NAME : OJIJI AMOROBAN CATHERINE

MATRIC NO.: 18/ENG01/015

DEPT. :CHEMICAL ENGINEEERING

COURSE :ENGINEER IN THE SOCIETY

* **DESCRIPTION OF SERVICE**

The rehabilitation of Afe Babalola University Ado-Ekiti, Ekiti state(ABUAD) Alpha Belgore hall. The educational institute serves as a means through which graduates gain their school leaving certificates. The Alpha Belgore Hall serves as a means to conduct congresses alongside with other official, church services and recreational activities in the school.

The hall is to be large enough to contain 4000+ students and staff, with over 1000+ tables and chairs. There should be a provision of toilets to contain the population alongside with major and minor office centres.

**SCOPE OF WORK**

* SEEK TECHNICAL HELP

In seeking technical help, here the engineering consultant comes in. A briefing on what needs to be done during, before and after reconstruction and rehabilitation needs to be carried understood, this stage is essential as it would determine the appropriate estimated fixed time for each activity to go on, in this case a year would be the duration.

* SET A BUDGET

In any construction or planning business the first stage or step is to set a budget. In this case, the set budget was N500 million naira, for the full demolition and rehabilitation/reconstruction of the Alpha Belgore Hall. Now this is an estimate budget set for the service.

* CONDITION ASSESMENT

It is important to get a detailed assessment of the condition of the [building](https://www.designingbuildings.co.uk/wiki/Building). A [chartered surveyor](https://www.designingbuildings.co.uk/wiki/Chartered_surveyor) can be commissioned to provide a [building](https://www.designingbuildings.co.uk/wiki/Building) [report](https://www.designingbuildings.co.uk/wiki/Report) identifying essential [repairs](https://www.designingbuildings.co.uk/wiki/Repair) or further investigation that is needed. This will also help identify the type of [construction](https://www.designingbuildings.co.uk/wiki/Construction) used throughout the [structure](https://www.designingbuildings.co.uk/wiki/Structure) which can provide a steer in terms of appropriate redesign and [construction](https://www.designingbuildings.co.uk/wiki/Construction) techniques.

It is generally beneficial to attend the [survey](https://www.designingbuildings.co.uk/wiki/Survey), as it is then possible to ask questions or to draw the attention of the [surveyor](https://www.designingbuildings.co.uk/wiki/Surveyor) to specific issues.

A [measured](https://www.designingbuildings.co.uk/wiki/Measured) [survey](https://www.designingbuildings.co.uk/wiki/Survey), and the preparation of [scale drawings](https://www.designingbuildings.co.uk/wiki/Scale_drawing) may be required if the [building](https://www.designingbuildings.co.uk/wiki/Building) is to be remodelled or extended.

* SECURE THE BUILDIING

A [building](https://www.designingbuildings.co.uk/wiki/Building) will start deteriorating if it is left empty for more than a few months. This can rapidly accelerate if [damp](https://www.designingbuildings.co.uk/wiki/Damp) gets inside due to broken [windows](https://www.designingbuildings.co.uk/wiki/Window), slipped [tiles](https://www.designingbuildings.co.uk/wiki/Tiles), and so on. An empty [property](https://www.designingbuildings.co.uk/wiki/Property) may also be susceptible to vandalism, trespassing and theft.

It is important therefore that a [property](https://www.designingbuildings.co.uk/wiki/Property) is secured and made [weathertight](https://www.designingbuildings.co.uk/wiki/Weathertight) before [work](https://www.designingbuildings.co.uk/wiki/Works) begins. [Metal](https://www.designingbuildings.co.uk/wiki/Metal) shutters can be rented, or sheets of [plywood](https://www.designingbuildings.co.uk/wiki/Plywood) used to board up [windows](https://www.designingbuildings.co.uk/wiki/Window) and [doors](https://www.designingbuildings.co.uk/wiki/Doors). [Waterproof](https://www.designingbuildings.co.uk/wiki/Waterproof) sheets can be used to secure missing or damaged [roof](https://www.designingbuildings.co.uk/wiki/Roof) [sections](https://www.designingbuildings.co.uk/wiki/Section).

