



CAMPUS PLANNING, DEVELOPMENT & MAINTENANCE OFFICE

UNIVERSITY OF THE PHILIPPINES MANILA

*The Health Sciences Center*

P. Fuente Street, Ermita, Manila

Tel. No. 525-2233

Telefax No. 526-8420

CPDMO



CPDMO10002244

REF. NO. : WD256NPG02142018

PROJECT TITLE : **PROPOSED RENOVATION OF INDUSTRIAL PHARMACY,  
BIO PHARMACEUTICALS & MICROBIOLOGY LABORATORY**  
College of Pharmacy  
University of the Philippines Manila

SUBJECT : **SCOPE OF WORKS AND SPECIFICATIONS**

Division 1 - General

**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.
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 A3 sheet for checking and approval of Project Architect/Engineer. Final "As built plans" shall be submitted with soft and hard copies.
11. After completion of all works, the Contractor shall promptly remove from the premises all rubbish, trash, debris, and all superfluous building materials and restore all areas that

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- 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.

#### **01510 Temporary Facilities**

- Provide temporary enclosure/canvass on roof areas upon removal of the roofing sheets 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**

#### **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.

#### **02220 Site Demolition**

- This work shall 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.
- All chipping works shall be done manually and with all the considerations on the existing structures and related layouts.
- Restoration and rehabilitation shall be done according for the improvement of the structures.

#### **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.

#### **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.

## 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.
- Confer to CPDMO Project Architect/Engineer and End-users for any discrepancies on plan and actual condition on site.

## Division 3 – Concrete

### 03050 Basic Concrete Materials and Methods

#### **Construction Notes**

##### *Concrete Mixes and Placings*

- Unless otherwise specified, the minimum 28-days cylinder compressive strength are as follows:
  - a) Partitions \_\_\_\_\_ 17.24 MPa
- All concrete must be deposited, vibrated and cured in accordance with ACI Standard.
- Stripping of forms and shores shall be as follows:
  - a) Slabs \_\_\_\_\_ 17 days
  - b) \_\_\_\_\_
- Concrete shall be deposited in its final position without segregation re-handling or flowing, placing shall be done preferably with buggies, buckets or wheel barrows, no chutes will be allowed except to transfer concrete from hoppers to buggies, wheel barrows or buckets in which case they shall not exceed 6.00m in aggregate length. No depositing of concrete shall be allowed without the use of vibrators unless authorized in writing by the designers and only for usual conditions. Where vibrators is extremely difficult to accomplish.

##### *Mild Steel Reinforcement*

- All mild steel reinforcement shall conform to ASTM A-15-62-2T and deformation to A-305-56T latest revision
- Development length for all bars shall be a minimum of 40-bar diameter unless otherwise specified: For reinforcing bars  $\leq 12$  ;  $F_y = 280.0$  MPa  
For reinforcing bars  $\geq 12$  ;  $F_y = 420.0$  MPa

### 03100 Concrete Forms and Accessories

#### **Scope of Work**

- The work covered by this Item shall consist of furnishing all concrete requirements in accordance with Plan and/or standard detail and as herein specified.
- Materials and workmanship shall conform to the requirements of the following building codes:
  - 1) ACI 318-97, 2) AISC 1998, 3) NSCP 2001

#### **Material Requirements**

- Use portland cement which conforms to the requirements as ASTM C-150 Type for normal Portland cement.
- Use fine aggregates, which shall be free from injurious, amount of clay loam and deleterious materials and shall conform to ASGM C-330.



- Gravel shall be river run gravel or broken stone. The maximum size shall be 1/5 of the nearest dimension between sides of forms of the concrete or 3/4 of the minimum clear spacing between reinforcing bars or between rebars and forms whichever is smaller.
- # 16 Tie wire shall be used for reinforcement bars connections.

#### **Division 4 – Masonry**

##### **04000 Masonry**

###### **Scope of Work**

- The work covered by this Item shall consist of furnishing all concrete reinforcement requirements in accordance with Plan and/or standard detail and as herein specified.

###### **Material Requirements**

- Use Portland cement which conforms to the requirements of ASTM C-150 Type for normal Portland cement.
- Use fine aggregates which shall be free from injurious amount of clay loam and deleterious materials and shall conform to ASTM C-33 or C-330.
- Concrete hollow blocks, 4", shall be standard manufacture, machine vibrated, and shall have fine and even texture, and well defined edges. Mortar, filler and plastering shall be Class "A" mixture.
- Deformed steel bars shall conform to ASTM A-305. It shall be clean and free from loose, rust, scales and any coatings that will reduce bond.
- #16 tie wire shall be used for reinforcing bars connections.

