

## TERMS OF REFERENCE

Project: Design and Build of SURGERY "B" Building Phase III (Ortho/Neuro Surgery) incld. Completion of Ground Floor Wing 2  
 Client: Batangas Medical Center  
 Project Location: Batangas City  
 Approved Budget for the Contract: Php 77,000,000.00  
 Contract Duration: 12 Months

### I. Introduction

Having received a budget from the National Government under the BatMC Health Facility Enhancement Program (HFEP) for the purpose of upgrading and developing government hospitals and other health Facilities, a Three (3) Storey-Ortho/Neuro Surgery Building shall be constructed. Construction of Phase 1 and 2 were completed last December 2017 which includes Female Wards and Seven (7) Operating Rooms.

### II. Scope Overview

The Scope of Work includes but is not limited to the Design and Build of the Ortho/Neuro Surgery Building which consist of Charity Wards and Central Supply Room for the Ground Floor, Operating Rooms for the Second Floor and Private Rooms and Offices for the Third Floor.

### III. Duration

The Project duration is for a period of 12 months including Testing and commissioning.

### IV. Scope of Works

The scope of works shall include but not limited to the following:

Item No.	Scope of Works
	<b><u>DESIGN PHASE (1 month)</u></b>
1	Detailed Architectural & Engineering Design
2	Soil Boring Test including Report






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<b><u>CONSTRUCTION PHASE (11 months)</u></b>	
3	General Requirements (Mobilization/Demobilization, Bonds & Insurances, Materials Testing, Building Permit Fees and Processing, Construction Safety and Health Program, Temp Facilities incld. Water & Electricity)
4	Demolition of Existing Structures including removal and transfer of existing electrical, waterlines and sewerlines and cutting of trees including tree cutting permit (If Any)
5	Layout & Staking
6	Excavation and Disposal of Debris
7	Backfilling & Compaction
8	Soil Poisoning
9	Concrete Works

10	Masonry Works
11	Reinforcements
12	Formworks & Scaffoldings
13	Plastering Works
14	Ceiling Works
15	Tiling Works
16	Roofing and Trusses
17	Doors, Windows & Glass Partitions
18	Carpentry Works (Cabinets and Shelves)
19	Painting Works
20	Plumbing, Sanitary & Drainage including pumps and Water Tanks
21	Electrical, Auxiliary & IT Provisions
22	Nurse Call System
23	Paging, Telephone and LAN, Intercom, Cable TV and CCTV System
24	Electrification including Feederline from Power Source
25	Fire Sprinkler System

26	Fire Detection and Alarm System
27	Ventilation System with Ducting (Positive 10 Pascal Pressure for OR Theatres)
28	Medical Gas System incld accessories and Alarm Panel(Oxygen,Vacuum, Compressed Air)
29	Negative Pressure System
30	Room & Building Signages
31	Airconditioning System for Rooms & Offices
32	Airconditioning System for OR Theatres
33	Elevator Shaft
34	CCTV system

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35	Bed Elevator Unit (Designed for 4 Storey)	
36	Scrub Sink for Sub-Sterile Rooms	
37	Scrub Sink for Scrub-Up Area	
38	Lead Shielding to all O.R. Theatres	
39	Testing & Commissioning	
40	Hand-over, Completion and As-built Drawings	

**V. CONSTRUCTION**

The Contractor shall carry out all the Construction works including the following but not limited to:

Mobilization shall include all activities and associated costs for transportation of Contractor's personnel, equipment, and operating supplies to the site; establishment of temporary field offices, and other necessary general facilities for the Contractor's operations at the site; premiums paid for performance and payment bonds, including coinsurance and re-insurance agreements as applicable;

Demobilization shall include all activities and costs for transportation of personnel, equipment, and supplies not required or included in the contract from the site; including the disassembly, removal and site cleanup of temporary offices and other facilities assembled on the site specifically for this contract;

The Contractor shall be responsible for site preparation and installation of temporary fencing to secure work area, as well as necessary gates and access control system to the satisfaction of BatMC.