[Buildings](https://www.designingbuildings.co.uk/wiki/Building) and [public liability insurance](https://www.designingbuildings.co.uk/wiki/Public_liability_insurance) cover may be required to protect against [damage](https://www.designingbuildings.co.uk/wiki/Damages), [fire](https://www.designingbuildings.co.uk/wiki/Fire), [construction works](https://www.designingbuildings.co.uk/wiki/Construction_works), and so on.

* **[**[**edit**](https://www.designingbuildings.co.uk/w/index.php?title=Renovation&action=edit&section=7)**]**CONSENTS

While some aspects of the [project](https://www.designingbuildings.co.uk/wiki/Project), such as a [garage](https://www.designingbuildings.co.uk/wiki/Garage) or [loft conversion](https://www.designingbuildings.co.uk/wiki/Loft_conversion) may fall within the allowances made under [Permitted Development](https://www.designingbuildings.co.uk/wiki/Permitted_development) Rights, it is necessary to consider which aspects of the proposed renovation might require [planning permission](https://www.designingbuildings.co.uk/wiki/Planning_permission). In addition, [building regulations approval](https://www.designingbuildings.co.uk/wiki/Building_regulations_approval) may be required for anything other than minor cosmetic [works](https://www.designingbuildings.co.uk/wiki/Works). Other [permissions](https://www.designingbuildings.co.uk/wiki/Permission) may also be required, such as [listed building consent](https://www.designingbuildings.co.uk/wiki/Listed_building_consent), [conservation area consent](https://www.designingbuildings.co.uk/wiki/Conservation_area_consent), [landlord](https://www.designingbuildings.co.uk/wiki/Landlord) [approval](https://www.designingbuildings.co.uk/wiki/Approvals), [party wall act](https://www.designingbuildings.co.uk/wiki/Party_Wall_Act) [agreement](https://www.designingbuildings.co.uk/wiki/Agreement), and so on.

A solicitor can help check the [title](https://www.designingbuildings.co.uk/wiki/Title) [deeds](https://www.designingbuildings.co.uk/wiki/Deed) or [lease](https://www.designingbuildings.co.uk/wiki/Lease) for any other [development](https://www.designingbuildings.co.uk/wiki/Development) restrictions that may apply.

The earlier that applications are submitted the better, as they can take several months to be processed.

* INITIAL CONSTRUCTION WORKS

The initial [works](https://www.designingbuildings.co.uk/wiki/Works) might include:

* Securing the [site](https://www.designingbuildings.co.uk/wiki/Site).
* Identifying [areas](https://www.designingbuildings.co.uk/wiki/Area) for [materials](https://www.designingbuildings.co.uk/wiki/Materials) and [plant](https://www.designingbuildings.co.uk/wiki/Plant) [storage](https://www.designingbuildings.co.uk/wiki/Storage).
* Identifying available options if the [site](https://www.designingbuildings.co.uk/wiki/Site) has restricted [access](https://www.designingbuildings.co.uk/wiki/Access).
* Checking existing [drains](https://www.designingbuildings.co.uk/wiki/Drains) and other [service](https://www.designingbuildings.co.uk/wiki/Services) connections.
* Ensuring there is a [water](https://www.designingbuildings.co.uk/wiki/Water) and [electricity supply](https://www.designingbuildings.co.uk/wiki/Electricity_supply).
* Identifying any [work](https://www.designingbuildings.co.uk/wiki/Works) required to stabilise the [structure](https://www.designingbuildings.co.uk/wiki/Structure), such as [underpinning](https://www.designingbuildings.co.uk/wiki/Underpinning), [piling](https://www.designingbuildings.co.uk/wiki/Piling) or [foundation](https://www.designingbuildings.co.uk/wiki/Foundations) stabilisation.
* Making the [building](https://www.designingbuildings.co.uk/wiki/Building) [weather-tight](https://www.designingbuildings.co.uk/wiki/Weather-tight).
* [Demolition work](https://www.designingbuildings.co.uk/wiki/Demolition_work) required to strip the [structure](https://www.designingbuildings.co.uk/wiki/Structure) back as required.
* Identifying and solving any problems with [damp](https://www.designingbuildings.co.uk/wiki/Damp). For more [information](https://www.designingbuildings.co.uk/wiki/Information), see [Damp in buildings](https://www.designingbuildings.co.uk/wiki/Damp_in_buildings).
* Treatment of any infestations.
* STRUCTURAL WORK AND EXTENTION

