

NAME: KAINE CHRISTIAN ONYEKA

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COURSE CODE: ENG284 (ENGINEERING IN SOCIETY)

ASSIGNMENT: ENGINEERING CONSULTANCY

THE ALFA BELGORE REHABILITATION PROJECT

This project is carried out to make possible a compatible use for the multipurpose hall through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values.

As a consultant Engineer, I will be providing engineering advice and technical solutions on this rehabilitation project. My jobs Involves a range of tasks, including coordinating teams, preparing documentation, and developing the project plans.

1. Scope of work in order of occurrence;

The engineering analysis, design and construction of any necessary retrofitting must be carried out bearing in mind the following aspects:

- i. Functionality aspect: The basic function/ operation of the structure should not be hampered.
- ii. Structural safety Aspect: The susceptibility of the structure to an earthquake event has to be within acceptable standards.
- iii. Importance Level Aspect: Historic buildings with immense archeological importance are sometimes beyond the cost factor for retrofitting. Such structures have to be rehabilitated without changing its elegance.
- iv. Construction Methodology Aspect: The retrofitting has to be performed using latest construction techniques that have the minimal impact on usual functioning of the buildings.
- v. Economy Aspect: The entire cost of construction has to be practical and logical towards extended life of the structure.

vi. Skilled labor availability: The retrofitting practices need unusual construction method and is highly technical job and calls for utmost care to implement it. A very skilled workmanship must be provided to instrument the suggested measures.

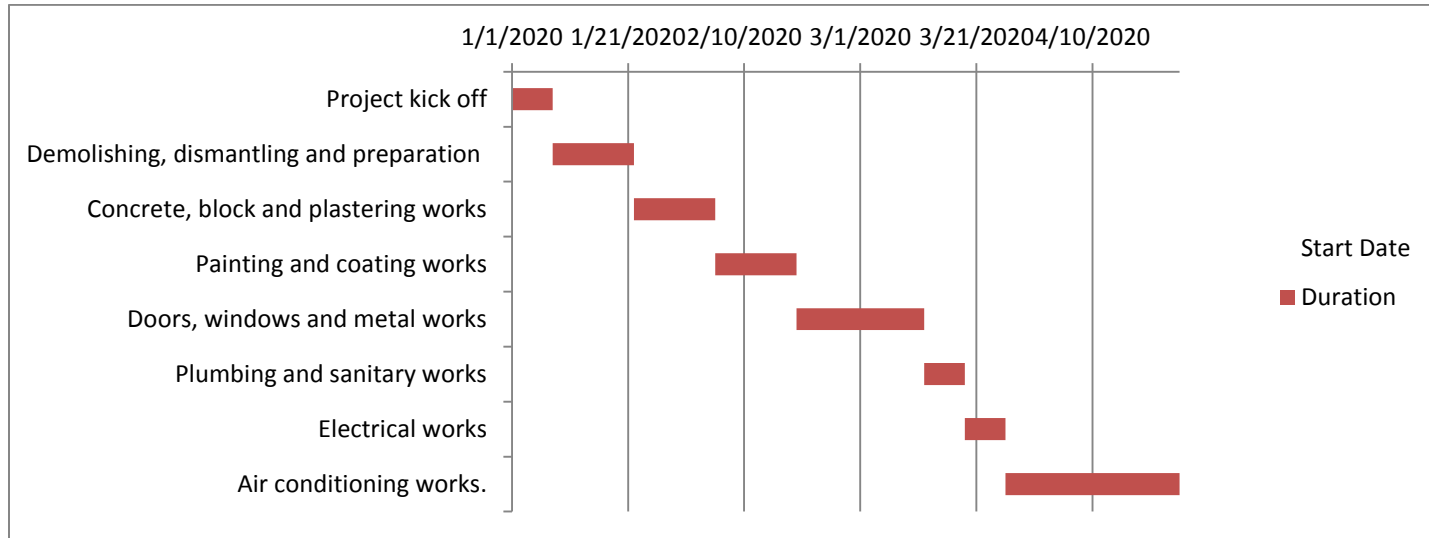
The important and summary of the required rehabilitation work include and not limited to the following:

- A. Demolishing, dismantling and preparation
- B. Concrete, block and plastering works
- C. Painting and coating works
- D. Doors, windows and metal works
- E. Plumbing and sanitary works
- F. Electrical works
- G. Air conditioning works.