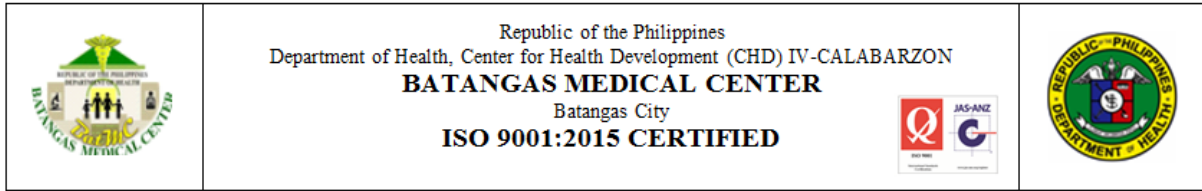
Construction safety and Health program includes provision of safety gadgets (belt, goggles, hard hat, working uniform and safety shoes) for all workers on the hard hat area;

The Contractor shall make adequate site survey, verification and setting outs;

Monthly accomplishment report shall be submitted to BatMC complete with pictures of on-going project;

Two (2) Project billboards shall be strategically placed within the site vicinity;

The construction of temporary facilities; Removal of all site existing structures & other obstructions within the area where the structure will be erected including transfer of existing electrical, waterlines and sewerlines and other utilities.



All demolished materials and debris shall be removed from site, all other reusable materials shall be turned over to BatMC;

.All earth works including but not limited to excavation, grading, hauling, backfilling and compaction to the required grades and levels as shown on the drawings;

Erection of forms and scaffoldings;

All concrete works shall be done in accordance with the standard specifications for plain and reinforced concrete as adopted by the Government. Cement to be used shall be Portland cement or any other equivalent brands more readily available in the locality;

Concrete works include the pouring of ready-mix concrete mixture (Class A, 4,000 psi, 28 days, 11 bags) for foundations, columns, beams, slabs, gutters and other reinforced concrete structures of the facility to be approved by BatMC;

Concrete mix and steel reinforcement shall be approved by the Engineer-In-Charge of BatMC;

Masonry works include the laying of Concrete Hollow Blocks of Non load bearing type with even texture and well-defined edges, with a minimum compressive strength of 350 psi;

Use 5" Concrete Hollow Blocks for all interior and exterior walls as specified on the approved plans and drawings, masonry walls shall be provided with 10mm diameter reinforcing steel bars as specified on details;

Masonry wall finishes shall be smooth plaster finish;

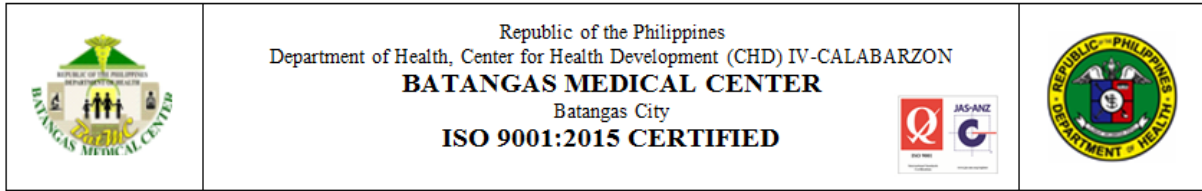
All concrete hollow blocks shall be extended unless otherwise specified and anchored up to the bottom of the slab, beams and columns;

All exposed Roof Deck shall be waterproofed completely.

The Contractor shall provide all doors, door jamb, windows and other materials needed as specified in the drawing plans and specification; All Doors & Jambs at wet areas shall be made of **aluminum** to prevent rusting and decay. Doors at Substerile rooms shall be double swing.

Carpentry works include installation of cabinets and shelves as per plan details;

Tile works on all floors , granite slab on sink counter top and include the provision of all necessary fixtures required by the project to be approved by the BatMC or authorized representative architect/engineer;



The Contractor shall furnish all materials, labor and equipment necessary for the installation of all plumbing fixtures and accessories;

Use of PPR pipes and fittings of approved brand and quality for water lines;

The drawings are not intended to show every pipes, fittings, valves, floor drains and appliances. All such item whether specifically mentioned or not, or indicated in the drawing shall be finished and installed if necessary to complete the system in accordance with the satisfaction of the Owner, Architect, and the Engineer-in-Charge;

Use High Grade PVC pipes (Neltex or approved equivalent) for sanitary and drainage lines;

All Electrical works shall provide all materials and equipment and perform all the work necessary for the complete execution of the electrical systems shown on the electrical drawings with reference to the general construction drawings as herein specified, or both except as otherwise excluding the generality of the foregoing, shall include but not limited to the following principal items of work;

Supply and installation of complete electrical and auxiliary work including panel boards and Feederline from the Power Supply to the Building;

Complete testing and commissioning of all electrical lighting, power and auxiliary equipment systems

Painting of interior & exterior walls, ceiling, stairs, railings, pipelines, doors, window grills and cabinet.

