

TERMS OF REFERENCE

MAINTENANCE OF VTMS RADAR STATION 1 FACILITY MICT, TONDO, MANILA (MPF-NCN-04-2025)

I. RATIONALE

Philippine Ports Authority-Port Management Office-NCR North aims to ensure that its port facilities are properly maintained to properly cater and provide efficient services that will meet the demands of its port users.

A well-maintained administrative building not only enhances the productivity of PMO employees but also reflects the Authority's standards and values to port users and visitors.

II. OBJECTIVE

PPA PMO-NCR North intends to perform preventive maintenance to the port facilities to preserve the facility asset. The project shall only cover the surface preparation and repainting of various steel and concrete members of the tower, renovation of comfort room, and replacement of ceiling and roofing of the radar station office.

The procurement of the project shall be made through Alternative Mode of Procurement particularly Small Value Procurement in accordance with Section 34, of the implementing rules and regulations of the Republic Act No. 12009 or New Government Procurement Act.

III. SCOPE OF WORKS AND SERVICES

BILL NO. 1 GENERAL EXPENSES

- 1.1 Mobilization / Demobilization
- 1.2 Provide construction safety and health program in the execution of project

BILL NO. 2. MAINTENANCE OF RADAR STATION 1 FACILITY

- 2.1.1 Surface preparation, removal of loose paints and rust on spiral steel stairs, hand rails, railings, antenna mast, exhaust hood, steel doors, window grills and GI pipe fence frames
- 2.1.2 Supply and apply 1-coat epoxy primer and 2-coats top coat enamel paint on spiral steel stairs, hand rails, railings, antenna mast, exhaust hood, steel doors, window grills and GI pipe fence frames
- 2.2.1 Surface preparation, scrapping and removal of loose and peeling paints on exterior masonry walls and concrete tower
- 2.2.2 Supply and apply 1-coat primer and 2-coats top coat paint on exterior masonry walls and concrete tower
- 2.3.1 Surface preparation, scrapping and removal of loose and peeling paints on interior masonry walls
- 2.3.2 Supply and apply 1-coat primer and 2-coats top coat paint on interior

- masonry walls
- 2.4.1 Removal of dilapidated roofing sheets, gutters, flashing and downspout
- 2.4.2 Supply fabricate and install roofing materials including accessories, reflective insulation, wire mesh and downspout
- 2.5.1 Removal of dilapidated ceiling fiber board
- 2.5.2 Supply and install new 15mm acoustic ceiling board (Fine Fissure)
- 2.6.1 Surface preparation, removal of delaminated floor finish and paints
- 2.6.2 Supply and apply 2-coats chlorinated rubber base paint as indicated in the plan
- 2.7.1 Removal of dilapidated floor/ wall tiles, PVC door, old water line and defective plumbing fixtures
- 2.7.2 Supply and install 300mm x 300mm Ceramic Floor tiles (Unglazed) as indicated in the plan
- 2.7.3 Supply and install 300mm x 600mm Ceramic Floor tiles (Unglazed) as indicated in the plan
- 2.8.1 Supply and install water supply line in the comfort room
- 2.8.2 Supply and install plumbing fixtures and accessories
- 2.9.1 Supply and install PVC Door with complete accessories and lockset (D3)
- 2.10 Supply and install lockset on steel doors (D1 & D2)
- 2.11 Remove and replace electrical convenience outlets, switches and ceiling lights including accessories as indicated in the plan
- 2.12 Supply and install solar light with bracket and complete accessories and remove dilapidated lighting and old bracket
- 2.13.1 Removal of old and dilapidated barbed wire
- 2.13.2 Supply and install new barbed wire

IV. ELIGIBILITY OF THE SERVICE PROVIDER

The prospective contractor must submit the following equipment and documentary requirements:

A. Equipment Required:

Quantity	Description
44-set/s	H-Frame Scaffoldings, Owned or Leased
6-set/s	Platform Catwalk, Owned or Leased
1-set	Electric Drill, Owned or Leased
1-unit	Chipping Gun, Owned or Leased

B. Prospective bidders shall submit Quotation together with the herein documents:

1. PCAB License – At least Small “B” for Building
2. PhilGEPS Registration
3. BIR Certificate of Registration
4. Income/ Business Tax Return
5. Duly Notarized Omnibus Sworn Statement

V. APPROVED BUDGET CONTRACT

The Approved Budget for the Contract (ABC) shall be the amount **Nine Hundred Eighty-Three Thousand One Hundred Sixty One Pesos (Php 983,160.00)** inclusive of 12% VAT.