[Structural](https://www.designingbuildings.co.uk/wiki/Structural) [work](https://www.designingbuildings.co.uk/wiki/Works) can begin once the existing [building](https://www.designingbuildings.co.uk/wiki/Building) is stable. All [structural](https://www.designingbuildings.co.uk/wiki/Structural) [work](https://www.designingbuildings.co.uk/wiki/Works) must comply with the [Building Regulations](https://www.designingbuildings.co.uk/wiki/Building_regulations). It is important to ensure the existing [building](https://www.designingbuildings.co.uk/wiki/Building) is protected from [damage](https://www.designingbuildings.co.uk/wiki/Damages) during the [works](https://www.designingbuildings.co.uk/wiki/Works) using [plastic](https://www.designingbuildings.co.uk/wiki/Plastic) sheets, boards, and so on.

* FIRST FIX

When the [structural](https://www.designingbuildings.co.uk/wiki/Structural) [works](https://www.designingbuildings.co.uk/wiki/Works) are nearing [completion](https://www.designingbuildings.co.uk/wiki/Completion), [work](https://www.designingbuildings.co.uk/wiki/Works) can begin on internal [stud](https://www.designingbuildings.co.uk/wiki/Stud) [walls](https://www.designingbuildings.co.uk/wiki/Walls), [flooring](https://www.designingbuildings.co.uk/wiki/Flooring), [fixing](https://www.designingbuildings.co.uk/wiki/Fixings) [ceiling](https://www.designingbuildings.co.uk/wiki/Ceilings) [joists](https://www.designingbuildings.co.uk/wiki/Joist), new [staircases](https://www.designingbuildings.co.uk/wiki/Staircase), [wiring](https://www.designingbuildings.co.uk/wiki/Wiring) and [plumbing](https://www.designingbuildings.co.uk/wiki/Plumbing) [works](https://www.designingbuildings.co.uk/wiki/Works), and so on.

Things that may later be concealed by [plaster](https://www.designingbuildings.co.uk/wiki/Plaster) will need to be [installed](https://www.designingbuildings.co.uk/wiki/Installed) at this stage, such as:

* [Ventilation](https://www.designingbuildings.co.uk/wiki/Ventilation) and extract [ducts](https://www.designingbuildings.co.uk/wiki/Duct).
* [Wiring](https://www.designingbuildings.co.uk/wiki/Wiring) for [power](https://www.designingbuildings.co.uk/wiki/Power), [lighting](https://www.designingbuildings.co.uk/wiki/Lighting), [central heating](https://www.designingbuildings.co.uk/wiki/Central_heating) controls, [alarms](https://www.designingbuildings.co.uk/wiki/Alarm), aerials, speakers, phone and [data](https://www.designingbuildings.co.uk/wiki/Datum), and so on.
* [Plumbing](https://www.designingbuildings.co.uk/wiki/Plumbing) for [water supply](https://www.designingbuildings.co.uk/wiki/Water_supply), [heating](https://www.designingbuildings.co.uk/wiki/Heating), [drainage](https://www.designingbuildings.co.uk/wiki/Drainage), and so on.

Following this, re-[plastering](https://www.designingbuildings.co.uk/wiki/Plastering) can be carried out, along with new [flooring](https://www.designingbuildings.co.uk/wiki/Flooring) or other surfaces that are required.

* SECOND FIX

This includes:

* [Fitting](https://www.designingbuildings.co.uk/wiki/Fittings) [light fittings](https://www.designingbuildings.co.uk/wiki/Light_fitting), sockets, switches, phones, TV [points](https://www.designingbuildings.co.uk/wiki/Points), and so on.
* Hanging [doors](https://www.designingbuildings.co.uk/wiki/Doors).
* [Fixing](https://www.designingbuildings.co.uk/wiki/Fixings) [skirting](https://www.designingbuildings.co.uk/wiki/Skirting), [architraves](https://www.designingbuildings.co.uk/wiki/Architrave), spindles and [handrails](https://www.designingbuildings.co.uk/wiki/Handrail).
* Installing [bathroom](https://www.designingbuildings.co.uk/wiki/Bathroom) [fittings](https://www.designingbuildings.co.uk/wiki/Fittings).
* Installing [boiler](https://www.designingbuildings.co.uk/wiki/Boiler) and controls, and [fitting](https://www.designingbuildings.co.uk/wiki/Fittings) [radiators](https://www.designingbuildings.co.uk/wiki/Radiator).
* [Fitting](https://www.designingbuildings.co.uk/wiki/Fittings) [kitchens](https://www.designingbuildings.co.uk/wiki/Kitchen) and any fitted [furniture](https://www.designingbuildings.co.uk/wiki/Furniture).
* Preparing surfaces for [decorating](https://www.designingbuildings.co.uk/wiki/Decorating).
* DECOTRATING

