



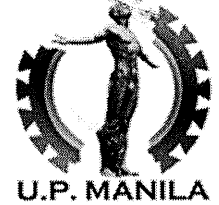
**CAMPUS PLANNING, DEVELOPMENT & MAINTENANCE OFFICE**

**UNIVERSITY OF THE PHILIPPINES MANILA**

*The Health Sciences Center*

P. Fourra Street, Ermita, Manila Tel. No. 525-2233 Telefax No. 526-8420

**CPDMO**



REF NO. : **WD221NPG10062016**

PROJECT TITLE : **WATERPROOFING OF CANOPY**  
UPM Museum of Ideas  
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 for security purposes.
6. No alteration or addition that will result in an additive or deductive cost change from the contract shall be allowed without the approval of the Chancellor / Vice Chancellor for Administration.
7. Complete specifications with product sample shall be submitted by the contractor to CPDMO for evaluation. Inspection of the Project Architect/Engineer in-charge of CPDMO and End-users shall be required prior to installation of any item/material on the work.
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 B4 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 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.
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 Utilities**

#### Temporary Utilities

- 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

- Provide temporary enclosure/ canvass on roof areas upon installation of the roofing sheets for building protection. Such coverings shall be adequate enough to cover all the building facilities.

## **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 required for protection of his manpower and others during the working life of his 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 02230 Site Clearing**

- Clear the area from all obstructions or as affected by the works, except those structures indicated on the drawings or designated by the Project/Engineer and End-users to be left standing. It shall be properly protected from incidental damage due to work by the section of suitable barriers upon approval of the project Architect/Engineer and End-users.
- The Contractor shall be responsible for the accuracy of his work and any necessary chiseling, drilling, coring, cutting and patching or other works required due to plugged or misplaced conduit shall be done at the expense of the Contractor including the restoration on the damaged part of the building finish.

### **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**

- 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 meters to limit the usage of such during the working period. Payments of bills shall be made through the Cashiers Office after the renovation period presenting the statement of account issued by Accounting upon the recommendation of the Chief of CPDMO.

## Division 3 – Concrete

### Section 03530 Concrete Topping

#### Materials

- Use Portland cement, which conforms to requirements of ASTM C-150 Type of normal Portland cement, PNS 7:2000.
- 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.

#### Application

- 2" Thk. Concrete topping on interior and exterior areas. Deck shall be slope to drain at 1%.
- Chamfer all terminations on walls to prevent the entry of water.
- Concrete mixture shall be class "A".
- Confer to CPDMO Project Architect/ Engineer and End-users for any discrepancies on plan and actual condition site.

## Division 5 – Structural Steel

#### Material Requirements

- Structural Steel plates and shapes shall conform with structural steel grade A36
- Steel gussets, turnbuckles, shear plates and angles, etc. for roof framing system shall conform with structural steel grade ASTM A33
- Welding electrodes shall be E60 series of ASTM Specifications A233
- Low Carbon Steel externally and internally threaded standard fasteners

#### Notations

- Steel Connections shall be full weld unless indicated in the plan
- Provide all the necessary accessories for proper installation
- Verify plans for actual location of framing system and for necessary details
- All steel sections shall be primed and painted two coat with final coating colors as to be specified by CPDMO and End-users

## Division 7- Thermal / Moisture

### 07100 Waterproofing

#### Materials

- Use waterproofing materials, similar or of higher quality approved equivalent, on concrete ledges, decks, and related areas of the building and other concrete surfaces as necessary.
- Use waterproofing materials with approved specifications, as follows:

#### Application

- Use Surfaces to which waterproofing membrane 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 the 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.
- Provide additional coating or application as per recommendation to consolidate the substrate
- Follow manufacturer's specifications and allow only the skilled manpower to apply the necessary materials.
- Flood testing should be done at a minimum of twenty-four (24) hours.
- Warranty period on product and application should be at minimum of ten (10) years.
- All works to be done should be inspected and approved by the Project Architect/ Engineer and End-users.
- Testing result after 1 week as follows:

#### Technical Data

Tested at:

-40°C      8 hrs  
-20°C      16 hrs  
20°C      16 hrs  
120°C      8 hrs

After 10 rounds still normal.

Stick force                      18kg/cm<sup>2</sup>                      (JIS.K 6848)

Pulling-resistance force      29kg/cm<sup>2</sup>                      (JIS.K 6301)

Tensibility Ratio                Above 450%                      (JIS.K6301)

Intensity of Divulsion          18kg/cm<sup>2</sup>                      (JIS.K 6301)

Permeability test                13.7mg/cm<sup>2</sup>                      (JIS.Zo28)

Pressure permeability          (+) Positive pressure 5kg/cm<sup>2</sup> 24hrs. No dank

(-) Negative pressure 3kg/cm<sup>2</sup> 24hrs. No dank

Appearance                      Cream-colored ropy liquid

Solid content                      Multi-co polymerized resin PME-202 (73%)

Viscosity (C.P.S)                25000

PH                                      5-6

Proportion                        1.2

Electric Charge                  None

M.F.T.                                0 deg C

\*Durability                        Excellent

\*Daubing Volume                1.2-2.0g/m (Depends on the purpose)

## Thermal Protection

### Material requirements:

- Thermal reflective insulation material shall be Double Bubble Double Foil insulation with foil on both sides.
- Submit sample for CPDMO approval

### Application

- Insulation shall be complete with accessories such as 1" Tekcrew, 2" x 45 meters duct tape and flat bar 1" x 6' under purlins/rafter/trusses
- Confer on manufacturer's specifications and details before application and upon verifications with CPDMO and End-users
- Follow manufacturer's specifications and allow only the skilled manpower to install the necessary materials

### Technical Data

R-value	Up-19
Reflectivity	95-97%
Emissivity	3-5%
Thickness	7.5mm
Weight	366g/m <sup>2</sup>
Fire-Rating	Class A
Temp. Range	-50 °F - 180° F
Linear Shrinkage	None
Mold Resistance	No fungal Growth
Moisture Barrier	0.00

- Warranty period on product and application should be at minimum of one (1) year
- All works to be done should be inspected and approved by CPDMO and End-users

## 09910 Paints

### Surface Preparation

- No painting works shall be done under conditions that may jeopardize the quality or appearance of the painting or finishing.
- All surface to receive paint should be cleaned, primed and in proper condition.

### Materials

- All painting materials to be used shall be Anti-bacteria/hygienic protection
- Submit sample for approval of CPDMO or End-user

### Application

- Painting works for all steel section, concrete, board and related areas. Topcoat shall be of the approved color by CPDMO and End-user; this may vary from two to three tones.
- Paints when applied by brush shall be non-fluid, thick enough to lay down an adequate film of wet paint. Brush marks shall be flawed out after the application of paint.
- Paints prepared for application by roller must be similar to brushing paint. It must be non-sticky when thinned to spraying viscosity to break up easily into droplets.
- Adequate workmanship shall be done on this part of the finishing works. The Contractor at his expense shall apply additional coating if the painted areas will not be satisfactory to the Project Architect/Engineer and End-users.

*Restriction*

- Color schemes and other paint material sample required by these specifications and/or by the Project Architect/Engineer and End-users shall be submitted subject for approval by the contractor at his expense.
- After all work have been done, restore and repaint all affected areas due to the installation works or related works to the same color scheme of the area

**NOTE**

The foregoing list of item of works does not in anyway limit the responsibility of the Contractor to perform all other works necessary for the completion of the project,

**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 (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 **Sixty (60) calendar days** to execute renovation works including the installation of 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.

by:

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*AR* 21 OCT 2016

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