VI. CONTRACT DURATION

The target number of days to complete the project is fifty four (54) days reckoned upon receipt of by the winning bidder of the Notice to Proceed (NTP).

VII. TERMS OF PAYMENT

The payment shall be paid in full to the contractor upon completion and acceptance of the project by PPA PMO-NCR North subject to accounting and auditing rules and regulations.

VIII. PERFORMANCE SECURITY

To guarantee the faithful performance by the winning bidder of its obligations under the contract in accordance with the Bidding Documents, it shall post a performance security prior to the signing of the contract. The winning bidder shall ensure that the performance security remains effective until the issuance of the Certificate of Final Acceptance.

The performance security shall be in the form chosen by the procuring entity and in the amount not less than the required percentage of the total contract price in accordance with the following schedule:

Form of Performance Security	Amount of Performance Security (Not less than the required percentage of the Total Contract)
a) Cash or cashier's or Manager's check issued by a bank	Ten percent (10%)
b) Bank draft or guarantee or irrevocable Letter or Credit issued by a bank. If issued by a foreign bank it shall be confirmed or authenticated by a local bank.	
c) Surety Bond callable upon demand issued by a surety or insurance company dully certified by the Insurance Commission as authorized to issue such security	Thirty percent (30%)

IX. LIQUIDATED DAMAGES

In case the prospective Contractor fails to perform satisfactorily the maintenance activities within the agreed contract period, the Contractor shall be held liable for damages for the delay and shall pay the Procuring Entity liquidated damages, an amount equal to one-tenth (1/10) of one-percent (1%) of the cost of the delayed project scheduled for completion, for every day of delay until such project is finally accomplished and accepted by the procuring entity concerned.

X. RESPONSIBILITY OF THE PROSPECTIVE CONTRACTOR

- a. The Contractor shall at all times utilize the most cost effective and widely accepted standards and practices in accomplishing the maintenance activities provided for in the Terms of Reference.
- b. The Contractor shall keep the PPA fully informed and updated on all matters relating to the maintenance activities accomplished.

XI. RESPONSIBILITY OF THE PHILIPPINE PORTS AUTHORITY

- a. For and in consideration of full, satisfactory and full performance by the Contractor of all maintenance activities provided for in the Terms of Reference (TOR), PPA shall pay the full amount considered to the Lowest Calculated Responsive Bid of all the bid proposals submitted.
- b. PPA shall assign a qualified engineering personnel to monitor, supervise and oversee the work direction of the maintenance activities being implemented by the Contractor to determine the actual progress and accomplishments of the project.

X. GENERAL REQUIREMENTS AND TECHNICAL SPECIFICATIONS OF PROJECT

ITEM 01 : DEMOLITION AND REMOVAL WORKS

A. DESCRIPTION OF THE PROJECT ITEM

- The work includes the furnishing of all labor, materials and equipment required to carry out the demolition and removal of old structures, port accessories and obstructions including demolition of miscellaneous concrete curbs etc., as required for the execution of the Contract.
- The Contractor shall submit the proposed methodology or procedure of demolition work with detailed drawings and calculations if necessary, to the Engineer for approval, before the execution of the Works.

- The Contractor shall keep all pavements and landing areas to and from the site of the disposal area clean and free of mud, dirt and debris during and after the execution of disposal. Disposal of debris and materials shall be as directed by the Engineer.

