

TECHNICAL SPECIFICATIONS

PROJECT TITLE: **Upgrading of Vermicomposting facility**
LOCATION: **Iloilo ROS, Sta. Barbara, Iloilo**
OWNER: **Department of Agriculture, RFU-6, Region VI, Iloilo City**

TECHNICAL SPECIFICATIONS

A. GENERAL DESCRIPTION OF THE WORK

The work to be done and executed shall include the furnishing of labor and materials, equipment and specialized works in the construction of the structure completely as shown in the drawing, reflected in the detailed estimates and as specified herein.

1.0 SITEWORKS

Mobilization & Demobilization:

Construction of temporary facilities for men's quarter and bodega and billboard requirements.

Construction Safety and health:

Provision of duly trained medical personnel is necessary and wearing of safety shoes, hat and gloves MUST be practice.

2.0 EARTHWORKS:

STRUCTURAL EXCAVATIONS – Excavation must take place to the appropriate bearing value depths. Excavations carried out below the necessary depth for footings and foundations must be filled with concrete, and their bottoms must be level. For effective form erection and deconstruction, service installation, and inspection, all structural excavation must reach far enough from the walls and footings. Before pouring any concrete, all excavations must be examined and authorized. Underground services must be installed in order to place certain fill materials.

STRUCTURE BACKFILL: Fill shall be of compacted, and well-graded earth or sand. Backfill must be laid free of waste and undesirable materials after forms have been removed from footings, beams, foundations, walls, etc., and when the concrete work has reached its full specified strength. The Contractor must fill in any shallow areas to level the backfill area once it has settled

3.0 REBARS

REINFORCING BARS shall conform to the requirements of ASTM standard specifications for Billet steel bars for concrete reinforcement (A15-625) and to specifications for requirements for deformed steel bars for concrete reinforcement (A 305-56). All dowels for anchorage of vertical and horizontal reinforcement for CHB walls and anchor bolts including structural frames, drains and all other materials in contact with concrete construction shall practically be place secured in position when concrete is placed.

4.0 FORMS

GENERAL – Forms shall be used wherever necessary to confine the concrete and shape it to the required lines, or to ensure the concrete of contamination with materials caving with adjacent, excavated surfaces. Forms shall have sufficient strength to withstand rigidly in correct position. Forms shall have sufficiently fought to prevent loss of mortar from the concrete. Forms for exposed against which backfill is not be placed shall be lines with a form grade plywood.

CLEANING AND OILING OR FORMS – before placing the concrete, the contact surfaces of the forms shall be cleansed of encrustations of Mortar, grout, or other foreign material, and shall be coated with commercial form oil that will effectively prevent sticking and will not stain the concrete surfaces.

REMOVAL OF FORMS – Forms shall be removed as soon as possible to enable the earliest practicable repair of surface imperfections, but in no case shall they be removed before approval of the Engineer. Any needed repair or treatment shall be performed at once, and be followed immediately by the specified curing. Forms shall be removed with care to avoid injuring the concrete and any concrete damage shall be repaired.

5.0 CONCRETE AND REINFORCED CONCRETE

GENERAL

Unless otherwise stated herein, concrete works shall conform to the requirements of the ACI Building Code. Full cooperation shall be given other grades to install embedded items. Provisions shall be made for setting items not in place, embedded items shall be made for setting items not placed in the forms. Before concrete is placed. Embedded items shall have been inspected and tested for concrete aggregates and other materials shall have been done.

MATERIALS:

- a) CEMENT for the concrete shall conform to the requirements of specifications for Portland cement (ASTM C-150).
- b) WATER is used in mixing concrete shall be clear and free from other injurious amount of oils, acids, alkaline, organic materials for substances that maybe deleterious to concrete or steel.
- c) PROPORTION OF CONCRETE. All concrete works shall be done in strict accordance with the DPWH Specification of concrete and the revised proportioning as follows:
 - Use class A (1 : 2 : 4) concrete mixtures, unless otherwise specified, for all footings, beams, columns, steps and floors.
 - Use class B (1 : 2.5 : 5) concrete mixtures, unless otherwise specified, for all thicker than 0.10m steps on fill, floor slabs on fill, catch basins, and other works of similar nature.
 - Use class B (1 : 3) concrete mixtures, unless otherwise specified fore mortars and plasters used for CHB walls, catch basins, septic tank walls and other similar structures.

