

ALFA BELGORE REHABILITATION PROJECT

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MECHANICAL ENGINEERING

The rehabilitation (or remodelling) of the Alpha Belgore hall at Afe Babalola University, Ekiti

which is located in Ado-Ekiti which is the capital of Ekiti is due to the following reasons;

- The need for more space to accommodate more people there
- Safety concerns due to age of the building and fear of the integrity of the building
- The need to improve the hall and provide it with modern days facilities as it is a centre piece in the school

So the project shall commence on the 31st of January, 2020. The procedure of the rehabilitation would be done in stages and the following staged are stated and explained below;

THE CLEARING

At this stage which is the first stage the building would be evacuated for work to beginning on. The building would be cleared and all the furniture would be taken out and moved to a secured and safe place. Facilities would also be removed and safely stored in the ware house till after the project. Businesses which where there or close (e.g. ICT centre and bookshop) would be located to another site temporarily, so they can continue to carry out their activities while their permanent site would still be under construction.

The clearing stage is estimated to be completed in 21days (3 weeks).



SECURING THE SITE

At this stage after evacuation and removal of furniture and other important facilities and vacation of other businesses around that premises, the stage would be commenced immediately. At this stage a barrier made of roofing sheets would be used to secure the site. This is necessary so as to ensure no one would be able to enter and leave the site at will. The only set of people with access to the site would be authorised personnel, official personnel, workers and official members of the school board (owners of the project) to inspect. This would restrict access to the site for students and those who are not mentioned above. This would be in order to prevent unnecessary accidents and limit to movement on site and also secure the equipments used on site as no one would be allowed access once the gate is locked and work for the day has finished. It would take an estimated number of 2 weeks to complete..



REMODELLING WORKS

This is when the main work begins; we will start by removing the roof of the building. After that we will then beginning other re modelling work on the building. The main aim for this work is to expand the building so it can accommodate more people for social events, programs and other activities the schools comes up with. At the end of the project, the building is going to have more space, more facilities and more modern day touch in other to represent they school name better.

The estimated duration of this stage is 2-3 months
(6-8 weeks)





