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DEPARTMENT: COMPUTER ENGINEERING

COURSE NAME/CODE: ENGINEER IN SOCIETY/ENG 284

## 1. **SCOPE OF THE WORK IN ORDER OF OCCURRENCE**

➤ **PRECONSTRUCTION STAGE/PLANNING:** Brief your designer well, telling them what you want and how much you have to spend. Agree on concept drawings. Once you have the full design, go through it in great detail. Try to consider it from every angle, time of day and stage of life including:

- how you will use the space
- what it will look like
- whether there will be enough light inside
- what building materials you'll use.

Your plans form the basis of your building consent application, if you need one. You can change them after building consent has been issued, by talking to your council, but there will be time delays and could be additional costs. This applied to every part of the plan, including the materials specified. Any variation from the consented plans could also affect progress, increase cost and delay final sign-off.

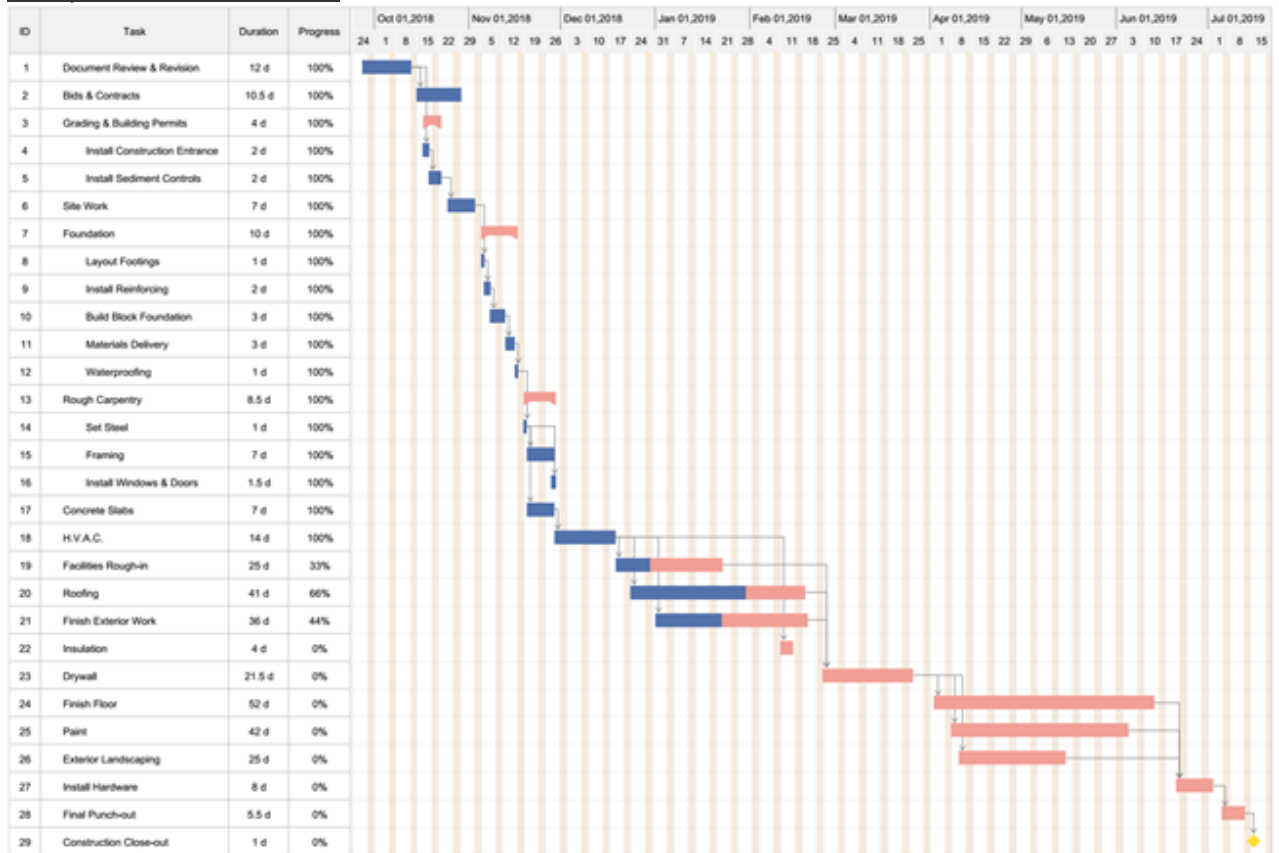
Before construction starts, all legalities must be completed. This stage can take between 24-26 weeks before the actual building begins. At this stage, formal building contracts are prepared, finance applications are created and the building license, water corporation and land settlement applications are submitted for approval. Pre-start is also undertaken at this stage where you get to choose what type of bricks, windows, doors and fixtures and fittings you want throughout the hall. This also includes choosing all your colours for your painting, render, roof, doors, bathroom and tiles. Essentially this is where all the paperwork gets handled in preparation for the actual build. Once all approvals have been received, the builder will be able to officially start on constructing the hall.