B. GENERAL PROVISIONS

- The Contractor shall be deemed to have satisfied himself of the site conditions, and to have included in his unit prices provision for all risks that may arise during or in connection with the work.
- The demolition shall be carried out by approved methods and equipment such as concrete breakers, gas-cutters, hydraulic jacks, compressed air disintegrators, etc., however, no blasting shall be used unless approved in writing by the Engineer and after obtaining the written permission of the concerned authorities.
- The Contractor shall provide suitable equipment, skilled labor and appropriate temporary works such as scaffoldings to ensure safety in his demolition works as well as in the adjacent area.
- Contractor shall demolish all the structural members above the level on which the subsequent and permanent works under this Contract will begin. To this end, the temporary construction works such as excavation shall be conducted by the Contractor.
- Materials coming from the demolition works, except general earth, shall remain the property of the Procuring Entity, the designated part of which shall be stored by the Contractor at places specified by the Engineer/ Accepting authority. Receiving copy of Turn-Over Report shall be provided.
- In case of demolition of wharf deck and platform, the contractor shall ensure that no debris will be remained/deposited at seabed.

C. INTERFERENCE WITH PORT OPERATIONS

- During the execution of the work, the Contractor shall not interfere with the shipping, navigation and other traffic in the port.
- The Contractor shall make arrangements with the operations people on the schedule of demolition and related works to keep port operation activities undisturbed at all times.
- Prior to commencement of the demolition works, the Contractor shall inform/announce to port users the schedule of disconnection of utilities.

D. STORAGE AND DUMPING

- Prior to the commencement of the demolition work, the Engineer shall submit to the Contractor a list in which all the materials to be salvaged and overhauled, as

property of PPA, and the description of the location of their storage. Materials embedded in concrete units shall not be salvaged.

- The Contractor shall separate materials to be salvaged from debris. Salvaged materials shall be loaded, transported and unloaded by the Contractor at the specified locations.
- The Contractor may dump debris or extracted rocks on land areas but out of the site, which areas shall be procured and prepared at his own expense. In this case, safety measures shall be undertaken in the transporting, unloading, covering and others as requested by the Engineer.
- The approximate distance of the disposal site from the project site is about five (5) kms., as designated by the PMO thru the implementing office.

E. EXECUTION OF THE PROJECT ITEM

- Prior to the commencement of demolition works, the alignment of new construction works to existing structure shall be checked.
- The width and alignment of portion of existing structure to be demolished shall be marked by paint.
- With these lines as guides, concrete shall be broken and reinforcing bars cut, such that panels or portions of the structure can be lifted out for disposal elsewhere outside of the operational work area.
- Rocks removed from existing slope protection shall be stored for re-use in new construction.
- Demolish pavements, curbs, fences, utilities, services, navigation aids and the likes as determined in the field for each project and as shown on the drawings or as directed by the Engineer.
- Materials coming from the demolition works shall be properly disposed by the Contractor.

F. SAFETY

- During the course of survey and clearing, any obstacles which are recognized and seemed to be explosive or hazardous to workers shall be removed from the site by the proper Authority.
- At the end of each day's work, the Contractor shall keep the workplace in safe condition and clean so that no part is in danger of falling or creating hazard to personnel or equipment.

ITEM 02 : PAINTING WORKS

A. GENERAL REQUIREMENTS

The work shall include all labor, materials, equipment, plant and other facilities and the satisfactory performance of all works necessary to complete all field painting and as specified herein. All paints and coatings shall be applied by painting subcontractors and workmen approved by the PPA Engineer.

B. SCOPE

The following surfaces to be painted except where otherwise specified or shown:

1. Above ground piping and other metal surfaces.
2. All exposed concrete.
3. All structural and miscellaneous metal
4. All equipment furnished without factory finished surfaces.
5. All exposed steel mullions, tubular frames, door frames, steel sash, and metal windows.
6. All sheet metal and ferrous metal trim.
7. Interior and exterior surfaces of the building including all concrete block masonry.

The following surfaces are not to be painted:

1. Ferrous metal having approved plating or factory paint finishes.
2. Non-ferrous metals, unless otherwise noted or indicated; galvanized metal shall not be considered a non-ferrous metal.
3. Equipment with factory finished surfaces unless otherwise noted.

No concrete, wood, metal or any other surfaces requiring protection shall be left unpainted even though not specifically defined herein.

Loose paints and rust on spiral steel stair, handrails, railing, antenna mast, exhaust hoods, steel doors, window grills and G.I. pipe fence frames shall be removed and repainted.

