

Project: **Proposed Data Center**  
 Location: Visayas State University-Main Campus

**GENERAL TECHNICAL SPECIFICATION FOR CONSTRUCTION**

**Scope of Work**

**Details of the works involved:**

- **Earthworks**
  - a. **Excavation**  
 All suitable material removed from the excavation shall be used in the formation of the embankment, subgrade, shoulders, slopes, bedding, and backfill for structures, and for other purposes shown on the Plans or as directed.
  - b. **Embankment**  
 Only approved materials shall be used in the construction of embankments and backfills.

All excess material, including rock and boulders that cannot be used in embankments shall be disposed off as directed.

Embankments shall be constructed of suitable materials, in consonance with the following definitions:

1. Suitable Material – Material which is acceptable in accordance with the Contract and which can be compacted in the manner specified in this Item. It can be common material or rock.
2. Selected Borrow, for topping – soil of such gradation that all particles will pass a sieve with 75 mm (3 inches) square openings and not more than 15 mass percent will pass the 0.075 mm (No. 200) sieve, as determined by AASHTO T 11. The material shall have a plasticity index of not more than 6 as determined by ASSHTO

- **Formworks**  
 Materials used in formworks as specified in the detailed estimated should be used.
- **Gravel Bedding**  
 Aggregates used in gravel bedding shall consist of hard, durable particles or fragments of crushed stone, crushed slag or crushed or natural gravel and filler of natural or crushed sand or other finely divided mineral matter. The composite material shall be free from vegetable matter and lumps or balls of clay, and shall be of such nature that it can be compacted readily to form a firm, stable base.

The base course material shall conform to Table 203.2.1, whichever is called for in the Bill of Quantities

**Table 203.2.1 - Grading Requirements**

Sieve Designation		Mass Percent Passing	
Standard, mm	Alternate US Standard	Grading A	Grading B
50	2"	100	100

4.75	No.4	45-100	55-100
2.00	No.10	37-80	45-100
0.425	No.40	15-20	25-80
0.075	No.200	0-25	11-35

but the use of ¾" Gravel must be used or as specified in the drawing plan.

▪ **Concrete Works**

Appropriate concrete proportion and Mixture ratio should be followed for the following structures:

- a. Footing
- b. Column Pedestal

Strength: 3500 psi  
Mixture Class: Class A  
Concrete Mixture Ratio: 1:2:4

Concrete Proportion

Mixture Class	Proportion	Cement in Bag		Sand cu. m.	Gravel cu. m.
		40 kgs	50 kgs		
AA	1:1 ½: 3	12.0	9.5	0.50	1
A	1 : 2 : 4	9.0	7.0	0.50	1
B	1: 2 ½:	7.5	6.0	0.50	1
C	1 : 3 : 6	6.0	5.0	0.5	1

▪ **Masonry Works**

Concrete masonry blocks may be rectangular or segmented and, when specified, shall have ends shaped to provide interlock at vertical joints.

Solid blocks shall conform with the requirements of ASTM C 139 or ASTM C 145, grade as specified. Hollow blocks shall conform to the requirements of ASTM C 90, grade as specified.

Dimensions and tolerances shall be as individually specified on the Plans;

Type:  
**6" ordinary CHB (non-load bearing)**  
**Standard size: 20 cm x 40 cm x 15 cm**

▪ **Metal Works**

I-Beam: Wide Flange Shape with F<sub>y</sub> strength = 50 ksi

▪ **Painting Works**

Paint, except, aluminum paint, shall consist of pigments of the required fineness and composition ground to the desired consistency in linseed oil in a suitable grinding machine, to which shall be added additional oil, thinner and drier as required. Aluminum paint shall consist of aluminum bronze powder or paste of the required fineness and composition to which shall be added the specified amount of vehicle.

The paint shall be furnished for use in ready mixed, paste or powder form.

All paint shall meet the following general requirements:

- a. The paint shall show no excessive settling and shall easily be re-dispersed with a paddle to a smooth, homogenous state. The paint shall show no curdling, livering, caking or color separation and shall be free from lumps and skins.
- b. The paint as received shall brush easily, possess good levelling properties and shall show no running or sagging when applied to a smooth vertical surface.
- c. The paint shall dry to a smooth uniform finish free from roughness grit, unevenness and other imperfections.
- d. The paint shall not skin within 48 hours in three quarters filled closed container.
- e. The paint shall show no thickening, curdling, gelling or hard caking after six (6) months storage in full, tightly covered container at a temperature of 210C (700F).

The paint shall conform to the requirements of the indicated specifications (DPWH Bluebook, Section 709.2.2)

**Red Lead Ready-Mixed Paint AASHTO M 72**  
Type I, II, III and IV

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