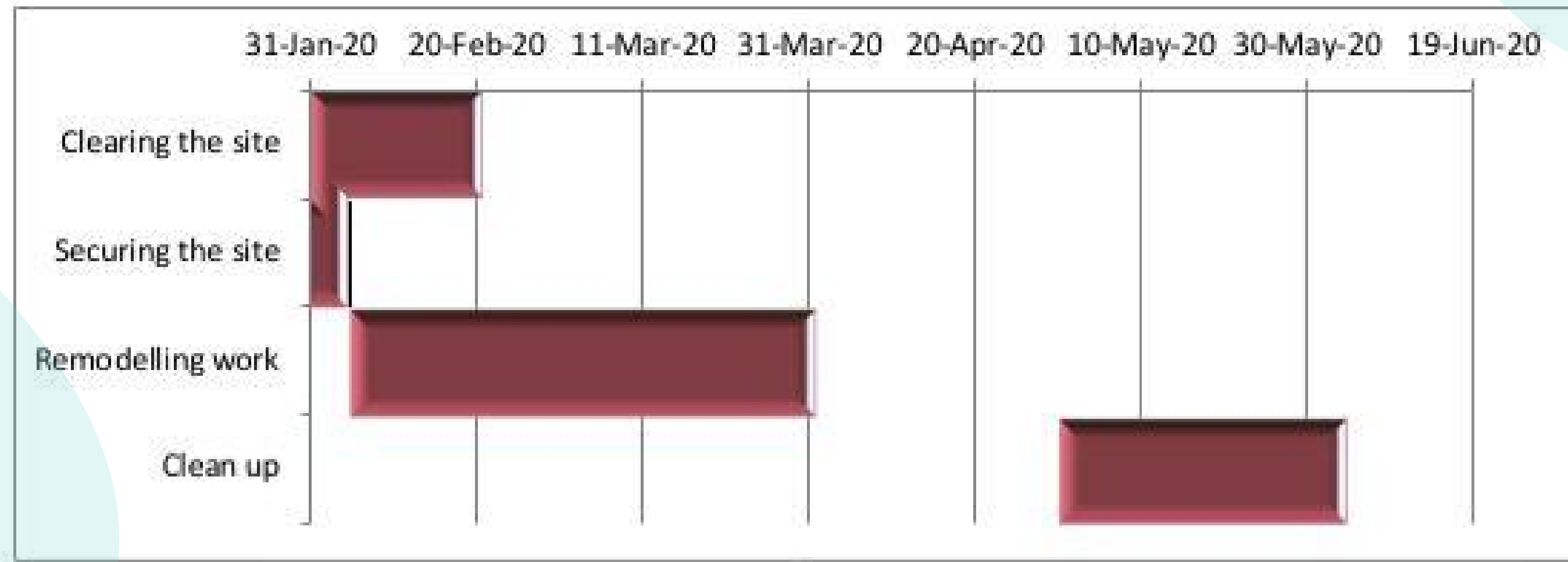
CLEAN UP

This is the final stage of the project, where all the materials, the tools, equipments used and the heavy duty machines would be returned. The roofing sheets would also be cleared and also the left over material. So that the place would be okay and ready for use and if the need be; to be re-commissioned.

The operation would take an estimated amount of 4-5 weeks.

THE GNATT CHART

GNATT CHART



HUMAN RESOURCES NEEDED

For the project to be successful and to be accomplished within the time given, a workforce of 30-40 men would be needed for the whole project if the project is to follow the estimated time given to it which is approximately 126 days to complete.

The project team would consist of following professional members;

- Quantity

surveyors who will ensure that all the materials used for the project are of good quality and can be used and also to ensure that the materials are in good shape.

- An electrical engineering that will ensure that all the electrical connections are correct and the electrical are installed correctly.

- An Architect who will design the new structure.

- A Structural Engineer that will ensure that the new structure can hold and can live up to its expectation.

- Water works engineer who will ensure that the water facilities are in good order, especially in the toilet.

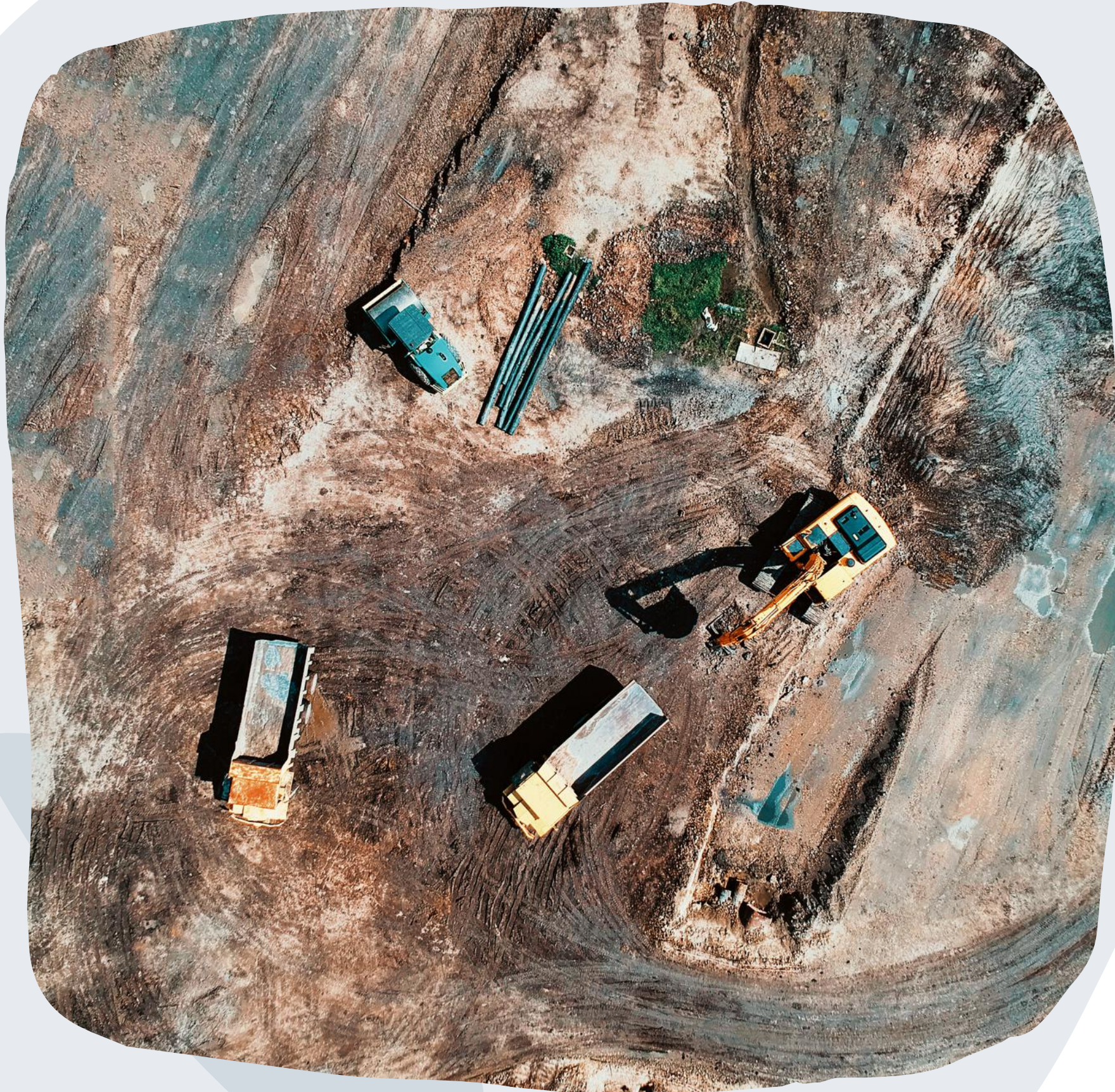
There will also be a group of consultants who will advise the best way that the project will move

