PROGRAMME IN BUILDING SURVEYING

DEPARTMENT OF BUILT ENVIRONMENT STUDIES AND TECNOLOGY

FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING

UNIVERSITI TEKNOLOGI MARA

PERAK BRANCH

SERI ISKANDAR CAMPUS

CONSTRUCTION OF FLOOR FOR INTERNATIONAL SCHOOL (PHASE 2A), HORIZON HILLS

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BACHELOR OF BUILDING SURVEYING (HONS.)

PRACTICAL TRAINING REPORT

FEBRUARY 2022

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This practical training report is fulfilment of the practical training course.

PREPARED BY

NAME : NUR HAFIZAH BINTI YOUSZELAN

SIGNATURE : .....

SUPERVISING LECTURER

NAME : .....

SIGNATURE : .....

DATE : .....

Abstract

We as student of Degree in Building Survey are required to gain some experienced Industrial Training at any firm or company that are related with our requirement. The main aim or objective for this training is to ensure that all students get to know ell and expose to the real work of environment experience at the same time teach us on how to cope with various of professional and experts.

Besides, this practical training will develop our skills in management of time and working schedule, communication and others. Therefore, every student must prepare a practical report that related with the training task. Thus, this report are related to construction of International School that still undergoing at Horizon Hills, Iskandar Puteri, Johor.

Due to Pandemic of Covid-19, the construction progress might not be able to finish on time and this report only consists of construction progress. Limitation to join other workers to go to site also one of the main reasons for not be able to make a full report until post construction.

Acknowledgement

First of all, I do really want to thank to Allah giving me a chance to complete this report, Construction of International School. Other than that, I would like to express my thankful to people around me who willing to guide me to finish up this assignment successfully. I want to show my gratitude and thankful to my supervisor Sr Siti Zubaidah Hashim for guiding me to finish up this report. Next, I would like to thank to my supervisor, Ms Nursarah Binti Safri for her support, guidance, and some good information, which really helped me preparing myself for a real job in future. Finally, the greatest support is my parent who never stop giving a truly support and their blessed in completing this task. Thank you.

Table of Content

Abstract i
Acknowledgement ii

CHAPTER 1: INTRODUCTION 5
1.0 Gamuda Land 5
1.1 Philosophy of Gamuda Land 5
1.2 Horizon Hills Background 6
1.2.1 Key Plan of Horizon Hills 7
1.2.2 Site Plan of Horizon Hills 7
1.2.3 Location Plan of Horizon Hills 8
1.3 List of Department in Horizon Hills 10
1.4 Vision 12
1.5 Mission 12

CHAPTER 2: LITERATURE REVIEW 13
2.1 Construction 13
2.2 FLOOR SLAB 14
2.2.1 TYPES OF SLAB 14
2.3 Project Delivery Process 16
2.4 Design Phase 16
2.5 Construction Phase 18
2.6 International School 20
2.6.1 Visions of International Education 21

CHAPTER 3: PROJECT BRIEF ON PHASE 2A 22
3.1 Objective of Development 22
3.2 Location of Phase 2A 22
3.3 Land Information 24
3.4 Development Concept 25

3.5 Proposed Consultants.....27
3.6 Statutory & Regulation Requirement.....28

CHAPTER 4: CONSTRUCTION OF FLOOR.....30
4.1 Progress of Work.....30
4.2 Architecture Role In The Project..... 31
4.3 Civil Engineer Role In The Project..... 31
4.4 Mechanical and Electrical Role In The Project..... 32
4.5 Quantity Surveyor Role In The Project..... 32
4.6 Quality Control Role In The Project..... 33
4.7 Safety Role In The Project.....33
4.8 Concrete Floor Slab Process.....35
4.9 Problems At Site..... 37

CHAPTER 5: RECOMMENDATION AND CONCLUSION.....38
CONCLUSION..... 39
REFERENCES.....40
APPENDIX.....41

CHAPTER 1: INTRODUCTION

1.0 Gamuda Land

The property development consists of engineering, real estate and infrastructure company in Malaysia. Since 1995, Gamuda Land managed to carry out their mission to be the leader in building sustainable and integrated township development in our country, Singapore, Vietnam and Australia. To maintain as a leading company in Malaysia, they have to invest future-proofing townships with better infrastructure such as highway interchanges, placemaking attractions, central parks, high-speed internet connectivity and others.

