



**CAMPUS PLANNING, DEVELOPMENT & MAINTENANCE OFFICE**  
**UNIVERSITY OF THE PHILIPPINES MANILA**

*The Health Sciences Center*  
P. Faura Street, Ermita, Manila Tel. No. 525-2233 Telefax No. 526-8420



**PROJECT TITLE :** **EXPANSION OF NEWBORN SCREENING CENTER**  
National Institute of Health – UP Ayala Technohub  
University of the Philippines Manila

**SUBJECT :** **SCOPE OF WORKS AND SPECIFICATIONS**

**Division 1 - General**

**Section 01000 General Requirements**

1. The Contractor shall furnish all materials, equipment, tools, apparatus, appliances, accessories, transportation, labor and supervision required for the complete construction of the subject project, as shown on the drawings and called for in these specifications, ready for use.
2. All Contractors submitting proposal for this project shall first examine the site. All proposals shall take into consideration all such conditions that may affect the work under this contract. The specifications and plans shall form part as one. Anything mentioned on plans and not mentioned on the scope of work and specifications and vice versa shall be properly consulted to the CPDMO Project Architect/Engineer for clarification. Any work or materials not in accordance with the drawings or specifications shall be replaced with new at the Contractor's expense.
3. The Contractor shall coordinate his work with all parties to ensure proper phasing or schedule of works. The Contractor shall engage under him, a registered Engineer or Architect to supervise his work. He shall remain at all times in the construction site.
4. A logbook shall be available at the site. It shall contain the daily activities in the site, including weather condition, delivery, manpower and other matter pertaining to the condition of the project. It will also serve as data for Contractor and the Project Inspector.
5. Identification Card of construction workers and engineer/representative shall be supplied by CPDMO with corresponding fees; it should be worn at all times while inside the building/campus premises. Those without IDs shall not be allowed to enter the premises for security purposes.
6. No alteration or additional work that will result in an additive or deductive cost change from the Contract shall be allowed without the approval of the chancellor.
7. Complete specifications with product sample shall be submitted by the contractor to CPDMO and end-user for evaluation. Inspection of the Project Architect/Engineer in-charge shall be required prior to installation of any item/material on the construction.
8. Regular coordination meeting shall be conducted with CPDMO, Contractor and End-user for proper project monitoring.
9. Existing condition of the work site shall be documented by the contractor and photos shall be taken before commence of work to ensure such status. Any damage on the areas due to the contractor's on-going work shall be refurbished at his expense.

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Leonora Pertierra  
CPDMO, UP Manila  
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10. The Contractor shall provide a complete copy of "As built plans" of the project/unit concerned which shall include all the civil, architectural, plumbing, electrical and other related layouts in 20" x 30" original sheets. It should be properly drawn indicating all the specifications, layouts, tables and necessary data. An initial layout should be submitted in a B4 sheet for checking and approval of Project Architect/Engineer. Final "As built plans" shall be submitted with soft and hard copies.
11. The Contractor shall promptly remove from the premises all rubbish, trash, debris, and all superfluous building materials weekly. After the completion of all works, restore all areas that were damaged as affected by the construction works and leave the site clean to the satisfaction of the Project Inspector or his representative and End-user.
12. All materials removed from the unit shall be properly documented prior to turn-over to the End-user for proper safe keeping.

#### **Section 01510 Temporary Facilities / Safety Signage**

- Provide temporary enclosure/canvass on all areas for building protection. Such coverings shall be adequate enough to cover all the building facilities throughout the span of the project.
- Charges for the restoration or replacement of any damage facility, equipment, material and the like shall be made on the Contractor due to his negligence in providing suitable temporary covering.
- Provide the appropriate scaffoldings, board ups, safety nets and related items to ensure proper installation of all framing system and protection on the area, at the expense of the Contractor as its basic equipment.

#### **Division 2 – Site Construction**

##### **Section 02200 Site Preparation**

###### ***Mobilization / Demobilization***

- This work includes mobilization process, provision for warning signs, including barricades, temporary facilities, temporary fences, warning lights and similar safeguards shall be provided by the Contractor as they are required for protection of his manpower and others during the construction life of this project.
- Demobilization procedure shall include clearing of the affected areas from all rubbish, trash, debris, and all superfluous building materials and restore all areas that were damaged as affected by the works and leave the site clean to the satisfaction of the Project Inspector or his representative and End-user.

##### **Section 02200 Site Demolition**

###### ***Mobilization / Demobilization***

- This work include demolition/dismantling of all existing structures not necessary on the new features of the rooms but shall be coordinated properly with the Project Architect to ensure the effect and safety of such demolition/dismantling with the adjacent and connecting structures.
- Restoration and rehabilitation shall be done according for the improvement of the structures.