Some scopes of work to consider:

- Fire and life safety e.g. fire exits, fire escape stairs, fire alarms
- Envelop repairs e.g. roof, cladding, windows, door
- Removal of hazardous materials e.g. asbestos
- Structural upgrades and/or seismic upgrades for basic life safety
- New plumbing and electrical infrastructure
- Heritage rehabilitation
- Remediation of harmful infestations e.g. bedbugs and rodents
- Interior room upgrades
- Renew living and program spaces

2. ALFA BELGORE PROJECT GANT CHART



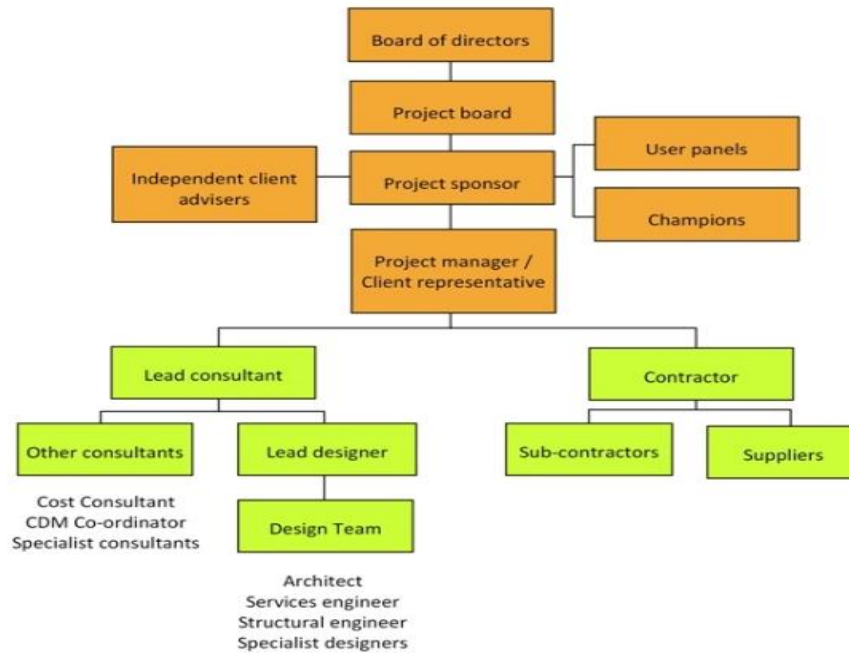
3. Human Resources needed and project team;

a. Human resources;

- i. Appointment of experienced or well-trained Project managers to handle project
- ii. Communication between personnel and laborers
- iii. Teamwork in the construction team
- iv. Skilled laborers
- v. Provision of sufficient and effective training
- vi. Evaluation of personnel and laborers performance
- vii. Sufficient reward for personnel and laborers with good performance

b. Project team

There are different people who make up the Alfa Belgore rehabilitation workforce;



I am the lead consultant.

4. Why the site was secured;

1. The hall was secured to represent the state of the historic building, as it appeared at a particular period in its history, while protecting its heritage value.
2. To foster a deep appreciation for the famous building, and learning more about why they exist, rather than just keeping the historic structure standing tall and looking as beautiful as ever.
3. To accommodate the addition of new equipment.
4. To limit danger. Damaged and poor maintained building is characterized by a poor environment.

5. BEME

S/N	Description	Unit price	cost (#)	Remark
1	Miscellaneous	400000	400000	Nil
2	consultancy fee	600000	600000	great
3	site for preparation and clearing	200000	200000	very good
4	transport cost	480000	480000	Expensive
5	profit	800000	800000	Excellent
	Total		4,000,000	

6. payment schedule

S/N	Description	Percent	Payment
1	Mobilisation	30	1500000
2	completion	30	1500000
3	final payment of completion and handover	40	2000000
4	retainment for 6months DLP	10	
			0

7. a. BEME- Bill of Engineering Measurement and Evaluation is a tool used before, during and post-construction to assess and value the cost of construction works.

b. 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.

c. Lead 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.

d. 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.

e. Environment impact assessment (EIA)- This is the assessment of the environmental consequences (positive negative) of a plan, policy, program, or actual projects prior to the decision to move forward with the proposed action. In this context, the term "**environmental impact assessment**" (EIA) is usually used when applied to actual projects by individuals or companies and the term "strategic environmental assessment" (SEA) applies to policies, plans and programmes most often proposed by organs of state.

Conclusion

Rehabilitation of structures embroils contribution of high end technology, advanced skills and calculations. This is a very responsible job to be done to save hazardous failure of structures due to deterioration. The success of this subject totally depends on gaining expertise in the field and day to day advancements. Rehabilitation is highly recommended for age-old buildings showing signs of decent and save human lives from failures.