###### **Construction Requirements**

- Provide CHB wall with 10 mm dia. deformed round bars at 0.60 m on centers both ways. Verify actual location.
- All cells shall be solidly filled with grout.
- Concrete mixture shall be class "A".
- Provide the plastering at 16 mm thick using class "A" mixture. Follow plan for details.

#### **Division 6 – Wood**

##### **06273 Side Tables**

###### **Scope of Work**

- The work includes construction of side tables.

###### **Materials**

- 3/4" thk. Marine Plywood in high pressure laminated
- 2" x 2" Tubular metal frame leg. Painted.

#### **Division 7 – Thermal & Moisture Protection**

##### **07001 Waterproofing System**

###### **Materials**

- Use waterproofing materials, similar or of higher quality on concrete ledges, slabs and walls with visible cracks, and other related areas of the building and other concrete surfaces as necessary. Confer CPDMO.

###### **Application**

- Surfaces to which waterproofing are to be applied shall be free from foreign matter, clean and smooth, dry and free from holes and projections. The concrete contractor shall perform surface preparations. Immediately before application of waterproofing membrane, surfaces shall be cleaned. Application will not be permitted in wet weather.

- The Contractor shall submit to the Project Architect/Engineer samples of materials to be used for approval before any work shall start. Waterproofing materials shall be delivered to the site in the original sealed containers or packages bearing manufacturer's name and brand designation.
- Waterproofing should be applied on wall base at least 200 mm height and/or higher. Only qualified Contractor trained and approved by the manufacturer shall perform all works under this Section.
- Provide additional coating or application as per recommendation to consolidate the substrate.
- Confer on manufacturer's specifications and details before applications and upon verifications with CPDMO Project Architect/Engineer and End-users.
- Follow manufacturer's specifications and allow only the skilled manpower to apply the necessary materials.
- A roller, brush or spray gun as per requirement should do application.
- The system is cured to a tough non-penetrable layer in about 48 to 72 hours and hence, flood testing can be conducted thereafter. When the result is approved as satisfactory to the project engineer and end-user, the waterproofed areas are now ready for the desired finishing specialties.

## **Division 8 – Doors and Windows**

### **08500 Windows**

#### ***Casement / Fixed Clear Glass Window***

- W-1, Supply & Installation of 1.40m x 1.55m x 6mm thk tempered tinted/frosted fixed glass window in aluminum powder coated finish including accessories.
- W-2 Supply & Installation of 5.58m x 1.55m x 6mm thk tempered tinted/frosted fixed glass window with ticket window in aluminum powder coated finish including accessories.
- W-3 Supply & Installation of 0.80m x 0.60m x 6mm thk tempered tinted/frosted fixed glass window in aluminum powder coated finish including accessories.
- W-4 Supply & Installation of 2.80m x 1.55m x 6mm thk tempered tinted/frosted fixed glass window in aluminum powder coated finish including accessories.
- W-5 Supply & Installation of 0.65m x 1.55m x 6mm thk tempered tinted/frosted fixed glass window in aluminum powder coated finish including accessories.
- W-6 Supply & Installation of 2.25m x 0.60m x 6mm thk tempered tinted/frosted fixed glass window in aluminum powder coated finish including accessories.
- W-7 Supply & Installation of 2.00m x 0.60m x 6mm thk tempered tinted/frosted glass, fixed window in aluminum powder coated finish including accessories.
- W-8 Supply & Installation of 1.80m x 0.60m x 6mm thk tempered tinted/frosted glass, fixed window in aluminum powder coated finish including accessories.
- W-9 Supply & Installation of 2.85m x 0.60m x 6mm thk tempered tinted/frosted glass, fixed window in aluminum powder coated finish including accessories.
- W-10 Supply & Installation of 0.90m x 0.60m x 6mm thk tempered tinted/frosted glass, fixed window in aluminum powder coated finish including accessories.
- W-11 Supply & Installation of 1.05m x 0.60m x 6mm thk tempered tinted/frosted glass, jalousie window in aluminum powder coated finish including accessories.
- W-12 Supply & Installation of 1.40m x 1.41m x 6mm thk tempered tinted/frosted glass, fixed window in aluminum powder coated finish including accessories.
- W-14 Supply & Installation of 0.80m x 1.15m x 6mm thk tempered tinted/frosted glass, casement window in aluminum powder coated finish including accessories.
- W-17 Supply & Installation of 3.50m x 2.50m x 6mm thk tempered tinted/frosted glass, casement window in aluminum powder coated finish including accessories.

#### **Doors**

- D-1 Supply & Installation of 0.90m x 2.40m of single panel door with glass slit (provide lockset push and pull handle and door closer).