C. RIGHT OF REJECTION

Exterior painting or interior finishing shall be done under conditions which shall not jeopardize the appearance or quality of the painting or finishing in any way. The Engineer shall have the right to reject all material or work that is unsatisfactory, and require the replacement of either or both at the expense of the Contractor.

D. PROTECTION OF THE WORK

The Contractor shall endeavor to protect the work of others during the time painting 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 onto surfaces which are not to be painted.

E. WORKMANSHIP

All painting work shall be first class and in accordance with the best standard 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 the 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 required lines. Finished 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 satisfactory 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.

F. STORAGE OF MATERIALS

All painting materials and equipment not for immediate use shall be stored in a room approved by the Engineer for that purpose. The receiving, opening and mixing of all paint shall be removed from the premises at the end of each day's work, or stored in metal containers with metal covers.

G. PREPARATION OF PAINT

Paint containers shall be delivered to the job site in manufacturer's unopened containers and shall be opened only when 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 used 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.

H. CLEAN-UP

Upon completion of his work, the Contractor shall remove all surplus materials. All paint spills shall be removed and the entire premises shall be cleaned of all rubbish,

and debris, caused by his work. He shall present the work clean and free from blemishes so that it is acceptable in every way. All glass, fixtures and doors shall be cleaned of paint spots and polished, and the job made for occupancy by the owner.

I. MATERIALS

1. **Materials** – The Contractor may substitute other paint materials for those specified in Section 15.12 provided he first receives written approval from the Engineer stating that said proposed substituted materials are equal to that specified and are approved for use. The painting material shall be delivered to job site in original containers properly labeled without evidence of tampering, substitution of contents, or of deterioration. A complete list of materials proposed for use shall be submitted for the Engineer's approval.
2. **Colors and Samples** – All finish colors shall be as selected by the Owner. In multicoat work using color pigmented paints, each coat shall have sufficient variation of color to easily distinguish it from preceding coat.

Using specified or approved materials, 3 sample panels of each finish, including all coats thereof shall be prepared and submitted for the Owner's approval. Completion work shall match approved colors and samples.

J. PREPARATION OF SURFACES

1. **General Scope** – Except as otherwise specified, surfaces to be painted shall be clean, smooth and dry. The Contractor shall report to the PPA Engineer in writing any surface which cannot be properly prepared for painting. If work is commenced before defects have been reported and corrected, any resulting unsatisfactory finish shall be rectified at no cost to the PPA.
2. **Concrete and Masonry** – all concrete and masonry surfaces shall be cured thirty days prior to painting. Dirt, dust, oil, grease, efflorescences, 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. Before application of resin emulsion paint, surfaces shall be prepared in accordance with manufacturer's directions. Before application of oil base or latex paints, surfaces shall be tested for presence of alkali; if alkali is present, neutralized as recommended by the manufacturer of the paint materials to be applied.
3. **Plaster** – Dirt, dust, loose plaster and other deleterious matter which would prevent good paint adhesion shall be removed. 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. After priming surfaces, suction spots shall be touched up with additional prime coat material until surfaces evidence a uniform coating. Enamel undercoats on smooth plaster shall be sandpapered by hand (with No. 00 sandpaper) and dusted clean before applying succeeding coat.

4. Metal – Dirt, weld, splatter, rust, scale and other contaminants shall be removed by scrapping, wire brushing and sanding or sandblasting as required. Oil and grease shall be removed with mineral spirits or appropriate solvent. Before painting ferrous metal surfaces, including galvanized ferrous metal, surfaces shall be pretreated with approved phosphoric acid etching cleaner in accordance with manufacturer's directions to produce a chemically clean surface. Unless already performed in accordance with specifications of other sections, abrasions and bare spots in shop prime coatings shall be touched up with metal primer matching the shop coatings. Enamel undercoats shall be sandpapered by hand (with No. 00 sandpaper) and dusted clean before applying succeeding coat.
5. Woodwork – Unless already properly sanded, woodwork shall be sandpapered smooth by hand. Before priming surfaces, knots, pitch pockets and sap streaks shall be thoroughly cleaned of residue and touched up with shellac varnish coating. After priming surface, nail holes, cracks and depressions shall be neatly filled with putty or other approved filler, colored to match required finish. Enamel undercoats shall be sanded by hand (with No. 00 sandpaper) and dusted clean before applying succeeding coat.