1.1 Philosophy of Gamuda Land

1. Strong Master Planning
    - 40% land area for green scopes
    - Focus on preservation of natural
    - Highest CONQUAS scores, Green Building Index Certification
2. Beautifully crafted environment
    - Incorporating clubhouse and community interaction
    - Offer of the right mix of lifestyle, retail services, health and recreational facilities and others.
3. Good Location
    - Development built in areas with ready accessibility (highway and public transport)
    - Property strategically located high growth potential.

1.2 Horizon Hills Background

The land of Horizon Hills located in Iskandar Malaysia Johor. The acre for the whole Horizon Hills is 1200-acre with a gross development value of RM6 billion. The development more focus on residential project that spread across eleven (11) precincts. Provided private golf course, only residents and Horizon Hills staffs that allowed to enter the golf course. Gamuda Land for Horizon Hills development in a venture development with UEM Sunrises. The main objectives for Gamuda Land to rent land from UEM Sunrise, to create places that people feel safe and comfortable.

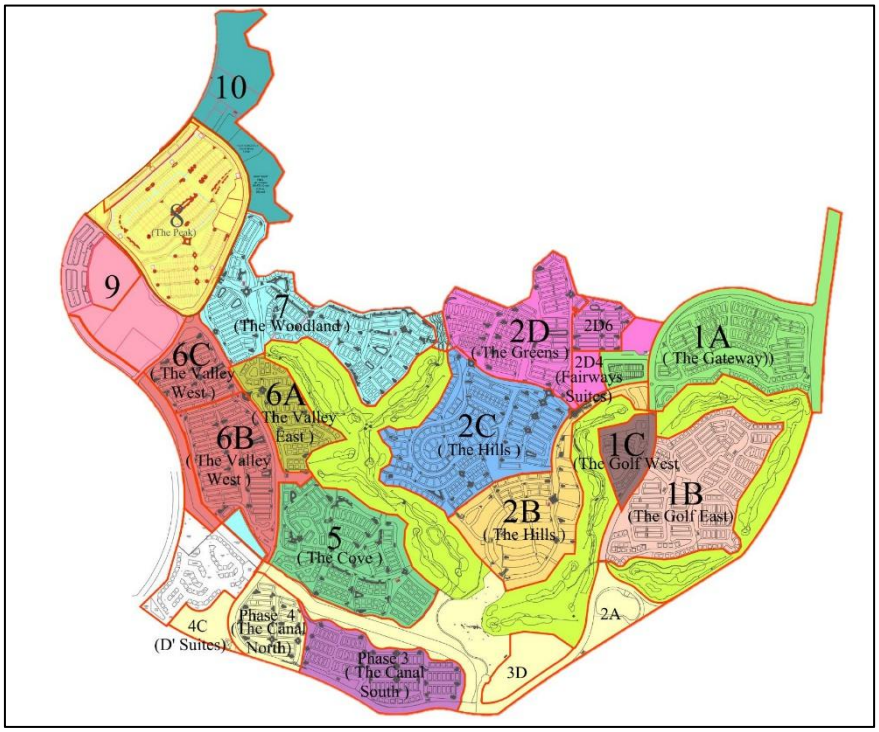

Image 1.0*: Master Layout Plan of Horizon Hills*

1.2.1 Key Plan of Horizon Hills

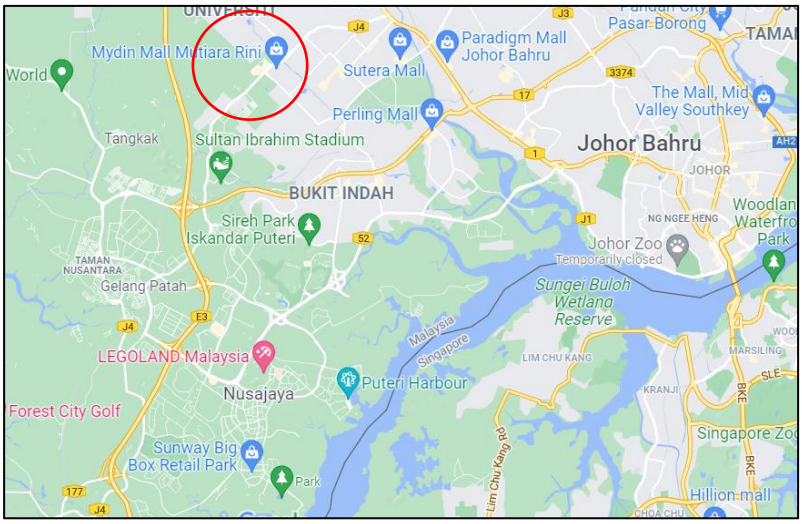

Image 1.1*: Key Plan of Horizon Hills*

1.2.2 Site Plan of Horizon Hills

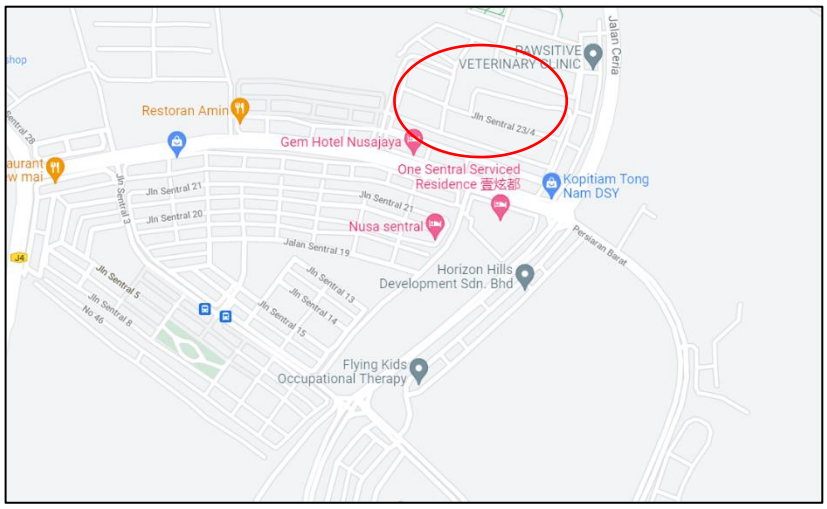

Image 1.2*: Site Plan of Horizon Hills*

1.2.3 Location Plan of Horizon Hills

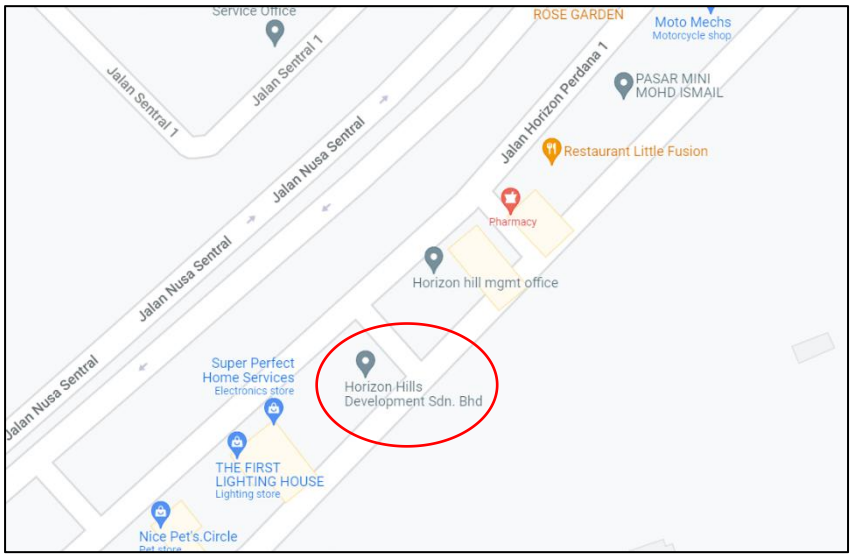

Image 1.3*: Location Plan of Horizon Hills*

Table 1.0*: Development Phases in Horizon Hills*

No.	**Phase**	**Description (Competed or Not Completed)**
1.	Phase 1	Completed
2.	Phase 2	Semi-Completed
3.	Phase 3	Not Completed
4.	Phase 4	Completed
5.	Phase 5	Semi-Completed
6.	Phase 6	Completed
7.	Phase 7	Semi-Completed
8.	Phase 8	Not Completed
9.	Phase 9	Completed
10.	Phase 10	Semi-Completed

