

# Technical Specifications

**I. GENERAL CONDITION**

The Work generally consists of furnishing of all labor, materials and equipment required to carry out and complete the ***Repair of Movable Sheds and Barricade Fences, Port of Puerto Galera, Oriental Mindoro***, in accordance with the contract drawings and in conformity with these specifications.

**PLANS AND SPECIFICATIONS**

All drawings, whether in small scale or detailed, are intended to correspond with specifications to form part thereof and the contract documents. Where figures are given, they are to be followed in preference to measurement by scale. Anything shown on the drawings but not indicated in the specifications or vice-versa or anything not expressly set forth in either, but which is reasonably implied, shall be furnish and installed as though specifically shown and mentioned in both, without extra cost to PPA.

**II. PROJECT SIGNBOARD**

The Contractor shall prior to start of physical activities, install two project billboards consisting of the Project Name and Location, Contractor, Contract Cost, Date Started, Contract Completion Date, Implementing Office, and Source of Fund. The Contractor shall coordinate with the PPA Project Engineer in fixing the location of said billboards including its contents, make and dimensions. The dimension and/or area of each billboard shall, however, not be less than 1.22m x 2.44m (2.88 sq.m.) or tarpaulin posted on 1/4 inch marine plywood.

**III. SCOPE OF WORKS**

**1.00 General Expenses**

**1.01 Mobilization, Demobilization and Cleaning Up**

The Contractor shall mobilize and put into work all personnel, plant, and equipment required to undertake the works. The minimum equipment required to be mobilized at site are the following:

	<u>Equipment Description</u>	<u>Quantity</u>
1	Welding Machine (400A)	Two (2) Units
2	Cut-off Machine	One (1) Unit

**2.0 Structural and Roof Framing**

**2.01 Supply and Fabrication of Galvanized Iron Structural and Roof Framing**

The work shall include the furnishing of all labor, materials, equipment and other incidentals necessary to complete the supply and fabrication of galvanized iron structural and roof framing in accordance with the sizes, distances and design shown on the Drawings and as directed by the PPA Engineer.

The contractor shall submit to the PPA Engineer the shop drawing (as required) of the fabrication and installation of covered walk enclosure to be installed for his review and approval.

All welding works shall be done by experienced/qualified welders. The welding machine to be used shall be capable of providing the required current to each welding point without appreciable fluctuations.

Surfaces to be welded shall be free from loose scale, slug, rust, grease, paint and other foreign material except that mill scale which withstands vigorous wire brushing may remain. Joint surfaces shall be free from fins and tears. Preparation of edges by gas cutting shall, wherever practicable, be done by mechanically guided torch.

### **3.00 Painting Works**

#### **3.01 Surface Preparation and Painting of Structural and Roof Framing**

The work includes the furnishing of all labor and equipment required to carry out the surface preparation and painting of structural and roof framing as indicated on the Drawings and/or as directed by the PPA Engineer.

Materials to be used

1. Epoxy Primer with Epoxy Reducer (gray)
2. Epoxy Paint

All painting works shall be done under conditions which shall not jeopardize the appearance or quality of the painting in any way. The Engineer shall have the right to reject all material such as high solid modified epoxy paint and polyurethane finish paint or work that is unsatisfactory and require the replacement of either or both at the expense of the Contractor.

The Contractor shall endeavor to protect the work of others during the time repainting work is in progress. The Contractor shall be responsible for any and all damage to any other work in the course of his painting job. Protective coverings shall be used to protect floors, fixtures and equipment while painting; care shall be exercised to prevent paint being spattered unto surfaces which are not painted.

#### **WORKMANSHIP**

All painting work shall be first class and in accordance with the best standard and practices of the trade.

The Contractor shall examine carefully all surfaces to be painted and before beginning any of his work shall make sure that the work of other trades has been installed in a workman like condition ready to receive paint. Metal surfaces shall be clean, dry, and free from mill scale, rust, grease, oil or any other substance which could affect the quality of the painting.

Paint shall be applied at proper consistency and each coat shall be brushed evenly free of brush marks, sags, and runs. Care shall be exercised to avoid lapping of paint on glass or hardware. Paint shall be

sharply applied to require lines. Finish paint surfaces shall be free from defects or blemishes. Surfaces from which such paint cannot be removed satisfactorily shall be painted or repainted as required to produce a finish satisfactorily to the Engineer.

Succeeding paint coatings shall be applied only when the previous coat is hard and dry.

All painting materials shall be used in strict accordance with manufacturers' directions, spread or flowed on smoothly with proper film thickness and without runs, sags, skips or other defects.

#### PREPARATION OF PAINT

Paint containers shall be delivered to the job site in manufacturer's unopened containers and shall be opened only required for use. Paint shall be mixed only in the designated room or space in the presence of the Engineer or his representative. Paint shall be thoroughly stirred or agitated to uniformly smooth consistency suitable for proper application. Unless otherwise specified or approved, no materials shall be reduced, changed, or use except in accordance with manufacturer's label or tag on container. In all cases, paint shall be prepared and handled in a manner to prevent deterioration and inclusion of foreign matter.

#### PREPARATION OF SURFACES

All surfaces shall be free from dirt, dust, oil grease, efflorescence, loose cement, chalk and other deleterious matter shall be removed and surface roughened when necessary to insure good paint adhesion. The method of surface preparation shall be left to the discretion of the Contractor, but results obtained shall be satisfactory to the Engineer.