[Painting](https://www.designingbuildings.co.uk/wiki/Painting), [staining](https://www.designingbuildings.co.uk/wiki/Staining), varnishing and so on begins once [second fix](https://www.designingbuildings.co.uk/wiki/Second_fix) [work](https://www.designingbuildings.co.uk/wiki/Works) and preparation is [complete](https://www.designingbuildings.co.uk/wiki/Complete). To achieve a [good](https://www.designingbuildings.co.uk/wiki/Goods) [finish](https://www.designingbuildings.co.uk/wiki/Finishes) it is important that the surfaces are thoroughly smooth and clean in advance. Tiling of [bathrooms](https://www.designingbuildings.co.uk/wiki/Bathroom) and [kitchens](https://www.designingbuildings.co.uk/wiki/Kitchen) should also be done at this stage, as well as any soft [floor coverings](https://www.designingbuildings.co.uk/wiki/Floor_covering) such as vinyl and [carpet](https://www.designingbuildings.co.uk/wiki/Carpet).

* SNAGGING

Small problems will often arise after the renovation is [complete](https://www.designingbuildings.co.uk/wiki/Complete). A [retention](https://www.designingbuildings.co.uk/wiki/Retention) sum may be retained until [tradesmen](https://www.designingbuildings.co.uk/wiki/Tradesman) or [contractors](https://www.designingbuildings.co.uk/wiki/Contractors) have resolved any [defects](https://www.designingbuildings.co.uk/wiki/Defects) which are their responsibility.

**GANTT CHART**

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|  | JAN2020 | FEB2020 | MARCH2020 | APRIL2020 | MAY2020 | JUNE2020 | JULY2020 | AUG2020 | SEPT2020 | OCT2020 | NOV2020 | DEC2020 | JAN 2021 |
| SEEK TECNICHAL HELP |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SET A BUDGET |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CONDITION ASSESMENT |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SECURE THE BUILDING |  |  |  |  |  |  |  |  |  |  |  |  |  |
| CONSENTS |  |  |  |  |  |  |  |  |  |  |  |  |  |
| INITIAL CONSTRUCTION WORKS |  |  |  |  |  |  |  |  |  |  |  |  |  |
| STRUCTURAL WORKS AND EXTENTION |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FIRST FIX |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SECOND FIX |  |  |  |  |  |  |  |  |  |  |  |  |  |
| DECORATION |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SNAGGING |  |  |  |  |  |  |  |  |  |  |  |  |  |

**PROJECT TEAM**

They are;

1. Engineering Consultant
2. Landscape Architect
3. Architect
4. Interior Decorator
5. Quantity Surveyor
6. Civil Engineer
7. Structural Engineer
8. Geotechnical Engineer
9. Builder:
* Electrical Engineer
* Mechanical Engineer
1. General Contractor
2. Project Manager
3. Real Estate Developer
* ENGINEERING CONSULTANT

According to the Bamisile (2004), during the construction phase Engineers (Civil, electrical, mechanical, geotechnical and structural) should visit the site often for inspections, and to be ensured that all activities going on compliance with their engineering drawings, specifications and schedules. Also they should be concerned with monitoring and ensuring methods and materials. Normally engineer consultants joint as a reputed individual firm with development projects. Also involve for selecting the project by way of tender or by nomination. A Fee also will be charged by Engineers as a parentage basis.

* LANDSCAPE ARCHITECT/ PLANNER

The detailed outdoor environment of every human settlement play a major role in supporting many activities of human such as recreation and social gathering. Also. The outdoor environment needs to be protected from ecological and geomorphological imbalance due to intervention of man in the natural settings of ecosystem. There should be a way both natural and artificial to make outdoor environment, aesthetically, beautiful, capable of supporting outdoor activities such as recreation and be environmentally stable and mitigated from intervention of natural of natural system. All of the above are the responsibilities of Landscape Designer/Planner/Architect. His jobs can range from small scale to a very large scale level. He designs, estimate and implement the process of landscape element development. In a developing country like Nigeria, this role is still being played by Town Planner, Architects and Landscape contractors. Landscape design and architecture is a specialized discipline in Town Planning.