1.3 List of Department in Horizon Hills

- HR and Admin Department
- IT Department
- Finance Department
- Sales and Admin Department
- Project Construction Management Department
  - Planning (PMD)
  - Construction (CMD)
- Contract and Commercial Department
- Township Management Department
- Marketing and Sales Department

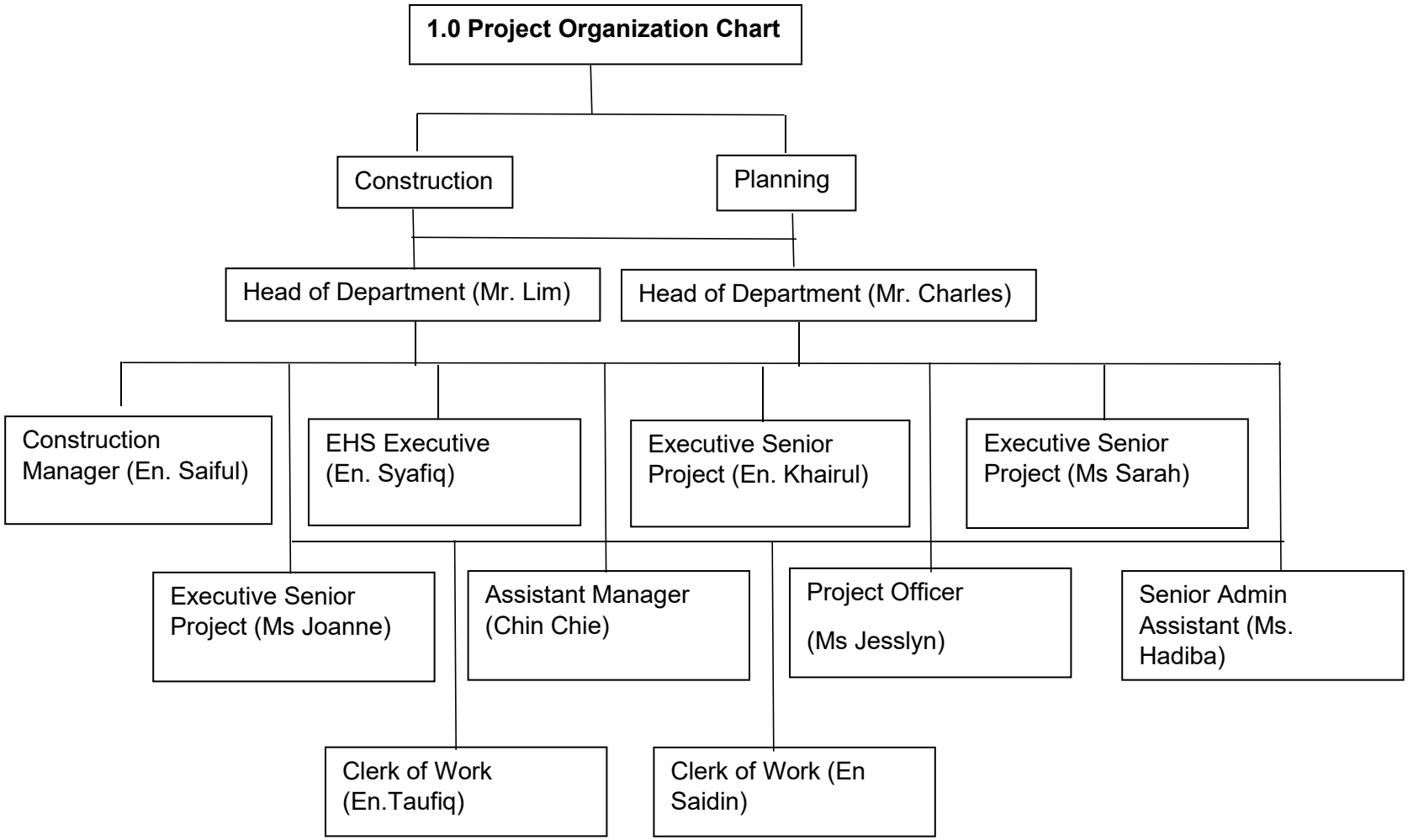

Chart 1.0: *Project Organization Chart*

1.4 Vision

We aim to lead the region in innovative breakthrough solutions for large-scale public infrastructure and property development

1.5 Mission

We reliably deliver innovative world-class infrastructure and premier lifestyle properties to our customers through our core businesses in infrastructure development and construction, operation of infrastructure facilities and property development.

