

TECHNICAL SPECIFICATIONS

Name of Contract:

REPAINTING OF MOORING FIXTURES AND REPAIR OF DAMAGED PORTION OF CONCRETE DECK AND CURBS @ PORT OF CURRIMAO, ILOCOS NORTE

Site Works

1.0 Demolition Works

- A. Demolish and remove from site existing structures and other obstructions which are in the project area and are not being reused.
- B. Removal and storing of salvageable materials: Special care should be done in removing reusable materials resulting from the premises and dumped at the sites provided by the Contractor in a manner approved by the Engineer.

2.0 Clearing and Preparation of the Site

- A. Clearing and disposal of resulting trash waste on the site of the structure and within the limits of grading.
- C. Repair damages done to property of any person or persons on or off the premises, by reason of the required work for Demolition and Clearing. The Contractor shall be liable and hereby assumes full responsibility for, and shall hold the Owner free and harmless from any injury or damage that may be sustained by any person or property in connection with the performance of the works contracted for under this Agreement.

3.0 CONCRETE WORKS:

3.1 All works included under the heading shall be subject to the general conditions. Under the area included the foundation, hollow blocks partition, concrete flooring, columns and walls and all other works indicated in the plans being concrete or masonry.

3.2 All concrete works shall be done in accordance with the standard specifications for concrete or reinforced concrete and adopted by the government. The following proportions shall be use , unless otherwise indicated on the drawings CLASS " A "(1:2:4) concrete shall be used for footing and columns . CLASS "B" (1:2:5) concrete shall be used for all concrete floors on fill.

3.4 Concrete Materials :

- **CEMENT** : shall conform to the requirements of the standard specifications Portland cement of the ASHO designation for M-85 and or of ASTM designation for C-150.
- **AGGREGATES** : In general, concrete aggregates shall conforms to the requirements of the standard specifications but which have produced concrete of adequate strength and durability may be used subject to the approval of the Architect/Engineer.

- **WATER:** Used in mixing concrete shall be clean and free from injurious amount of soil, acid, alkali, salts organic materials or other substance that may be deleterious to concrete or steel.
- **REINFORCING STEEL BARS :** Shall conform to specifications for deformed reinforced steel bars for concrete reinforcing with 6,000 psi minimum yield strength (ASTM A61). Deformed bars shall conform to specifications shall be supplemented requirements assuring satisfactory weld ability in conformity with AWS D12.1 " Recommended Practices for welding Reinforcing Steel Metal Inserts and connections in Reinforced Concrete Construction.

3.5 Concrete proportions and Consistency:

Strength	Cement : Gravel : Sand Ratio	Cement water Ratio (Liter of water per 40kgs. Of bags Cement)
4,000 psi	1: 1 :2	22.75 Liters of water
3,500 psi	1: 1: 2	26.00 Liters of water
3,000 psi	1:1 ½:3	29.50 Liters of water
2,500 psi	1 : 2 :4	33.00 Liters of water
2,000 psi	1: 2 ½ :5	36.50 Liters of water

4.0 PAINTING WORKS

4.01 GENERAL

- A. 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 Engineer.

4.02 SCOPE

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

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

The following surfaces are not to be painted:

- Ferrous metals having approved plating or factory paint finishes.
- Non-ferrous metals, unless otherwise noted or indicated; galvanized metal shall not be considered a non-ferrous metal.

- c. Equipment with factory finished surfaces unless otherwise noted.

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

4.03 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 the material or work that is unsatisfactory, and require the replacement of either or both at the expense of the Contractor.

4.04 PROTECTION OF THE WORK

The Contractor shall endeavor 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.

4.1.1 Metal Surfaces

- A. Steel and Galvanized Steel Surfaces
1st coat – Epoxy Paint Primer
2nd coat – Epoxy Paint
3rd coat – Epoxy Paint

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 to be painted.

4.05 WORKMANSHIP

All painting work 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 paintings.

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 required lines. Finished paint surfaces shall be free from defects or blemishes. Surfaces from which such paint cannot be removed satisfactory 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 material.

4.06 STORAGE OF MATERIALS

All painting materials and equipment not for immediate use shall be stored in a room approved by the Engineer for that purposes. The receiving, opening and mixing of all paint materials be done in this room.

Necessary precautions shall be taken to prevent fire. Rags, waste, and other materials, soiled with paint shall be removed from the premises at the end of each day's work, or stored in metal containers with metal covers.

4.07 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.

4.08 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 floors shall be cleaned of paint spots and polished, and the job made for occupancy by the owner.

4.09 MATERIALS

a. 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 the 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.

b. Colors and Sample - 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.

4.10 PREPARATION OF SURFACES

a. General - Except as otherwise specified, surfaces to be painted shall be clean, smooth and dry. The Contractor shall report to the Engineer in writing any surfaces 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.

b. 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.