All Toilets shall have PWD Grabrails;

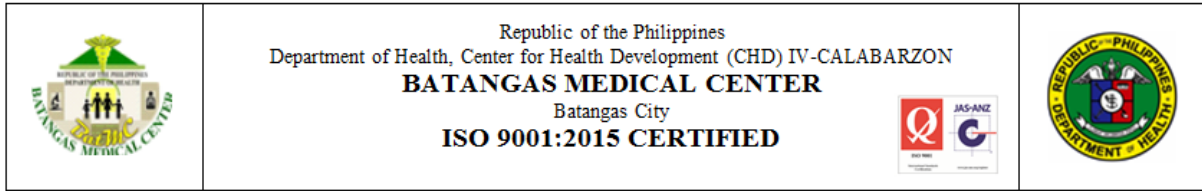
Hauling of waste and demolished materials and includes cleaning of all the excess and unnecessary materials;

Service instructions and training to the Owner's operation staff,

## **VI. CONTRACTOR'S SCHEDULE & PROGRESS REPORTING**

### **Progress Reporting.**

Throughout the Contract duration, the Contractor shall be responsible for taking detailed and accurate measurements of the actual progress of all aspects of the works.



**Monthly Progress Report.**

The Contractor shall maintain a Master Project Schedule to summarize the status of the work; work in progress and the percentage completed. This summary report shall be updated and issued at the end of each month.

**Meetings.**

Contractor Key Personnel shall meet with BatMC representative upon request of BatMC to discuss matters related to the project. Contractor shall arrange to record the minutes of meeting and submit for BatMC approval.

**Kick Off Meeting.**

Immediately after the Notice to Proceed, a Kick off meeting shall be held between BatMC and Contractor. The initial Kick off meeting and recorded Minutes shall form the basis of the Project action plan and set such requirements as Safety and Constructability Reviews.

**Minimum Mobilization of Key Personnel**

**Project Manager:**

Full time from Contract award up to completion of Works, to be mobilized on site during the construction phase;

**Site/Construction Engineer:**

Full time from initiation of site mobilization activities up to provisional acceptance of the works

**Testing and Commissioning Works**

This shall be established for the purpose of recording all discrepancies, damaged or missing materials, malfunctions, missing documents and any deviation from the design drawings and specifications or normal operating conditions. All punch list items must be cleared from the system list prior to project turn over.

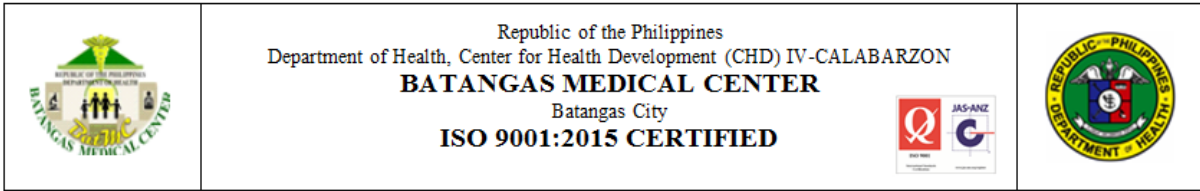
**VII. CONTRACTOR’S UTILITIES CONSUMPTION:**

The Contractor shall pay their electric and water consumption bills. Sub meters shall be installed at the expense of the Contractor to determine their actual consumption.

**VIII. Eligibility Requirements**

**Basic**

1. The eligibility requirements for Design and Build Scheme shall comply with the applicable provisions of Sections 23 – 24 of IRR of RA 9184.



2. A modified set of requirements integrating eligibility documents and criteria for infrastructure projects and consulting services shall be adopted in accordance with Annex G- Guidelines for the Procurement and Implementation of Contracts for Design and Build Infrastructure Projects, Annex 'G' of IRR of RA 9184

3. The Design & Build Contractor must have completed similar projects in the amount of at least fifty percent (50%) of the ABC in the last Three (3) years, and must have the network and resources in place preferably per region, to mobilize the contemplated nationwide Design and Build Services.

2. For the **Design Phase** of the contract, the Bidder is required to hire the minimum number of people as shown below. However, should the Bidder opine that the required number would be insufficient to complete the works/services within the specified time frame, the Bidder can hire additional staff which method deserves to be detailed or explained in the Bidder's Technical Proposal. Likewise, the Bidder shall renumerate this additional staff all within the Bidder's Financial Proposal.

a. Project Coordinator(s)

- i. Licensed Architect or Engineer
- ii. At least 10 years experience in overall project management
- iii. Superb oral and written communication skills, organization skills and excellent administrative abilities.

b. Architect

- i. Licensed Architect
- ii. Preferably at least 5 years experience in hospital and hospitalrelated projects.
- iii. Proficient in AutoCAD software.