### **Section 02230 Site Clearing**

- Clear the area from all obstructions or as affected by the construction works, except those structures indicated on the drawings or designated by the Project Architect/Engineer to be left standing. It shall be properly protected from incidental damage due to construction works by the erection of suitable barriers upon approval of the Project Architect/Engineer.

### **Section 02290 Site Monitoring**

- Site monitoring shall be a must to the contractor for the effective implementation of the project. Any discrepancies on plans and actual site conditions shall be properly coordinated with the Project Architect/Engineer concerned for verification.
- Regular coordination meeting shall be done between the contractor or its representative and the Project Architect/Engineer concerned at CPDMO.

### **Section 02500 Utility Services**

#### ***Utility Service/Consumption***

- Provision of electric and water meter shall be included in the quotation to be charged to the contractor's overhead. All utility consumption shall be provided with meters to limit the usage of such during working period. Payments of bills shall be made thru the Cashiers Office after the renovation period presenting the statement of account issued by Accounting upon recommendation of the Chief of CPDMO.

#### ***Workmanship and Materials***

- All works shall be done in accordance with the requirements of the latest edition of the Philippine Electrical Code and National Safety Code. Nothing contained in these specifications or shown on the plan shall conflict with the requirements of these Codes, any discrepancies should be consulted to the Project Inspector / Electrical Engineer.
- All materials and equipment to be used and installed hereunder shall be of the approved type bearing the stamp or approval of the proper authorities concerned. Locally made or constructed materials shall first be approved before installation.
- All works shall be done in workmanlike manner and should present a neat and mechanical appearance when completed.

#### ***Plans***

- The accompanying drawings shall indicate the general arrangement of the equipments, outlets and other works. When it is necessary to deviate from the arrangement indicated on plans in order to meet the structural conditions, such deviation shall be made at the expense of the Contractor and upon approval from the Project Inspector / Electrical Engineer.
- The outlets and circuit breakers shown on the plan are diagrammatic and approximately correct as to location. Minor changes shall be made through the Contractor at his own expense. The exact location of all outlets and switches shall be determined by the Project Inspector/Electrical Engineer and the same shall be located accordingly. The Contractor shall be responsible for the accurate location of all outlets with respect to doors, partitions, water pipes, cabinets and other facilities.

### **Division 15 – Mechanical**

Supply and installation of brand new 3.0TR ceiling cassette inverter type including others works needed like coring and waterproofing/and application of sealant to the cored area with fire retardant sealant.

## **Division 16 - Electrical**

### **Workmanship and Materials**

- All works shall be done in accordance with the requirements of the latest edition of the Philippine Electrical Code and National Safety Code. Nothing contained in these specifications or shown on the plan shall conflict with the requirements of these Codes, any discrepancies should be consulted to the Project Inspector / Electrical Engineer.
- All materials and equipment to be used and installed hereunder shall be of the approved type bearing the stamp or approval of the proper authorities concerned. Locally made or constructed materials shall first be approved before installation.
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## **16050 Basic Electrical Materials and Methods**

### **Conduit System**

- IMC Conduit pipes is primarily required for this work. Conduit runs shall be well supported especially on ceiling and slab, concrete encased on soil. All conduits placed on walls and partition shall be embedded, exposed layout will not be allowed. Conduit ends shall be provided with an end bell or adapter with locknut and bushing. Conduit shall enter knockouts squarely. Locknuts and bushing shall be used at termination of conduits in outlets, pull or junction boxes, panels and cabinets. Locknuts shall be screwed tight. Bends and offsets shall be avoided if possible, but when necessary it shall be made with an approved Field bend or pipe / conduit bending machine. The use of pipe tee or vice bending conduits will not be permitted.

### **Restrictions**

- Supply and installation of all material not shown in the drawing nor mentioned in this specification but necessary for the completion of the construction works shall be included. Coordination with CPDMO and Project Inspector should be done for proper installation of all wiring systems.

## **16070 Hangers and Supports**

### **Hangers and Support**

- All electrical pipes and accessories shall be using appropriate hangers and support follow existing features. Exposed layout on walls and partition inside offices shall not be allowed. Chipping works required.

## **16080 Testing**

### **Testing of system**

- Complete testing of the system involved in operation and provision of all system apparatus for making test and guarantee for a period of one (1) year after

acceptance of the project and shall agree to repair and make good at no additional cost to the end user.

#### **16090 Restoration and Repair**

##### Restoration Works

- All the necessary restoration works in all affected areas in the implementation of the project shall be the Contractors liability.