CHAPTER 2: LITERATURE REVIEW

2.1 Construction

AEC Industry means the Architecture, Engineering and Construction Industry have grown for a variety of complexity over the past decades. Each of the construction involves with vary team and they need to work together and collaborate with each other in able to finish the construction stage (Olanrewaju et al., 2017). Besides, building construction need an ordered and planned assembly of material, manufacturing of products to build a strong and quality of building. Other than that, many performance criteria and legal aspects need to look over and details especially including modest-sized building and it is also involves with a large network of design and production firms. The fact that every building erected must full fill the function and respond to its specific context and the preferences to occupants and owners (Patterson, 2009).

Therefore, to full fill the essential function for each building, construction project must play a big role by following the correct activities, events and process. Usually, construction will be connected or related towards the design phase, the first stage of construction project. The creation of tender and documents, calculation of materials and force, approval from authority and others are the major steps in order manage to build a proper building (Patterson, 2009).

2.2 FLOOR SLAB

Graded of concrete floor slab are subjected or designed towards different of loads and loading conditions. The civil consultants must design the floor slab including the thickness based on the moving live loads. They must double check the proper procedure to determining the correct thickness of slab under wall load. Other than that, they must encounter the stress induced by other environmental effects such as temperature gradient and others.(Dept of Defense, 2005)

Flat slabs are slabs that are supported directly on columns without the use of beams. One-way slabs (slabs supported on two sides and with primary reinforcement in one direction only) and two-way slabs (slabs supported on two sides and with main reinforcement in both directions) are two types of supported slabs (slabs supported on four sides and reinforced in two directions). The major reinforcement in one-way slabs is supplied along the shorter span. A distribution steel is required to spread the load, and it is put on the longer side. One-way slabs are made up of a succession of shallow beams that are positioned side by side and have the same width and depth as the slab thickness. (Dept of Defense, 2005)

2.2.1 TYPES OF SLAB

<u>One-Way Slabs on Beams</u>

Cast in situ method is used to construct one-way slabs on beams which involves fixing of forms followed with the installation of reinforcements, and finally the pouring of fresh concrete. One-way slabs on beams are most suitable for spans of 3-6m, and a live load of 3 to 5KN/m2. They can also be used for larger spans with relatively higher cost and higher slab deflection. Additional form work for the beams is however needed.

One-way joist slab (Ribbed slab)

It consists of a floor slab, usually 50 to 100mm thick, supported by reinforced concrete ribs (or joists). The ribs are usually tapered and are uniformly spaced at distances that do not exceed 750mm. The ribs are supported on girders that rest on columns.

Waffle Slab (Grid slab)

It is a type of reinforced concrete slab that contains square grids with deep sides. Waffle slab construction process includes fixing forms, placement of pods on shuttering, installation of reinforcement between pods, installation of steel mesh on top of pods, and pouring of concrete.

Flat Plates

Flat plates can be constructed as one-way or two-way slabs and it is directly supported by columns or walls. It is easy to construct and requires simple form works.The advantages of adopting flat plates include low-cost form work, exposed flat ceilings, and faster construction. Flat plates have low shear capacity and relatively low stiffness, which may cause noticeable deflection. (Nikmatuzaroh, 2019)

2.3 Project Delivery Process

- Design Phase
- Construction Phase
- Post-construction Phase

2.4 Design Phase

This stage usually done by architect firm or consultant for handling building-design activities including landscape, civil and structural, mechanical and electrical consultants. Even though each of consultants' teams directly contracted with the owner, the architect has some liability for the consultant's work, being a vital design professional for the owner to have a good relationship working together.