c. Civil/Structural Engineer

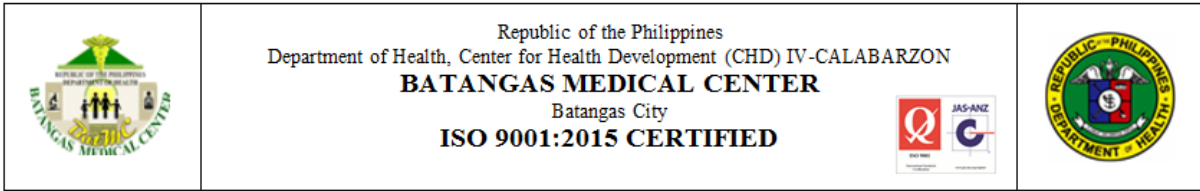
- i. Licensed Civil Engineer
- ii. Preferably at least 5 years experience in hospital and hospitalrelated projects
- iii. Proficient in AutoCAD, STAAD/ ETABS softwares

d. Electrical Engineer

- i. Licensed Electrical Engineer preferably Professional Electrical Engineer
- ii. Preferably at least 5 years experience in hospital and hospital related projects
- iii. Proficient in AutoCAD software

e. Mechanical Engineer

- i. Licensed Mechanical Engineer preferably Professional Mechanical Engineer
- ii. Preferably at least 5 years experience in hospital and hospital related projects
- iii. Proficient in AutoCAD software



- f. Sanitary Engineer
  - i. Licensed Sanitary Engineer
  - ii. Preferably at least 5 years experience in hospital and hospital related projects
  
- g. CADD Operator
  - i. At least Bachelor's Degree in Architecture or Engineering
  - ii. Proficient in AutoCAD software
- h. Others as may be required for the Project.

For the **Construction phase** of the contract, list of contractor's and/or joint venture contractor's key personnel to be assigned to the contract to be bid, with their complete qualification and experience data, shown in matrix with CV including copy of updated licenses or proof of renewal of their licenses, if expired. The list must contain the name, educational attainment, training, professional license and work experience of personnel.

1. Project Manager
  - a. Architect or Civil Engineer with min. 10 years experience as Project Manager
  - b. Experience in new vertical construction/medium rise building construction.
  
2. Project Engineer
  - a. Architect or Civil Engineer with min. 5 years experience as Project Engineer.
  - b. Experience in new vertical construction/medium rise building construction
  
3. Engineers to be assigned to Project
  - a. Structural Engineer - minimum 5 years in Practice
  - b. Sanitary Engineer - minimum of 5 years in practice
  - c. Professional Electrical Engineer – minimum 5 years in practice
  
  - d. Professional Mechanical and Fire Protection Engineer – minimum 5 years in practice.
  - e. Safety Officer- at least 5 years experience as safety officer
  - f. Materials Engineer - at least five (5) years licensed engineer
  
4. Foreman
  
5. Administrative Support

- IX. Technical Bid Submission Drawing Requirements
  1. One Original Reproducible copy drawn at a paper size 20x30 and 8 copies blueprint, duly signed and sealed.
  2. 3-Sets Autocad File Drawing Saved in CD





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### 3. Drawing Requirements

#### A. Architectural

1. Perspective, Site Development, Vicinity Map/ Location Plan, Table of Contents
2. Floor Plans
3. Four (4) Elevations
4. Two (2) Sections
5. Roof Plan showing Downspouts, including gutter details, etc.
6. Reflected Ceiling Plans
7. Details of Stairs and accessible ramps (with details of risers, treads, railings, etc.) in form of plans and elevation/sections
8. Details of Toilet in forms of plans and elevations/sections
9. Details of Specialized Design Features (Cabinets, etc)
10. Typical Bay Section
11. Details of Special Rooms
12. Schedule of Doors, Gates and Emergency Exits including specifications for materials and hardware
13. Schedule of Windows including specifications for materials and hardware
14. Schedule of Finishes (Floor, Wall, Ceiling)

#### B. Architectural Interiors

1. Floor Finish Layout
2. Furniture Layout
3. Interior Perspectives

#### C. Structural

1. General Notes and Construction Standards
2. Site Development Plan
3. Foundation Plan
4. Floor Framing Plan
5. Roof Framing Plan
6. Schedule and Detail of Footings and Columns
7. Schedule and Details of Beams and Floor Slabs
8. Detail of Trusses
9. Details of Stairs, Ramps and Fire Exits
10. Elevator Shaft Details

#### D. Electrical

1. General Notes and Legend
2. Location and Site Plan
3. Lighting Layout
4. Power Layout
5. Auxiliary System Layout
6. Nurse Call System
7. Telephone Layout



