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MATRIC NUMBER; 19/ENG06/064[D.E]

DEPARTMENT; MECHANICAL ENGINEERING

COURSE CODE; ENG284

COURSE TITLE; ENGINEERS IN SOCIETY

ALFA BELGORE REHABILITATION PROJECT

PROJECT DESCRIPTION; The Renovation of the Alfa Belgore hall to increase the sitting capacity of the hall, re-designing of structure to improve cooling and lightning systems.

SCOPE OF WORK;

- Design of the new/projected structure by an Architect
- Determination and analyzing of cost for the project

If cost is agreed by the Client then the following activities takes place at the site;

CLEARING OF SITE;

- Removal of Chairs and other accessories
- Removal of Sound Systems (Speakers, Amplifiers, Mixer etc)
- Cutting off Power supply to the building
- Removal of Lightning fixtures and other Electrical accessories (Bulbs, Spot-Light, chandeliers, socket, switch etc)
- Un-installing of Air Conditioners

PREPARATORY PHASE, DEMOLISHING PHASE AND CONSTRUCTION PHASE;

- Mobilization of laborers to the site and other equipment (e.g crane) that will be used for the construction.
- Temporary Fencing of the Construction site
- Demolishing
- Construction/Building

CLEARING, DE-MOBILIZATION AND INSTALLATIONS

- Removal of Equipment from site
- De-mobilization of labourers
- Finishing which includes; Electrical installations Air conditioner installations etc.

RENOVATION OF ALFA BELGORE GANTT CHART

	DAYS	JAN				FEB				MAR				APR				MAY				JUNE				JULY				AUG				SEPT				OCT				NOV				DEC							
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4								
DURATION OF PROJECT 20/01/20 -13/12/20	323																																																				
CLEARING OF SITE (20/01/20 - 27/01/20)	7																																																				
Removal of Chairs and other accessories																																																					
Removal of Sound Systems (Speakers, Amplifiers, Mixer etc)																																																					
Cutting off Power supply to the building																																																					
Un-installing of Air Conditioners																																																					
Removal of Lightning fixtures and other Electrical accessories (Bulbs, Spot-Light, chandeliers, socket)																																																					
PREPARATORY PHASE (28/01/20 - 11/02/20)	14																																																				
Mobilization of laborers to the site and other equipment (e.g crane) that will be used for the construction																																																					
Temporary Fencing of the Construction site																																																					
DEMOLISHING PHASE (12/02/20 - 26/02/20)	14																																																				
Demolishing of some parts of the building																																																					
CONSTRUCTION PHASE (27/ (02/20 - 27/11/20)	274																																																				
Building of new design; laying of blocks, decking, roofing																																																					
CLEARING & DE-MOBILIZATION (28/11/20 - 05/12/20)	7																																																				
Clearing of site and demobilization of workers																																																					
INSTALLATIONS (06/12/20 - 13/12/20)	7																																																				
Finishing which includes; re-installation of air-conditioners, lightning fixtures etc																																																					

RESOURCES NEEDED FOR THE PROJECT

BUILDING RESOURCES

- Cement
- Sand
- Gravel
- Blocks
- Wood
- Scaffolding and Iron rods

FINISHING RESOURCES

- Doors
- Windows
- Tiles
- Paint
- Lightning Fixtures

PROJECT TEAM

ARCHITECT; He is the lead consultant, he/she designs the structure of the building.

STRUCTURAL/CIVIL ENGINEERS; They determine whether the new design follows the right standard (in terms of loading, bending moment etc) and also supervises the demolition phase.

ELECTRICAL ENGINEERS; They disconnect power from the building and remove lightning fixtures and other electrical accessories before the construction phase and connect back power and other electrical accessories after the construction phase.

MECHANICAL ENGINEERS; They un-install the air conditioners and other mechanical systems before the construction phase and install after the construction phase.

TECHNICIANS; They operate the crane and perform other technical duties

ARTISANS/LABORERS; They perform manual duties like laying of blocks, mixing of cement, painting etc

REASON FOR SECURING THE SITE; The site was secured for safety reasons; so as to prevent objects from injuring by-passers, or people from stumbling on construction equipments

NOTE; This table shows an estimated bill of quantities and it is liable to change

TABLE FOR BILL OF QUANTITIES

S/N	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL(₦)	TOTAL(\$)
1	Cement	bags	300	2,600	780,000	1,950
2	Sand	tonnes	120	2,250	270,000	675
3	Wood	number	500	600	300,000	750
4	Extra roofing sheet	per metre	100	2,000	200,000	500
5	Gravels	tonnes	30	5,000	150,000	375
6	Iron rods	pieces	400	1,000	400,000	1000
7	Doors		6	200,000	1,200,000	1,500
8	Windows		10	50,000	500,000	1,250
10	Miscellaneous				1,000,000	2,500
11	Consultancy fee				1,500,000	3,750
12	Site preparations				500,000	1,250
13	Transportation				1,200,000	3,000
14	Profit				2,000,000	5,000
15	Total				10,000,000	25,000

PROJECT PAYMENT SCHEDULE

S/N	DESCRIPTION	PHASE	DATE	AMOUNT (₦)
1	Mobilization	Beginning of preparatory phase	28/01/2020	3,000,000
2	50% Completion	During Construction phase	13/07/2020	3,000,000
3	100% Completion	End of construction phase	27/11/2020	3,000,000
4	Defect Liability period	6 Months after completion of project	13/06/2021	1,000,000

What is BEME; it stands for Bill of Engineering Measurement and Evaluation; it is used before, during and after construction to assess and value the cost of construction works. This includes the cost of materials, labor, equipment, and other resources required for the success of the project.

BEME is used to provide sufficient information during construction planning for the purpose of knowing the estimated cost for the proposed project. It facilitates the comparison of rates and prices between bidders

Defect liability period; it is a period of time following practical completion during which a contractor remains liable under the building contract for dealing with any defects which become apparent within a stipulated time. It is usually a period of around six or twelve months.

It is simply a set period of time after a construction project has been completed during which a contractor deals with any defect that occur within that period

Lead Consultant; These are usually the Architects. They co-ordinate, monitor and review the work of the team. They make sure the team work together to achieve the design of the project without violating any building laws of the country.

Project Life-Cycle; This is the series of phases a project goes through from initiation to completion

ENVIRONMENTAL IMPACT ASSESSMENT(EIA); This is the process of Evaluating the likely effect a proposed project would have on the Environment; economically, health wise and all areas of human life.