All holes, cracks and depression shall be neatly filled with patching plaster, mixed and applied to match existing plaster. Patches shall be sanded flush and smooth and properly sealed before applying prime coat.

For metal, dirt, weld splatter, rust, scale and other contaminants shall be removed by scraping, wire brushing and sanding as required. Oil and grease shall be removed with mineral spirits or appropriate solvent.

### **4.00 Roofing Works**

#### **4.01 Supply and Installation of Pre-painted Multi R-span Roof including Gutter and Downspouts**

The work shall include the furnishing of all labor, materials, equipment and other incidentals necessary to complete the supply and installation of pre-painted multi r-span roof including gutter and downspouts as indicated on the drawings and/or as directed by the PPA Engineer.

Materials to be used:

1. 0.50mm pre-painted Multi R-span Roof
2. 0.50mm pre-painted Multi R-span Roof (curved)
3. 0.50mm pre-painted flashing
4. 0.50mm pre-painted box type gutter

## 5.05 Electrical Works

### 5.01 Supply and Installation of Electrical Fixtures

The work shall include furnishing of all labor, materials and equipment necessary to complete the supply and installation of electrical conduit pipes, wires and lightings as shown on the drawings and/or as directed by the PPA Engineer.

The contractor shall submit for approval of the PPA Engineer, brochures/manuals of the following materials listed below to be installed which shall be reviewed by the PPA Engineer. If found satisfactory and in accordance with the standard requirements of PPA, approval shall be given, subject however, to the standard tests as deemed necessary which the proposed Electrical Fixtures should pass prior to their delivery at site.

Materials to be used shall be:

1. LED Straight Fluorescent Tube(18W)
2. 2" x 4" Powder Coated Aluminum Tubular (21ft)
3. Electrical Panel Board w/ 15A Circuit Breaker & Cabinet

Upon delivery at site but before installation, all Electrical accessories shall be inspected by the PPA Engineer to determine their physical conformance with PPA requirements as to dimensions, type, make, markings and acceptance tolerances. Electrical Fixtures not conforming to PPA requirements shall be rejected and replaced.

The Contractor shall guarantee all Electrical accessories against any defects that are attributable to faulty design and manufacture and shall also guarantee their performance under normal working conditions. The guarantee shall be for a minimum period of 12 months from the date of the issuance of the Taking-Over Certificate of the Works. During the period of guarantee, repairs and replacement of defective fixtures and/or material shall be carried by the Contractor at his own expense.

#### Testing and Commissioning

All feeder and branch circuit wiring shall be tested for circuit continuity and shall be tested to assure that the wiring system is free from short circuits, accidental grounding of other defects prior to energizing at normal system operating voltage.

After the contractor has assured himself that the wiring system are free of faults, the contractor shall then energize the system from their normal power source and confirm that all system is operational as required by the contract documents, prior to final inspection.

At a specific time, which shall be determined by the Electrical Engineer, the contractor shall demonstrate that the entire electrical system is operational and will function as required prior to final project acceptance.

#### Guarantee and Certificates

Upon completion and before final acceptance of the work, the contractor shall furnish the Engineer a written guarantee stating that all works executed are free from defects on all materials, equipment, fixtures devices and workmanship for a period of one year from the date of written acceptance of the project. Any works of major materials that becomes defective during the period shall be replaced by the contractor at its own expense in manner satisfactory to the Engineer.

The work shall consist of testing and commissioning of electrical works.

## **6.0 Movable Barricade Fence**

### **6.01 Supply and Fabrication of Stainless Barricade with Aluminum Amplimesh including Sanding and Installation at Designated Location**

The work shall include the furnishing of all labor, materials, equipment and other incidentals necessary to complete the supply and fabrication of stainless movable barricade fence with aluminum amplimesh including sanding and installation at designated location in accordance with the sizes, distances and design shown on the Drawings and as directed by the PPA Engineer.

Materials to be used:

1. 2" Ø Stainless Steel Pipe (304)
2. 1/8" x 1" Stainless Flat Bar
3. White Aluminum Amplimesh Diamond Security Grill (60 x 60mm)

- Refer to Item 2.01 for specification of steel works.

## **IV. MEASUREMENT FOR PAYMENT**

In accordance with Section II Scope of Works of this Technical Specifications, the pertinent items of work described therein and to be executed by the contractor shall be measured and paid for according to the following terms:

- All scope of works, activities shall be paid in accordance with the unit price for said item of works done/completed indicated in the Bill of Quantities (BOQ), plan and certified by the PPA Engineer.

## **V. As-Built Drawings and Photographs**

- 1.00 Photographs taken before, during and after completion of the project shall be submitted as part of the documentary requirements for the progress billing.
- 2.00 At the completion of the Project, the Contractor shall prepare four (4) sets of "As-built" Drawings which shall be submitted to the PPA, PMO-Mindoro as part of the documentary requirements for the formers final billing. The as-built drawings shall indicate therein all the original items of work, changes, deviations and additional work items (if any), undertaken by the contractor to complete the project. The as-built drawings shall bear the title block prescribed by the PPA and shall be signed by the contractor's authorized representative prior to submission to PPA, PMO-Mindoro.

## **Section VII.**

### **Drawings**

## **Section VIII.**

### **Bill of Quantities**