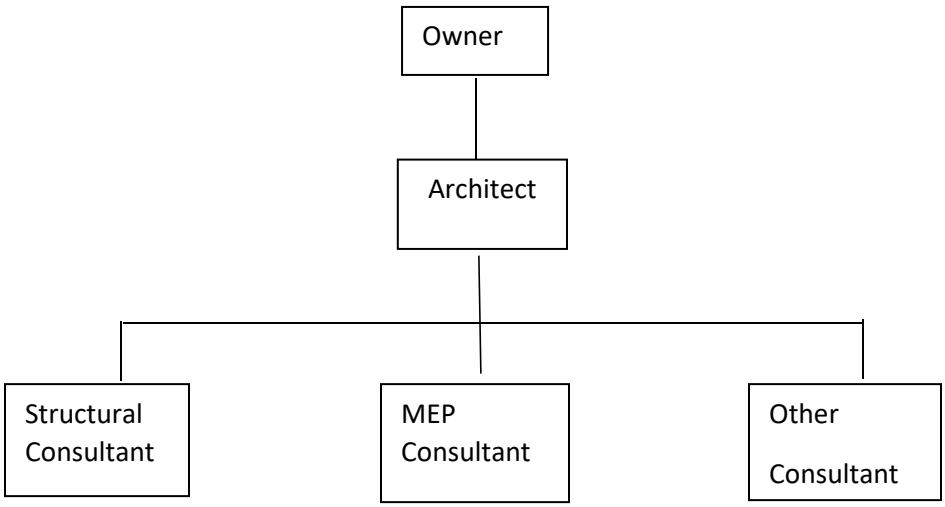

Chart 1.1*: Members Design Team*

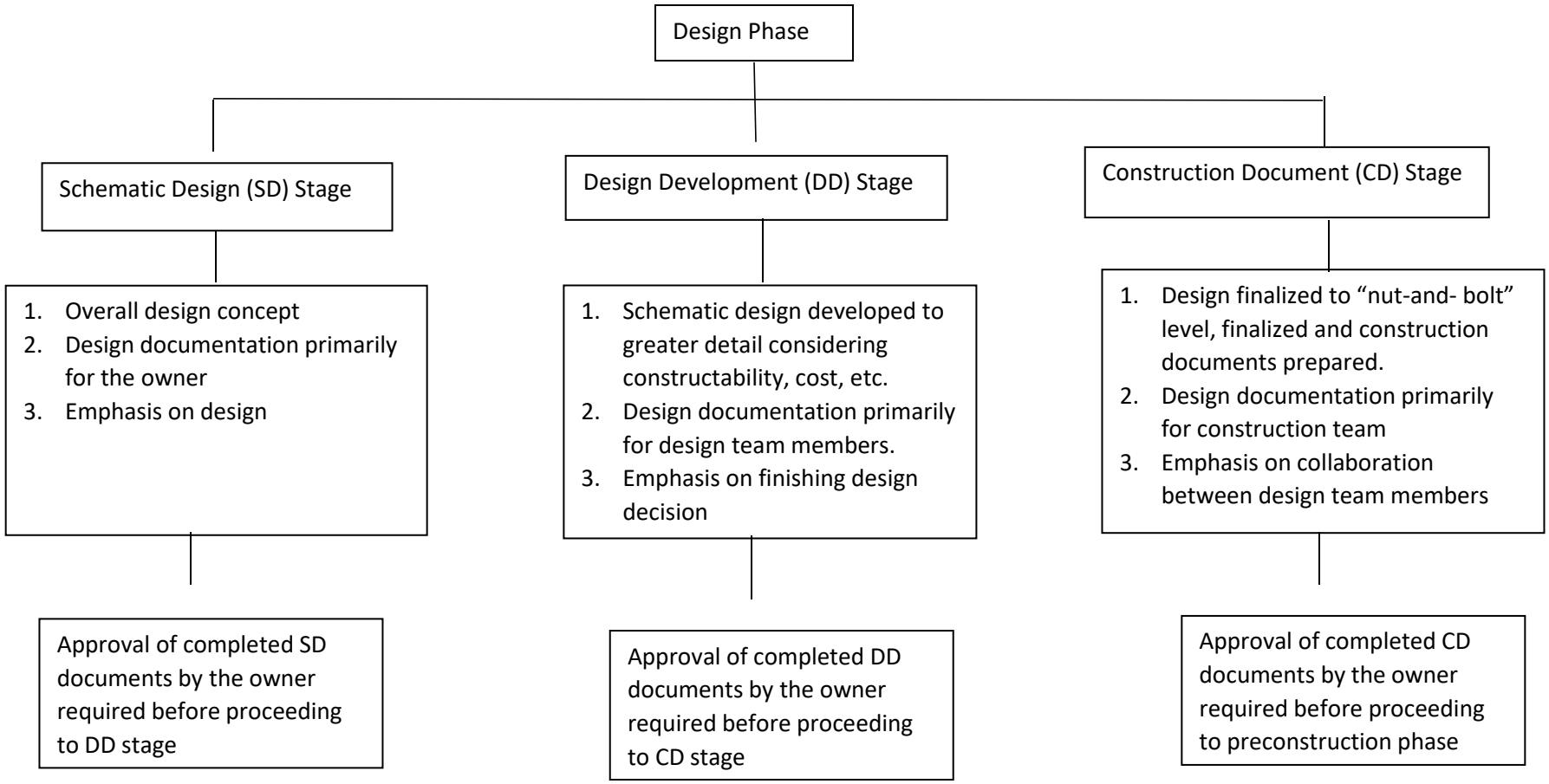

Chart 1.2*: Three stages for Design Phases*

2.5 Construction Phase

Generally, construction phase will begin after the selection of contractor, contract awarded and issue 'notice to proceed'. All contractors must know each of their duty to deliver a good practice of work at construction site. The contractors must notice and conform to the work described in the documents. Besides, contractors normally carry out inspection process on site to ensure that the work of all subcontractors is in a good progress as indicated on the contract documents and must ensure that all the works meet the standard of workmanship. The architects' role plays a big role during construction phase. They need to make observation and inspection on site, allow them to verify that their drawings and specifications are applied don construction site. Normally, architect will provide periodic observation and evaluation of contractor work and they must notify the owner if the work is not compliance with the specification together with contract documents.

Contractor will still remain fully responsible towards any error happened on site due to their lack of workmanship through the architect's observation. Other than that, architects must responsible on several duties in the contract between the owner and the contractors. These are outlined on architect's function as construction contract administrator. The crucial steps or works are when the contractor request for payment against the work done. Any claim or application for payment, followed by the architect's evaluation of the work must being verify by the architect before submit to the owner. Most of the time, there is always a few changes during construction project. Owner and the contractor must notice these facts and must include provisions for the owner's tight to order any changes and contractor must accept the changes in return for an equitable price adjustment (Patterson, 2009).