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8. Paging System Layout
9. Lan System Layout
10. Telephone Layout
11. Paging System Layout
12. LAN System Layout
13. Fire Alarm System Layout
14. Security System Layout (CCTV)
15. Intercom Layout
16. Cable Antenna Layout
17. ACU Plan
18. Schedule and Detail of Loads
19. Riser Diagram
20. Other Details

E. Plumbing, Sanitary and Drainage

1. General Notes and Legend
2. Location and Site Plan
3. Storm Drainage Layout, including Roof Plan
4. Waterline Layout
5. Sewerline Layout
6. Isometric Layout showing storm drainage, waterline and sewerline
7. Details of connections, catch basins and downspouts

F. Mechanical

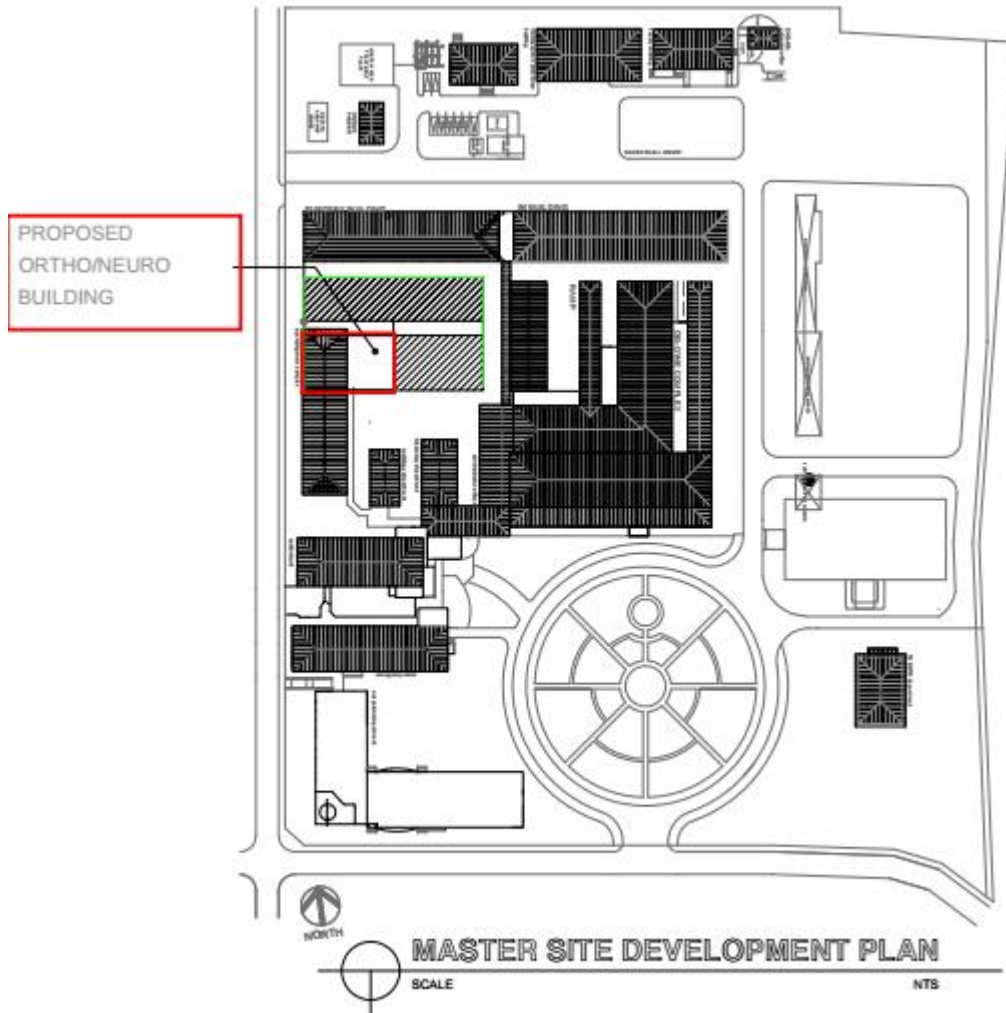
1. General Notes and Legend, Site Development Plan, Location Plans
2. Ventilation and ACU Layout and Details
3. Medical Gas Pipeline Layout and Details
4. Airconditioning System and Details
5. Fire Suppression Design Layout and Details
6. Details of Water Tank and Flow Diagram
7. Details of Fire Detection and Alarm System
8. Details of Elevator
9. Details of Other Machinery/ Equipment and Installation



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X. Master Site Development Plan



XI. Schematic Floor Plan  
(As attached)