### ➤ **CONSTRUCTION STAGE**

- **SITE WORKS:** Depending on the type of land you have will influence what amount of site works get completed. Site works may involve demolishing an existing home or building retaining walls and flattening the surface to prepare it for construction.
- **SLAB DOWN:** The slab down stage is when the concrete slab gets poured. This forms the foundation of the hall. All foundation plumbing works are prepped before the slab is poured.

- **PLATE HIGH:** At this point, the external and internal brick walls are constructed and electricians, plumbers, and engineers install essential wiring and pipes for power, water and gas.
  - **ROOF COMPLETION:** This is when the hall really starts to look like a hall. This is when the roof gets put on – this might be with either roof tiles or Colorbond steel. With the roof on, the hall will also get gutters added.
  - **LOCKUP:** This is the stage when all the doors and windows can be locked. As the hall is now secure, plumbers, electricians, tilers and carpenters can complete their work.
  - **CABINETS, FIXTURES AND FITTINGS:** Here, all bathroom cabinets and benchtops, tiling, tapware, mirrors, basins, baths and shower screens are fixed into position. All these fixtures and fittings are selected by you at the pre-start stage before construction.
  - **PRACTICAL COMPLETION:** This stage is all about finishing the hall ready to be viewed by you to ensure everything is finished to the expectations. By this stage, all paving, lighting, painting, air-conditioning and appliances will be installed. If you request some final works to be completed before handover, you will get to have another inspection with your supervisor to make sure you are 100% happy. If you find yourself happy with the final finish of your house, you will move on to the next step – make the final payment, get the keys, and enter the house of your dreams!
  - **HANDOVER:** This is the final payment has been made to the builder and the founder gets to collect his keys to the hall.
- **POST CONSTRUCTION STAGE:**
- **MAINTENANCE:** Once the keys have been handed over, the process doesn't end there. Builders offer you a maintenance period where they will come to the hall either 6 months or 12 months after you have built to fix any areas that need work after the hall has settled down.

## 2. PROJECT GANTT CHART



## 3. LIST OF HUMAN RESOURCES NEEDED AND THAT CONSTITUTE THE PROJECT TEAM

- 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 and in this case the lead consultant is the **CIVIL ENGINEER.**
- Project manager (Project managers have the responsibility of the planning, procurement and execution of a project, in any undertaking that has a defined scope, defined start and a defined finish; regardless of industry.)
- Architects
- Civil Engineers
- Builders
- Quantity surveyors
- Contractor
- Lead designers
- Draftsman
- Financial planner
- Electrician
- Plumber
- Painters
- Tillers

- Surveyors
- Specialist designers, etc.

4. **WHY THE SITE WAS SECURED?**

The site was secured for the following reasons:

- To prevent accidents from non-workers and external people (students, teachers and both educational and non-educational staff)
- To prevent unwanted visitors to the project site
- To contain dust during rehabilitation, therefore avoiding air pollution.
- To avoid vandalism to the site
- To avoid theft of valuable building materials and equipment's

5. **BEME**

**TOTAL ESTIMATED COST=\$50,000,000**

S/N	DESCRIPTION	COST(\$)	PERCENTAGE
1	MISCELLANEOUS	5,000,000	10%
2	CONSULTANCE FEE	7,500,000	15%
3	SITE PREPARATIONS&CLEARING	2,500,000	5%
4	TRANSPORT FEE	6,000,000	12%
5	PROFIT	10,000,000	20%
6	TOTAL	31,000,000	62%
	COST OF MATERIALS NEEDED	19,000,000	38%
	TOTAL	50,000,000	100%

6. **PAYMENT SCHEDULE**

**ESTIMATED PAYMENT SCHEDULE COST=50,000,000**

PERIOD	PAYMENT	% OF TOTAL	BEGINNING BALANCE	ENDING BALANCE
MOBILISATION	15,000,000	30%	50,000,000	35,000,000
AFTER 50% COMPLETION	15,000,000	30%	35,000,000	20,000,000
COMPLETION AND HANDOVER	15,000,000	30%	20,000,000	5,000,000
6 MONTHS DEFECT LIABILITY PERIOD	5,000,000	10%	5,000,000	0.0000000
TOTAL ESTIMATED COST/TEC(\$)	50,000,000	100%		

7. **DEFINITIONS**

- a. BEME: The full meaning of BEME is Bill of Engineering Measurement and Evaluation. 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 pre-determined scope and specification.

- b. DEFECT LIABILITY PERIOD:** A defects liability period 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. Depending on the form of contract you are reading, it may also be referred to as a rectification period or defects correction period. A defects liability period is usually a period of around six or 12 months but it can vary depending on the contract used. Any defects or faults which arise during this period (for example - due to defective materials or workmanship) must be put right by the contractor at its own expense.
- 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.
- 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. 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.
- e. ENVIRONMENTAL IMPACT ASSESSMENT(EIA):** Environmental Impact Assessment (EIA) is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse.