING COMPACTION WITH EQUIPMENT	cu.m	141.98		
B.6.1	MANUAL FILLING OF GRAVEL FILLING MATERIALS INCLUDING COMPACTION WITH SMALL TOOLS	cu.m	9.89		
Total for this Page:				(In Words):	
				(In Figure):	

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WMSU-PPES-FR-008.00
 Effective Date: 08-Sept.-2021

CONTRACT ID: WMSU - PPO - 2022 - 03
 CONTRACT NAME: CONSTRUCTION OF THREE STOREY REGISTRAR BUILDING
 LOCATION: WMSU LOT A, NORMAL ROAD, BALIWASAN, ZAMBOANGA CITY
 PROJECT DURATION (C.D.): 300 DAYS

BILL OF QUANTITIES (BIDDER)

Item No.: **D**

Description: **TERMITE CONTROL WORKS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
D.1	TERMICIDE	sq.m	110.88		
Total for this Page:				(In Words):	
				(In Figure):	

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 PROJECT DURATION (C.D.): 375 CALENDAR DAYS

BILL OF QUANTITIES (BIDDER)

Item No.: **E**

Description: **CONCRETE WORKS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
E.3.1	REINFORCED CONCRETE COLUMN AND WALL FOOTING	cu.m	54.90		
E.3.2	REINFORCED CONCRETE FOR BEAMS, CANTILEVER BEAMS AND ROOF BEAMS	cu.m	72.26		
E.3.3	REINFORCED CONCRETE COLUMNS	cu.m	61.55		
E.3.5	REINFORCED CONCRETE SLAB-ON-FILL	cu.m	14.61		
E.3.6	REINFORCED CONCRETE SLAB ON STEEL DECKING	cu.m	66.57		
E.3.7	REINFORCED CONCRETE STAIR	cu.m	17.02		
E.3.8	REINFORCED CONCRETE PATHWAYS, PLATFORM, RAMPS AND STAIR ON GRADE	cu.m	10.08		
Total for this Page:				(In Words):	
				(In Figure):	

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BILL OF QUANTITIES (BIDDER)

Item No.: F

Description: **FORMS AND FALSEWORKS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
F.2	BUILDING FORMWORKS AND FALSEWORKS (SCAFFOLDINGS)	l.s	1.00		
Total for this Page:				(In Words):	
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BILL OF QUANTITIES (BIDDER)

Item No.: **G**

Description: **MASONRY AND PLASETERING WORKS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
G.1.1	100 mm CONCRETE HOLLOW BLOCK (CHB) - NON LOAD BEARING WALL	sq.m	728.54		
G.1.2	150 mm CONCRETE HOLLOW BLOCK (CHB) - NON-LOAD BEARING WALL	sq.m	65.99		
G.2	PLASTERING FINISH	sq.m	1911.91		
Total for this Page:			(In Words):		
			(In Figure):		

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BILL OF QUANTITIES (BIDDER)

Item No.: H

Description: **CARPENTRY AND JOINERY WORKS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
H.1.1	FIBER CEMENT CEILING AND PRE PAINTED METAL CEILING PANELING ON METAL FRAMING SYSTEM	sq.m	419.51		
H.1.8	METAL PANEL CEILING ON METAL FRAMING SYSTEM	l.s	1.00		
H.2	ALUMINUM COMPOSITE PANEL ON METAL FRAMING SYSTEM	sq.m	44.86		
H.3	CABINETS	sets	5.00		
Total for this Page:			(In Words):		
			(In Figure):		

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BILL OF QUANTITIES (BIDDER)

Item No.: I

Description: **DOORS, WINDOWS, GLASS AND RAILINGS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
I.1	DOORS	set	20.00		
I.2	WINDOWS	set	36.00		
I.4.6	METAL RAILING	l.s	1.00		
Total for this Page:				(In Words):	
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BILL OF QUANTITIES (BIDDER)

Item No.: J

Description: **TILE AND COUNTERTOP WORKS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
J.1	INSTALLATION OF GRANITE FLOOR TILES INCLUDING TILE ADHESIVE	sq.m	530.18		
J.2	INSTALLATION OF CERAMIC WALL TILES INCLUDING TILE ADHESIVE	sq.m	54.99		
J.3.1	INSTALLATION OF GRANITE COUNTERTOPS	l.s	1.00		
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 Normal Rd., Baliwasan, Zamboanga City
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WMSU-PPES-FR-008.00
 Effective Date: 08-Sept.-2021