- d) **CONSISTENCY OF MIXTURES.** The quantity of water to be used in all concrete mixtures shall be 6.0 to 6.25 gallons per bag of cement, unless otherwise specified and permitted by the Supervising Engineer.
- e) **CURING.** Use water curing by keeping the forms sufficiently wet at all times. Concrete surfaces not protected by forms shall be protected from the loss of surface moisture by covering them with craft papers, quilts or braises. Concrete shall be kept thoroughly wet within the duration of the curing period, which shall be not less than 7 days.

6.0 MASONRY WORKS:

a) MATERIALS:

1. Concrete Hollow Blocks shall have a minimum face thickness of 1" (0.25) nominal size shall be 100x200x400 and have minimum compressive strength shall be Class "A" – 900 psi.
2. Wall Reinforcement shall be 10 mm deform bars.
3. Sand shall be river sand, clean, hard and free loam, silt or other impurities.
4. Cement shall be standard Portland cement, ASTM C-150-68
5. Concrete shall not be plastered unless otherwise indicated. Exposed concrete surfaces shall be formed with plywood, and after removal of forms, the surfaces shall be concrete, true to line and shall be present or finished appearance except for minor defects which can be easily repaired with patching cement mortar or can be ground to a smooth surface to remove all joints marks of the form works. Proportioning: Cement mortar shall be one (1) part Portland cement and two (2) parts sand by volume but not more than one (1) part Portland cement and three (3) parts sand by volume.

b) ERECTION:

All masonry shall be laid plumb, true to line, with level and accurately spaced courses and with each course breaking joint with the source below. Bond shall be kept plumb throughout; corners and reveal shall be plumb and true. Units with greater than 12% absorption shall be built in with masonry, including anchors, wall plugs and accessories, shall be built in as the erection progresses.

c) WORKMANSHIP AND INSTALLATION

PLASTERING:

Clean and evenly wet surfaces. Apply scratch coat with sufficient force to form good keys. Cross scratch coat upon attaining its initial set; keep damp. Apply brown coat after scratch coat has set at least 24 hours after scratch coat application. Lightly scratch brown coat; keep moist for 2 days; allow to dry out. Do not apply finish until brown coat has seasoned for 7 days. Just before applying the coat, wet brown coat again. Float finish coat to true even surface; trowel in manner that will force sand particles down into plaster, with final growling, leave surfaces varnished smooth, free from rough areas, trowel marks check, other blemishes. Keep finish coat moist for at least 2 days; thereafter protect after rapid drying after properly, thoroughly cured.

d) SCAFFOLDING

Provide all scaffolding required for masonry work, including cleaning down on completion, remove.

7.0 ROOF AND ROOF FRAMES (wooden trusses)

All works shall be performed and computed in accordance with generally accepted and modern practice of roof and roofing framing. Used materials are specified in the plan. All joints shall be done by approved, competent, experienced and fully qualified carpenter. All wood materials shall be treated prior to assembly.

Surfaces shall be smooth, uniform and free from fins. No tears and other defects, which would adversely affect the quality of joints. The contract shall be removed or replaced or correct as instructed and joints found to be defective or deficient. The skilled welders shall also replace all methods found to produce inferior results with method that will produce satisfactory work. Sawing, cutting, chipping and all other works involved in fabrication of wooden trusses shall be done with accuracy and of the highest quality of workmanship within the allowable tolerance prescribe in the specifications.

All roofing materials and other accessories are specified in the plan.

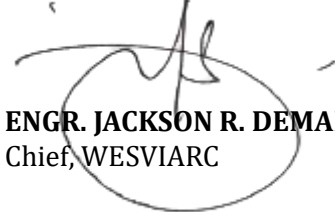
8.0 PAINTING

- All exterior and interior walls and other exposed surfaces shall be plain painted at both sides unless otherwise as specified in the plans and/or by the supervising engineer.
- Paints and varnishes shall be fire retardant quality or mixture.
- Paints to be used shall be of good quality and standard, which shall be applied strictly in accordance with the manufacturer's specifications.
- Use flat paints or flat varnish for all walls unless otherwise specified.

9.0 ELECTRICAL

All electrical installations shall be in accordance with the Philippine Electrical Code under a supervision of a Competent Master Electrician or Professional Electrical Engineer.

Prepared by :



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