K. APPLICATION OF PAINT

1. General Scope – All painting and finishing shall be performed by skilled craftsmen. Each coat of paint shall be applied with proper consistency, evenly, free of laps, sags and runs and cut sharply to required lines. Paint shall be applied only under dry and dust free conditions that will insure properly finished surfaces, free of defects and blemishes unless otherwise directed by the Engineer. Paint shall not be applied when temperature is likely to be above 90°F. Sufficient time shall be allowed between application of coats to insure proper drying of the preceding coat. All primer and intermediate coats shall be unscarred and completely integral at time of application of each succeeding coat. The Engineer shall be notified when each coat has been applied and is ready for inspection; until coat is inspected and approved by the Engineer, no succeeding coats shall be applied. Whenever two coats of a dark colored paint are specified the first coat shall contain sufficient powdered aluminum to act as an indicator for proper coverage when applying the second coat.
2. Method of Application – Paint should be applied by brush, spray, or other application method approved by the Engineer.
3. Priming and Back Painting
 - a. Priming – Before installation, all surfaces of millwork which are to be painted shall be primed giving particular attention to sealing of cross-grained surfaces. In all cases, all work shall be primed as soon as possible after delivery to buildings, before or after installation, as required, or in case prefabricated items, at fabricator's shop or mill before shipment, if practicable. Except as otherwise specified, primings shall consist of first coat herein after specified under "Finishes".

- b. Back-Painting – Woodwork, millwork and casework to be installed against concrete, masonry or plaster shall be back painted with one coat of exterior oil paint.

L. PAINTING SCHEDULE

Paint manufacturers shall be BOYSEN, DAVIES or approved equal.

INTERIOR WALLS / EXTERIOR WALLS

1. Concrete Acrylic Concrete Primer and Sealer
2. Concrete Putty
3. Acrylic water based, odor less, semi-gloss latex paint

STAIR AND HANDRAILS

1. Epoxy Primer
2. Epoxy Enamel (2 coats)

GENERATOR ROOM FLOORING

1. Chlorinated Rubber Base Paint Finish

ITEM 03 : ROOFING AND CEILING

SCOPE OF WORK

The work shall include all labor, materials and equipment necessary to install roofing/ceiling materials, complete as shown on the drawings and as specified herein.

GENERAL REQUIREMENTS

The work includes the installation of roofing sheets, steel ridge roll, gutter, flashing and all miscellaneous roofing items not specifically noted, but required for the proper execution of the work. Surfaces shall be thoroughly dry and clean, painted with protective coatings and free from any defect that might affect the metalwork.

All miscellaneous roofing items shall be fabricated and installed in accordance with the requirements as specified herein or as indicated in the drawings. The Contractor shall verify all measurements in the field, submit shop drawings to the Engineer showing sizes, gauges, detailed of construction, method of assembly and installation. Fabrication of work shall not commence until all shop drawings are approved by the Engineer.

Roofing/Ceiling materials and accessories shall be carefully handled and stored to prevent damage to the damage to the surface and edges.

MATERIALS

Roofing shall be of MILANO type corrugated G.I. sheets or equivalent.

Ridge rolls, facia, gutters, capping, flashings, fastening devices and all similar items required to complete the roofing installations shall be colorbonded G.I. sheets. Thickness shall be as indicated in the drawings.

INSTALLATION

Installation of roofing materials including ridge rolls, roof gutters, flashing and other accessories shall be performed with precise method and a manner in accordance with the specifications, professional skilled experienced and that the roofing materials shall be installed to enable to withstand the wind and rain.

ITEM 04 : PLUMBING WORKS

SCOPE OF WORK

The work shall include furnishing of all materials and equipment and perform all labor necessary to complete installation, testing and operation of the plumbing system in accordance with the applicable drawings and this specification.