* ARCHITECT

Building as a major content of the built environment is expected meet functional,
structural and aesthetic objectives which are all values of man. Building is a technical, social and psychological product. In order to satisfy the above requirements the superstructure of it which is visible to visual world need to be designed. This forms the jurisdiction of an Architect. To be precise he is saddled with the responsibility of designing the visible component of the building superstructure. (part above ground surface)
Most times, he present his work in form of working drawings showing plan, approach views(elevations), sections, three dimension physical or graphical models, fixture and fittings schedule(details), to aid estimate, construction and approval process.
Sometimes he make a three dimensional presentation to help the understanding of his client in form of physical and graphical model.

 INTERIOR DECORATOR/DESIGNER

Indoor space as created by other member of the industry team is expected be of value and style expressing the status of the occupant/owner. Interior decorator/designer work on specification of stylish finishing such as cornice on ceiling, colours, texture of the wall, curtains, blinding, furniture, architave etc., to enhance desirable visual effect in the indoor.

 QUANTITY SURVEYOR
Buildings and other construction activities are capital, material and labour intensive at any scale of it. Even the most modest type of building has a considerable cost and labour implications. This is why the concept of “phased implementation is a common place in the industry. There is a natural inquisitive to have firsthand idea of the cost before embarking on the building construction exercise. The knowledge of the cost assists in budgeting and therefore helps to prevent project abandonment. The mechanism of price as a function of demand, supply, time. vis-à-vis the identification of qualitative material and technical knowledge of its quantification necessitate the relevance of the expertise skill. The cost estimation and control in building construction involves a deep understanding of building construction process. All of the above constitute the jurisdiction of the Quantity Surveyor.
He prepares a document known as Bill of Quantities (BOQ). The document can assist the project owner in obtaining mortgage fund to finance the project.

 CIVIL ENGINEER

Civil structures such as building, wall, embankment, bridges, road, drainage, sewers, bunkers, tunnels, canal embankments, dam, towers, masts e.t.c. is both functional and structural and in modern cities, an aesthetic products. Their importance in modern infrastructures, transportation and telecommunication systems cannot be overemphasized. Their safety implication is also major factor. As such their design and construction form the jurisdiction of a civil engineer.
He prepares structural detail drawings to guide the construction operation.

 STRUCTURAL ENGINEER

The invisible structural content of both substructure (foundation) and superstructure Part above ground level) of building must be capable of bearing and sustaining both the dead weight and imposed weight of the building. Also, the material composition of the building structure must be able to last to the end of the life span of such building. All these requirements are contained in building code which is the reflection of man’s values and objectives on safety of human lives.
Structural engineers informed intuition and experience is invaluable in many special cases that are outside the scope of safety code. Such relevance and influence is felt more in high rise structure such as high rise structures, such as tower, mast, reservoir e.t.c. He prepares structural detail drawings to guide the construction operation.
The conscious efforts to achieve the above constitute the jurisdiction of structural engineer. In a developing country like Nigeria the field still remains a specialization in civil engineering.

 GEOTECHNICAL ENGINEER

Another specialization of civil engineering that concerns itself with relationship between the surface of the earth, its soil and the structure it bears with a view of coming up with appropriate design for the superstructure (foundation).In developing country like Nigeria, this role is being played by structural engineer.
He conducts and present report on, geophysical survey in respect of a site.

 BUILDER
Building construction operation is a very vast one. Apart from structural requirement, building element needs to satisfy other requirements of safety, convenience and health.
Also the implementation of building concepts and design involves coordination of other team players such as subcontractors, technicians, artisans and unskilled labour. At this junction, a builder comes in as man-power capable of interpreting the specifications of other survey and design professionals. Also he plans and organizes implementation of building operations.

* ELECTRICAL ENGINEERS

Electrical engineers design high voltage equipment such as wiring systems, lightening systems and generators. They are in charge of wiring the whole house and also adding connection systems.