#### **16120 Conductors and Cables**

- Wires and cable for lights and power shall be type THHN/THW 600 volts insulation approved type building wire. No. 3.5 mm THHN shall be used from the panel board to the last outlet, and shall be the smallest wire that should be used, unless otherwise No. 8.0mm wires THHN and larger shall be stranded and be connected to the panel boards and equipment by solder less connectors sufficiently large to enclose all strands of the conductor and be securely fastened. They shall not get loose under vibration and normal strain. Wire splices shall be mechanically and electrically secured and soldered. Joints taps and splices in wires larger than No. 10 AWG shall be made with the use of solder less connectors. They shall be taped with electrical tape to the thickness of the wire insulation.
- Wires and cables shall be continued from outlet, or outlet to pull boxes without splices. Conductors shall not be drawn in conduits until plaster is dry and the conduits are cleaned and free of moisture. Conductors of other systems shall not occupy the same conduit and boxes used for light and power.

##### Scope of Works

- Complete supply and installation of wires and cable shall be included in this scope of works.
- Tagging of all switches, convenience outlet and ECB's of ACU units corresponding to the branch circuit number as indicated on the respective panel boards directory using tagging machine.
- Balancing of loads
- Wires must be color coded using the standard color coding

#### **16130 Raceway and Boxes**

##### Boxes and Pull boxes

- All conduit boxes and fittings shall be standard manufactured by reputable electrical manufacturers. All conduit boxes not over 100 cubic inches in size, if constructed of sheet metal, the metal shall not be less than No.14 US gauge and shall be set flush with the surface of the structure in which they are installed and where conduit runs are concealed. Care shall be exercised to line up all outlet boxes, 4" octagon type and 1-1/2" depth. When more than two conduits enter the outlet box, the 2-1/8" depth type box shall be removed. All outlet boxes indicated to be used for lighting fixtures shall be provided with standard flat metal covers.
- Horizontal or vertical gang boxes shall be installed as indicated or when required. All conduit boxes, junction boxes, and blank outlet boxes shall be fitted with standard flat metal conduit box covers.

#### **16140 Wiring Devices**

##### Wiring Devices

- All wiring devices to be used hereunder shall be new and of approved type. All wall switches shall be top-action quiet-matic type, wide series, bases to be fire-resistant and non-absorptive material. When more than one switches is indicated in the same location, they shall be mounted in gang under a common plate.

- Convenience outlet shall be duplex-type, universal & flush-type with fire-resistant non-absorptive bases, minimum rating of 16 amperes at 250 volts wide series.
- Suitable single pole and heavy-duty switches shall be installed where indicated on the plans. Sample of wiring devices shall be presented for approval. Minor relocations and re-circuiting shall be the liability of the Contractor.
- Following features shall be followed: one gang, one way switch, 2 gang, one way switch, 3 gang, one way switch, one gang three way switch, two gang three way switch, three gang three way switch, duplex flush type convenience outlet universal grounding type and GFCI as indicated on the plan.

## 16580 Lighting Fixtures

### 16410 Enclosed switches and Circuit Breakers

#### Circuit breakers, Panel Boards and Accessories

PPEX2 - Surface mounted main @ 60AT 3P 380V 18kaic MCCB with 11 branch circuit 3-30AT 1P and 8-20AT 1P bolt on type in NEMA 1 enclosure powder coated finished with swing type dead front cover and with neutral and ground terminals.

#### Enclosed Circuit Breakers (ECB)

ECB 30AT 2P bolt in type in NEMA 1 enclosure and grounding terminal  
 ECB 30AT 2P bolt in type in NEMA 3R enclosure and grounding terminal  
 ECB 20AT 2P bolt in type in NEMA 1 enclosure and grounding terminal

- The enclosure shall be galvanized steel of code thickness, powdered coated enamel finish and shall be installed plumb and symmetrical with the surrounding devices.
- 2" x 4", 4" x 4" utility and junction boxes.
- Pull box with cover enamel coated finished with ½ and ¾ knock outs.
- Electrical tapes, rubber tapes, pull wires, mica tubes and assorted screws

### GUARANTEE

The Contractor shall guarantee all works under this contract to be free from any technical, mechanical and electrical defects and shall replace and repair to the satisfaction of the Project Architect / Engineer and/or to the Chief of CPDMO on any part or portion of the work which may fail within **a period of one (1) year after the final acceptance of the system** provided such failure is due to defects in the material or workmanship.

### COMPLETION PERIOD

The Contractor is given **thirty (30) calendar days** to execute the renovation works including the installation all system requirements. The Contractor shall coordinate to the CPDMO Inspector and End-users for the schedule of testing of systems and other related job.

Prepared by:

  
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