It is not intended that the drawings shall show every pipe, fittings, valves and appliances. All such items, whether specifically mentioned or not, or indicated on the drawings, shall be furnished and installed if necessary to complete the system in accordance with the best practice of the plumbing trade and to the satisfaction of the Owner.

REQUIREMENTS ON PERMITS

Execute the work in full accordance with the requirements of all governmental agencies having jurisdiction thereof as well as with the requirements and/or recommendation of the National Plumbing Code of the Philippines and all applicable laws, codes and ordinances.

Secure and pay for all necessary approvals, permits, inspection, royalties for the use of any patented devices or systems, and other similar obligations before starting work, and turn over the official records of the granting permits to the Owner without additional cost.

MATERIAL

Plumbing Fixtures – Toilet and bath accessories shall be as manufactures or distributed by “American Standard”. Model shall be as specified herein and shall be provided with bone white color or as approved by the Architect.

ITEM 05 : CERAMIC TILEWORK

SCOPE OF WORK

This item shall include all ceramic tiles, vitrified tiles and marble tile work, complete. Mariwasa or equivalent for ceramic tiles. Granitogres or equivalent for vitrified tiles.

The work shall not be started until the roughing-in for plumbing and electrical work has been completed and tested.

MATERIALS REQUIREMENTS

Tiles shall be standard grade glazed, semi-glazed and vitrified tiles as shown on the drawings. Dimension shall be as indicated in the drawings.

Portland cement shall be gray color for mortar setting bed and scratch coat. White Portland cement for grouting and pointing shall have early high-strength characteristics. Sand for mortar setting beds shall conform to the requirement of ASTM C44. Hydrated lime shall be of the same good quality as that used for masonry work. Water shall be potable.

INSTALLATION

Surface to receive tiles shall be thoroughly tested for levelness or uniformity and wetted prior to application of setting bed. All tiles shall be soaked in clean water to minimum of one (1) hour before installation. The setting bed, as far as can be covered with the tile before the mortar reached its initial set, shall be placed in one (1) operation, and in the event that more setting mortar has been placed that can be covered, the unfinished portion shall be removed and cut back to a clean leveled edge. Before the initial set has taken place in the setting bed, a skim coat of Portland cement shall be hand-dusted uniformly and worked lightly with a trowel or brush until thoroughly damp. The tiles shall then be pressed firmly and tapped until flush true and even with other tiles. Tapping and leveling shall be completed within one (1) hour after placing the tiles. Where drain is provided, the tiles shall be sloped properly towards the drain. Tiles shall be secured firmly in place, and loose tiles or tiles sounding hollow shall be properly removed and replaced to the satisfaction of the Engineer. Joints shall be parallel and uniform in width, plumb, level and alignment. End joints in broken joint shall be made, as far as practicable, on the center line of the adjoining tiles. Joint widths shall be uniform and measured to accommodate the tiles in the given space with a minimum cutting. Cutting of tiles, where necessary, shall be done along the outer edges of tile against trim, base, thresholds, pipes, built-in fixtures and other similar surfaces, and shall be geared and joined carefully.

Grouting shall be done as soon as the mortar beds have sufficiently set. Tile work shall be adequately protected from damage, and shall be closed to traffic of other work until the tiles have firmly set.

ITEM 06 : DOORS AND WINDOWS

SCOPE OF WORK

The work shall include the supply and installation of all doors and windows as indicated in the drawings.

MATERIALS REQUIREMENTS

a. Doors

- 1) Flush doors shall be hollow core from tanguile kiln-dried frames with 6mm thick marine plywood as indicated. Other flush doors shall have a tanguile kiln-dried wood louver for ventilation purposes.
- 2) Swing type metal door shall be guage 20 metal door with mineral core, as indicated in the drawings.
- 3) Gage 20 metal door with baked enamel finish and stainless steel trim and fitting shall be used for toilets. It shall be connected to a cubicle type partitions as indicated in the drawing.
- 4) Wood door frames shall be of the design, size and thickness as indicated. This shall be set plumb and true, and well-braced to prevent distortions. Frames in masonry or concrete walls shall be secured as indicated, and shall be Guijo or Yakal, good grade

b. Windows – All windows shall be of polyester powder coated frame (exterior use) or epoxy/polyester powder coated (interior) aluminum window frame. It shall be of fixed window, half-fixed and half-open sliding window, half-fixed and half-open sliding window below a fixed window as indicated in the drawings.

c. Glass – Glass shall be provided in locations as indicated and the corresponding type specified on architectural drawings. Each glass have the manufacturer's label showing the type, thickness, and quality of glass. Labels shall not be removed until the glazing has been approved.