* MECHANICAL ENGINEERS

These engineers are responsible for designing, building, installing and maintaining all kinds of mechanical machinery, tools and components.

 GENERTAL CONTRACTOR
Outside the jurisdiction of a builder are other options of financing personnel management and plant scheduling, which a consulting builder cannot foot bill, especially if the scale is very large. At this point comes the general contractor.

 PROJECT MANAGER
Another middle level contractor is the project manager. He can be hired in lieu of general contractor/Builder. He must be the one of the professionals in the building construction industry who has talent, skill and experience in building operations. The advantage of having him can reduce the cost of construction if he is hired at either at conception and construction, or at design and construction stage.

 REAL ESTATE DEVELOPER
Real Estate in their raw form without structure or with a structure put to a particular use may have a potential of “latent” (hidden value) by virtue of their location. This value is known as redevelopment value and can only be realized if the land is put to such optimum use. Often time title holders of such properties lack, either knowledge of this due to property market imperfection or finance or financial capacity achieve this.
At this point comes in the jurisdiction of Real Estate Developer as an investor. He sometimes partner with financial institution and the title holders. He undertakes the feasibility and viability studies and the eventual implementation of the development. This is done to the natural benefit of all parties concerned.

**SECURE THE SITE**

To secure a site basically means to provide security for an ongoing construction site.

Building and construction sites are often natural targets for thieves as they generally contain a lot of high valuable plant, materials and equipment This can easily be accessible for criminals if care is not taken.

THREATS TO CONSTRUCTION SITES

A construction site is to be secured to avoid various threats which could hinder the construction process ongoing on the site. These threats to be avoided include;

* Threats to property
* Threats to operations
* Threats to life

**BEME ( BILL OF ENGINEERING MEASUREMENT AND EVALUATION)**

Lump sum Projections include

10% of total estimated cost(Tec)—Miscellaneous

15% Tec --- Consultancy fee

5% Tec --- siZite Preparations and clearing after completion(siZite prep.)

12% Tec --- Transportation cost

20% Tec --- Profit

TOTAL ESTIMATED COSY--- N500 MILLION

|  |  |
| --- | --- |
|  | BILL OF ENGINEERING MEASUREMENT AND EVALUATION FOR THE  REBILITATION OF ALPHA BELGORE HALL |
| S/N | COMPONENT | QUANTITY | UNIT COST OF LABOUR | TOTAL COST (N) |
| 1 | MISCELLANEOUS |  --- |  -- | 50 000 000.00 |
| 2 | CONSULTANCY FEE |  --- |  --- | 7 500 000.00 |
| 3 | siZite PREPARATIONS AND CLEARNING AFTER COMPLETION |  50 |  250 000.00 | 2 500 000.00 |
| 4 | TRANSPORT COST |  600 |  10 000.00 | 6 000 000.00 |
| 5 | PROFIT |  --- |  --- | 10 000 000.00 |

**PAYMENT SCHEDULE**

|  |  |
| --- | --- |
|  | PAYMENT SCHEDULE FOR THE REHABILITATION  OF ALPHA BELGORE HALL |
| S/N | **DESCRIPTION** | **DURATION** | **FEE (N)** |
| 1 | MOBILISATION | START | 15 000 000.00 |
| 2 | COMPLETION | ½ COMPLETION | 15 000 000.00 |
| 3 | COMPLETION AND HAND OVER | FULL COMPLETION | 20 000 000.00 |
| 4 | DEFECT LIABILIYY PERIOD | 6 months after full completion | 5 000 000.00 |

**DEFINITIONS**

* **BEME**

**A** BEME is short for Billing of Engineering Measurement and Evaluation. It is a tool used before, during and post construction to access and value the cost of construction works. This includes the cost of materials, labour, equipment and all/any other resource(s) required for the success.

* **DEFECT LIABILITY PERIOD**

A defect liability period is a set period of time after a construction project has been completed during which the right to return to the site to remedy defects.

* **LEAD CONSULTANT**

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

* **PROJECT LIFE CYCLE**

An overview of every individual and process involved in the process of planning, designing, financing, constructing and operating physical facilities related to the project under consideration

* **ENVIROMENTAL IMPACT ASSESMENT(EIA)**

This is the process to access the environmental consequences of any project and design proper mitigation plans to minimize the possible adverse impacts.