WHY THE SITE WAS SECURED

The site would be secured with roofing sheets and the only entrance would have chains and padlock when the work for the day is over

This to limit the number of people to have access to the site during working hours, so as to avoid accidents during work hours. So it would only be workers and officials on the site during working hours. After working hours the gate would be closed, so as to avoid anyone to be able to enter and steal any material from the site.

So generally the site is secured to avoid accident due to ignorance and theft.



BILL OF ENGINEERING MEASUREMENT AND EVALUATION (BEME)

ITEM NO	DESCRIPTON	QUANTITY	UNIT COST	TOTAL COST
1	Roofing sheet	100	₦ 1,400.00	₦ 140,000.00
2	cement bags	500	₦ 180,000.00	₦ 90,000,000.00
3	Trucks of gravel	12	₦ 35,000.00	₦ 420,000.00
4	Trucks of sand	13	₦ 45,000.00	₦ 585,000.00
5	Glass which will be brought as 12x12	10	₦ 50,000.00	₦ 500,000.00
6	Light bulbs fittings	40	₦ 8,000.00	₦ 320,000.00
7	Light bulbs	40	₦ 2,500.00	₦ 100,000.00
8	Copper wires	60	₦ 2,000.00	₦ 120,000.00
9	Projector	3	₦ 150,000.00	₦ 450,000.00
10	T.V	4	₦ 100,000.00	₦ 400,000.00
11	Pipes of different sizes	46	₦ 80,000.00	₦ 3,680,000.00
12	Window	13	₦ 450,000.00	₦ 5,850,000.00
13	CCTV cameras for security	12	₦ 25,000.00	₦ 300,000.00
14	CCTV system	1	₦ 50,000.00	₦ 50,000.00
15	Total estimated cost			₦ 102,915,000.00
16	Miscellaneous (10%)			₦ 10,291,500.00
17	Consultancy Fee (15%)			₦ 15,437,250.00
18	Site preparations and clearing after completion (5%)			₦ 5,145,750.00
19	Transportation (12%)			₦ 12,349,800.00
20	Profit (20%)			₦ 20,583,000.00

PAYMENT SCHEDULE

- 30% of Total Estimated cost for Mobilisation
- 30 % of Total Estimated cost
- 50% of Total Estimated cost for completion
- Finally payment of 40% of Total Estimated cost at completion and hand over
- Retain 10% of Total Estimated cost for a 6 months defect liability period.

BEME

For all engineering works, it is required to know beforehand the probable cost of construction known as estimated cost. Bill of Engineering Measurement and Evaluation (BEME) also referred to as 'Bill'; is a tool used before, during and post-construction to assess and value the cost of construction works. This includes the cost of materials, labor, equipment and all/any other resource(s) required for the success of any construction endeavor based on a predetermined scope and specification.

DEFECT LIABILITY PERIOD

The defects liability period (or 'DLP') is a fixed period of time, starting from the date of practical completion, during which the contractor has an express contractual right to return to the site to rectify defects.

LEADING CONSULTANT

The lead consultant is the consultant that directs the work of the consultant team and is the main point of contact for communication between the client and the consultant team, except for on significant design issues where the lead designer may become the main point of contact

PROJECT LIFE CYCLE

A project life cycle is the sequence of phases that a project goes through from its initiation to its closure. The number and sequence of the cycle are determined by the management and various other factors like needs of the organization involved in the project, the nature of the project, and its area of application. The phases have a definite start, end, and control point and are constrained by time. The project lifecycle can be defined and modified as per the needs and aspects of the organization. Even though every project has a definite start and end, the particular objectives, deliverables, and activities vary widely. The lifecycle provides the basic foundation of the actions that has to be performed in the project, irrespective of the specific work involved