CONTRACT ID: WMSU - PPES - 2023 - 01
 CONTRACT NAME: CONSTRUCTION OF TECHNOPRENEURSHIP DEVELOPMENT CENTER
 LOCATION: WMSU LOT A, NORMAL ROAD, BALIWASAN, ZAMBOANGA CITY
 PROJECT DURATION (C.D.): 375 CALENDAR DAYS

BILL OF QUANTITIES (BIDDER)

Item No.: **K**

Description: **METAL WORKS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
K.1	METAL GRILLES	set	15.00		
K.4	ROOF TRUSS	set	3.00		
K.5	ROOF FRAMING INCLUDING BRACING SUPPORT	set	3.00		
K.8	METAL DECK PANEL	l.m	414.52		
K.9	FIRE EXIT STAIR	l.s	1.00		
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Item No.: L

Description: **ROOFING WORKS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
L.6	PRE PAINTED G.I. SHEET (RIB TYPE-LONG SPAN)	sq.m	77.14		
L.11	FIBER CEMENT FASCIA BOARD	l.s	1.00		
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Item No.: **M**

Description: **PAINTING WORKS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
M.1	PAINT ON METAL SURFACE	sq.m	16.00		
M.2	PAINT ON CONCRETE/MASONRY SURFACE AND FIBER CEMENT CEILING	sq.m	2331.42		
M.3	PAIN ON WOOD SURFACE	sq.m	115.20		
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Item No.: N

Description: **PLUMBING WORKS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
N.1	WATER SUPPLY SYSTEMS INCLUDING FITTINGS	sq.m	456.00		
N.2	SANITARY LINE SYSTEMS INCLUDING FITTINGS	l.s	456.00		
N.3	PLUMBING FIXTURES	set	12.00		
N.7	WATER TANK AND WATER PUMP WITH COMPLETE ACCESSORIES	l.s	1.00		
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BILL OF QUANTITIES (BIDDER)

Item No.: **0**

Description:

**STORM DRAINAGE AND
 SEWERAGE SYSTEM, SHORING,
 AND SLOPE PROTECTION
 STRUCTURES**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
O.1	G.I. SHEET GUTTER	l.s	1.00		
O.1.4	STORM DRAINAGE AND DOWNSPOUT, PIPES AND FITTINGS PVC (S-1000)	l.s	1.00		
O.2.10	SEPTIC TANK - CONCRETE/CHB	l.s	1.00		
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Item No.: **P**

Description: **ELECTRICAL WORKS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
P.1	CONDUITS, BOXES AND FITTINGS	l.s	1.00		
P.2	WIRES AND WIRING DEVICES	l.s	1.00		
P.3	LIGHTING/POWER FIXTURES (LIGHTS, SWITCHES AND OUTLETS)	l.s	1.00		
P.4	PANEL BOARD INCLUDING CIRCUIT BREAKER (MAIN PANEL BOARD)	l.s	1.00		
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Item No.: **Q**

Description: **MECHANICAL WORKS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
Q.1	FIRE PROTECTION SPRINKLER SYSTEM	sq.m	538.56		
Q.4	3 STOREY, PASSENGER PANORAMIC ELEVATOR	l.s	1.00		
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Item No.: **R**

Description: **AUXILLIARY WOKRS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
R.1	FIRE PROTECTION AND ALARM SYSTEM	units	46.00		
R.2	TELEPHONE AND PUBLIC ADDRESS SYSTEM/LAN NETWORK SYSTEM	units	17.00		
R.3	CLOSE CIRCUIT TELEVISION (CCTV) SYSTEM	units	43.00		
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BILL OF QUANTITIES (BIDDER)

Item No.: **S**

Description: **WATER PROOFING WORKS**

ITEM NO.	DESCRIPTION	UNIT	QTY.	UNIT PRICE	AMOUNT
S.1	CEMENTITIOUS WATERPROOFING	sq.m	128.10		
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