- 1) Clear glass shall be 6.35 mm thick for doors and 5.50 mm thick for windows. It shall be heat-strengthened for fixed window panes with a clear rubber sealant nearly and properly installed.
- 2) Reflective type glass shall be 6.35 mm thk for doors and windows and shall be heat strengthened tempered glass.
- 3) Wired glass or fire-rated glass shall be 6.30 mm thick.
- 4) Glazing metals materials and accessories such as weather-stripping, glazing sealant, gasket, channel, beads, clips, primer, making tape, edge spacer and other shall comply with all pertinent codes and

regulations and shall be as recommended by the glass manufacturer as approved by the Engineer.

- d. Hardware – All items of finish hardware shall be furnished, packaged and labeled in sets. All items of finish hardware of like kind and purpose shall be the same manufacturer and shall be made of 630 Stainless steel.

INSTALLATION

All doors and windows shall be leveled, hung plumbed and fitted accurately. It shall be installed without forcing or distortion so that sills and heads are level and jambs are plumb. Frames shall be securely anchored into the supporting construction.

Apply hardware with fastenings of the size, quality, quantity and finish to provide workable system. After installation, protect hardware from paint, stains, blemishes and other damages until acceptance of the work. After hardware is checked. Keys shall be tagged, identified and deliver to the Owner. All errors in cutting and fittings, and all damages to adjoining work shall be corrected, repaired and finished as directed.

Work instruction on glass fittings and installation should strictly follow a standard precautionary measure to avoid damage or breakage on glass and to secure total work safety. Glass shall be provided with caution stickers to call attention. Upon completion of the building, cracked, broken or imperfect glass or glass which has been set improperly shall be replaced. Glass surface shall be thoroughly cleaned, with labels, paint spots, putty, and other defacements removed, and shall be clean at the time the work is accepted.

ITEM 07 : PROJECT BILLBOARD

A. SPECIFICATION

The Project Billboard shall be installed at location(s) designated by the PPA Engineer. (for reference, **Annex A** is attached herein)

The size and specifications of materials for the standard billboard shall be 4ft. x 8ft. (1,200mm x 2,400mm) using ½ inch (12mm) marine plywood or tarpaulin poster on 3/16 inch (5mm) marine plywood.

Project billboards shall not contain Name(s) and/or picture(s) of any personages.

ITEM 08 : SAFETY SIGNAGES AND BARRICADES

A. DESCRIPTION

This work includes the furnishing and installing of safety signages and barricades in accordance with the specifications and to the details shown below in the drawings, or as directed by the Engineer.

B. SPECIFICATION

The Signage's and Barricades shall be installed at location(s) designated by the PPA Engineer.

The sizes of the standard signages shall be 2-2/3ft x 4ft (800mm X 1,200mm) for fixed type and 2ft x 2-2/3ft (600mm x 800mm) for mobile type. For barricade standard 2ft x 2-2/3ft (600mm x 800mm) shall be provided.

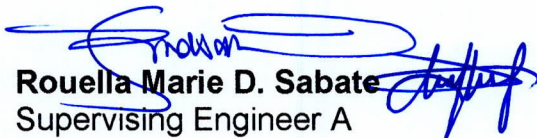
The materials to be used for signages and barricades are ½ inch (12mm) marine plywood or tarpaulin poster on 2" x 2" (50mm x 50mm) good lumber frame (see drawing below).

The printing or painting shall be the discretion of the PPA Engineer.

XI. RESERVATION CLAUSE

The employees of the Contractor are not employees of the PPA, and thus, the latter shall not in any way be responsible for any liability resulting or arising from the conduct of activities of the former, in whatever kind or nature.

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