- D-2 Supply & Installation of 0.90m x 2.40m of single panel door with view window (provide lockset push and pull handle and door closer).
- D-3 Supply & Installation of 0.80m x 2.10m of single panel door with view window (provide lockset push and pull handle and door closer).
- D-4 Supply & Installation of 0.80m x 2.10m of flush door (provide lockset push and pull handle and door closer).
- D-5 Supply & Installation of .60m x 2.10m of PVC panel door (provide lockset push and pull handle and door closer).

#### **08590 Doors & Windows Restoration/Rehabilitation**

##### *Existing Double Panel Door & Single Panel Doors*

- D-6 Refurbishing of single panel door with view window.
- D-7 Refurbishing of double panel door with glass slit.
- D-8 & D-9 Refurbishing of existing single panel door.

##### *Existing Windows*

- W-13 Refurbishing of existing fixed window.
- W-15, W-16 Refurbishing of existing fixed/awning window.

#### **Division 9 – Finishes**

#### **09500 Ceiling**

##### **Scope of Work**

- The work covered by this Item shall consists of furnishing all ceiling finishes, equipped with fixing accessories in accordance with Plan and/or shop drawings and as herein specified.

##### **Material Requirement**

- Use 4.5mm thick acoustic boards with 1/8" groove on metal furring with fixed hanger support; puttied, sanded and ready to receive paint primer coating.
- Use 600mmx300mmx4.5mm thick fiber cement board on metal furring
- Gauge 600mmx300mm fixed hanger rod, power load, drive pin, 1-1/2" x 1/8" steel angle and accessories. Provide support at a maximum of 1.20 m x 1.20 m spacing both ways.
- Submit sample for approval of design.

##### **Construction Requirements**

- Provide all the necessary preparation of ceiling (dismantling of existing ceiling, etc).
- Fixed hanger rod shall be at 1.20 m maximum interval both ways but provide additional hanger and support on critical areas.
- Provide all the necessary accessories and framing for proper installation.
- Ensure adequate hanger and support to all the utilities on the area.
- Restore all affected areas.
- Use approved methodology.

#### **09600 Flooring**

##### **Material & Construction Requirement**

- Use 2mm Thick roll vinyl sheet anti bac.
- 0.60x60m porcelain tile on floors and walls @ T&B and counter top
- Apply the necessary grout.
- Provide the necessary floor topping to level the floor finish.
- Submit sample and layout of tiles for approval of CPDMO Project Architect/Engineer and End-users.

## **09700 Wall Finishes**

### *Partition Wall Materials:*

- 4" CHB wall Plain Cement Finish, Painted.

## **09900 Paints and Coatings**

### **Scope of Works**

- This Item shall consist of furnishing all paints, enamels, varnishes and other products to be used including labor, tools and equipment required as shown on the Plans and in accordance with this Specification.

### **Materials Requirements**

- Specified materials shall be delivered to the job site bearing manufacturers' name, brand name, type of paint, analysis showing all important constituents of the paint, color of paint and instructions for thinning.
- Specified item and/or its components shall be handled in such manner as to prevent damage. The same shall be properly protected from harmful elements or damage by other work prior to its incorporation into the Project.
- Store materials in a well ventilated space designated for the storage and mixing of paint. Materials delivered to the site shall be properly stored as to minimize exposure to extremes of temperature.

### **Quality Assurance**

- The University reserves the right to subject material samples to test at his expenses. If such material tests do not meet the specified standards, the cost will be charged to the Contractor.
- Number of coats, where specified, is minimum. Contractor shall apply as many as required to meet specifications for solid, uniform appearance. Where film thickness in mils is specified, spot checks will be made to determine compliance with specified thickness.

### **Submittals**

- Submit 2 samples of each and every color or finish (including all coats). Where the same color or finish is to be applied over different materials, samples of each shall be submitted on different materials, where practical.
- Sample size shall be a minimum of 150 mm x 150 mm (6" x 6").

### **Protection**

- Paint materials shall be properly protected from damage, providing for adequate storage space. Take all necessary precautions to prevent fire, such as keeping oily rags in U. L. approved metal containers or removing from building at the end of each day's work.
- All work fittings, furniture, etc., are to be suitably protected during execution of the work. Splashes on floors, walls, etc. are to be removed during progress of work and on the whole, left clean and perfect upon completion.
- No exterior or exposed painting shall be carried out under adverse weather conditions, such as extremes of temperature, during rain, fog, etc., or if there is excessive dust in the air.

### **Lead Content and Warning Labels**

- The material manufacturer shall state the lead content on the label of any paint product container based on metal percentage of total solids.
- The label of any paint product exceeding 0.5% lead content shall include the following statement: "This paint contains more than 0.55 lead content and shall not be used on surfaces accessible to children."

### **Repair of Defective Work**

- All defective or damaged work shall be restored to initial condition.