- c. 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 undercoat on smooth plaster shall be sandpapered by hand (with No. 00 sandpaper) and dusted clean before applying succeeding coat.
- d. 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 sandpaper by hand (with No. 00 sandpaper) and dusted clean before applying succeeding coat.
- e. Woodwork – Unless already properly sanded, woodwork shall be sandpaper 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.

4.11 APPLICATION OF PAINT

- a. General – All painting and finishing shall be performed by skilled craftsmen. Each coat of paints 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.
- b. Method of Application – Paint should be applied by brush, spray, or other application method approved by the Engineer
- c. 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.

4.12 PAINTING SYSTEMS

MANUFACTURER
Boysen : Dutch Boy
Number : Number

Architectural Items

a) Exterior Finishes

- | | | | |
|----|---|----------------------------|-----------------------|
| 1) | <u>On Concrete Walls:</u>
Two Coats, Concrete
Masonry Paint | BT01/B715
B710 | A69EXZ |
| 2) | <u>Unprimed Ferrous Metal</u>
<u>including GI Roofing</u>
First Coat:
Rush inhibitive ferrous
Metal primer
Second Coat:
Exterior Enamel | B320 20724
B2501 20-125 | |
| 3. | <u>On Concrete Block Wall:</u>
First Coat:
Concrete block primer
sealer
Second Coat:
Concrete Masonry Paint
Third Coat:
Concrete Masonry | B701
B701
B701 | 103
55B00
55B00 |
| 4. | <u>On Wood</u>
First Coat:
Exterior Wood Primer
Second Coat:
Exterior Enamel
Third Coat:
Exterior Enamel | B800
B600
B600 | 25F
10X
10X |

b) Interior Finishes

Location of the various finishes
Are listed in the finish Schedule
On the Drawings or else will be
Confirmed by the PPA

- | | | | |
|----|---|------|-------|
| 1) | On the primer & coated metal
two coats of interior semi-
gloss enamel or as indicated
in the schedule finish | B200 | 22101 |
|----|---|------|-------|

2)	<u>On Plaster</u> First Coat: Pigmented sealer Second Coat: Enamel undercoater Third Coat: Interior flat enamel	B701 B701	103 22
3)	<u>On Wood</u> First Coat: Enamel undercoater Second Coat: Enamel undercoater Third Coat: Interior flat enamel	B800 B800 B800	.001 .001 23-001
4)	<u>Wood Stain Finish</u> Oil Stain with Filler Boiled on top coat	B2700	23-11 36-001
5)	<u>Wood Lacquer Finish</u> Wood Paste Filler w/ natural Oil top coat of lacquer	B60/B1258 B60/b1253	23-11 68-064
c)	<u>Non-Architectural items</u> (Piping, Valves, Equipment, etc.)		
1)	Piping, valves, equipment etc. in rooms are to be painted		
2)	Galvanized pipes & ducts Primer – one coat Finish – one coat	B320 B2501/B600	70-56 22-101
3)	Black Steel Pipes Primer – one coat Finish – one coat	B320 B2501/B600	.041 22-101
4)	Mechanical Items		
a)	Ungalvanized Ferrous Metal Primer – one coat Finish – one coat	B320 B2501/B600	70-56 22-101
b)	Galvanized Ferrous metal primer – one coat Finish – one coat	B320 B2501/B600	70-56 22-101
c)	Submerged Galvanized Ferrous Metal Primer - - one coat	B2200	60-709

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|----|--|---|
| d) | Buried Miscellaneous
Ferrous surface, valves
& flanged joints (excl.
pipe)
Primer – one coat | Coal-tar enamel or
Match adjacent pipe
Coating (if any) |
|----|--|---|

PART – 5 LABOR

- 5.0 It is understood that the work shall be done and executed in accordance to the good engineering methods and practices.
- 5.1 The Contractor shall and thereby warrants all work performed by him directly and for which guarantee are required. The Contractor shall and hereby warrants and/or guarantees for a period of one year, or for longer periods where so provided in this Specifications, evidenced by date of final certificate issued by the Engineer, all materials and workmanship installed under Contract to be of good quality in every respect and to remains so for periods described herein.
- 5.2 Such any defects develop in aforesaid work, within the specified periods, due to faults in material and/or workmanship, the Contractor thereby agrees to make all repairs and do all necessary work to correct defective work to the Engineer's satisfaction. Such repairs and corrective works shall be done without cost to the Owner and at entire cost and expense of the Contractor.

PART – 6 ALTERATION

alterations and revisions from the Plans/Drawings and Specifications done without the knowledge of the Engineer, that may impair the strength and/or the aesthetic of the project is not the liability of the Architect, but shall be borne by the General Contractor instead.