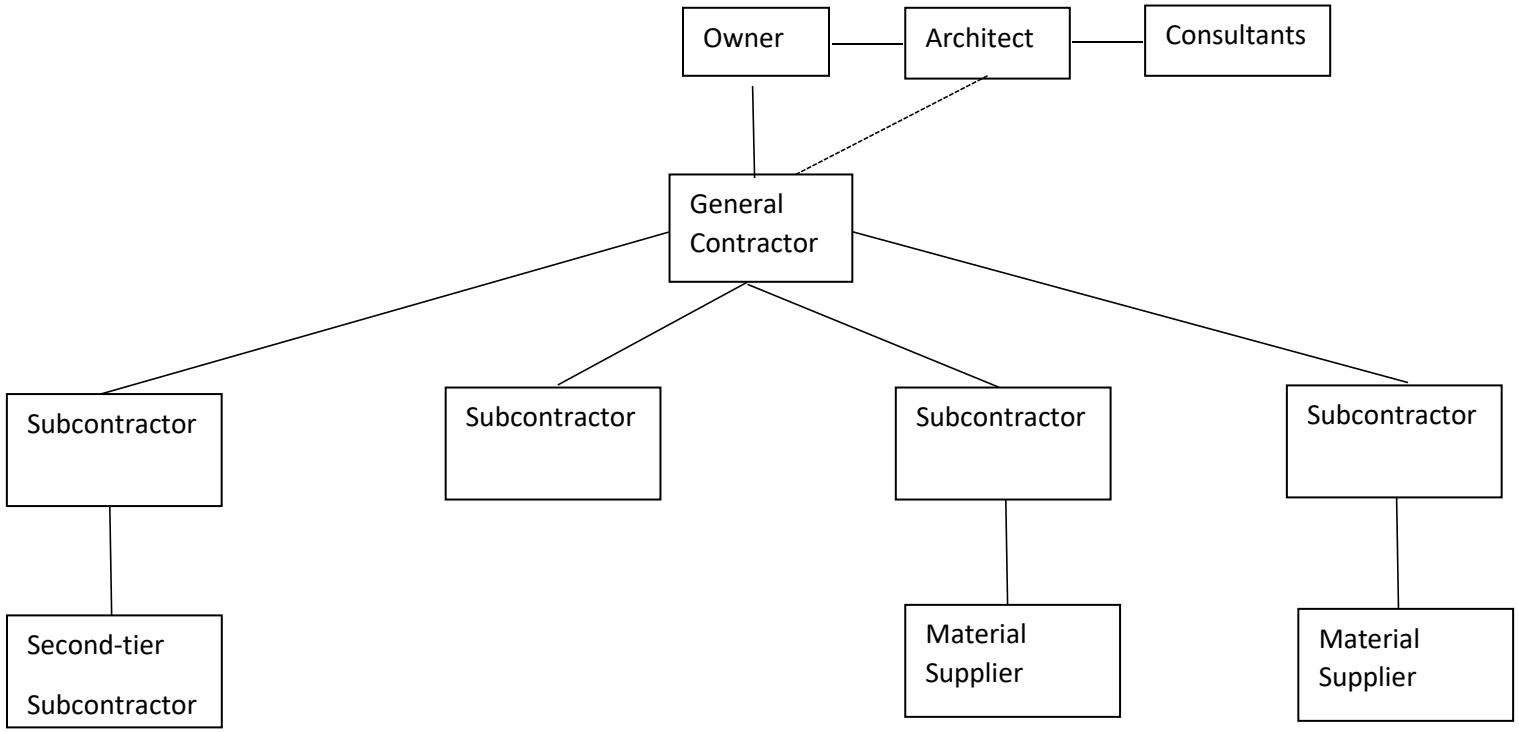

Chart 1.3*: Three stages for Design Phase*

2.6 International School

The objective of having international school is to offer an international education, as broadly as they exposed with a mix culture, backgrounds and beliefs. When different students' parts of the world engaging with each other's, easy for them to built or grow up more open to d differences and easy to adapt with global reality. Other than that, international school offers a new diaspora of different cultural students, who are globally mobile and seek out economic, social, educational and cultural opportunities, they are able to bring the new culture to heir mother land and easy for them to link to the outside world in radical new ways (Muller, 2012).

Normally for national school tend to have students from the same country but not for international school. They are almost private educational system; independent institutions and the students will be taught on international program. Exploring with different dimensions of schools may contribute or lead towards the international-mindedness, and might be easy for the students to achieve a better educational in future. Thus, the attitudes of these students might be highlighted and may developed their skills, interest and responsibility for the global community (Muller, 2012).

2.6.1 Visions of International Education

- Being a good general education
- Being based upon a truly international construct
- Incorporating global issues
- Addressing cultural or linguistic or religious diversity
- Being implemented internationally.
- Having international credibility and acceptability
- Producing global citizen

There are six (6) features of a school that promote an international education:

1. Enabling students to operate a worldwide communication network with every possibly facility.
2. The teachers will teach students the art of negotiation, diplomacy and conflict resolution.
3. The schools may promote to students about understanding of other nations' priorities, so they may be able to analyze different situation from multiple perspectives.
4. Exposing an understanding of differing national characteristics and behaviors, easy for students be able to recognize ways in approaching a concept or a task.
5. Deliver studying on issue that cross national frontiers such as environmental issues, health and safety, economics and politics.
6. Teach about the ability to recognize falsehoods, to be more alert and productive in future.

CHAPTER 3: PROJECT BRIEF ON PHASE 2A

3.1 Objective of Development

This lifestyle development, spanning a total area of 1200 acres within Iskandar Puteri, is envisioned to be a unique township aimed to offer fresh contemporary residential ideas to meet the increasing demand of today's lifestyle and living standards.

The Phase 2A, the International School will be the first smart school in Horizon Hills. It boasts of international curriculum and Singapore approach to teaching. This school brand Invictus International School will add value to the township and its surrounding. It will also help encourage commercial activities such as F&B, retail and services besides attracting local home buyers in search of quality education.

3.2 Location of Phase 2A

Located next to Horizon Hills South Entrance. Easily accessible via Persiaran Selatan Horizon Hills from Coastal Highway (Jalan Ismail Sultan). The development of the school will be good for branding elevation due to good visibility from Coastal Highway.

Image 1.4*: Project Layout Plan*

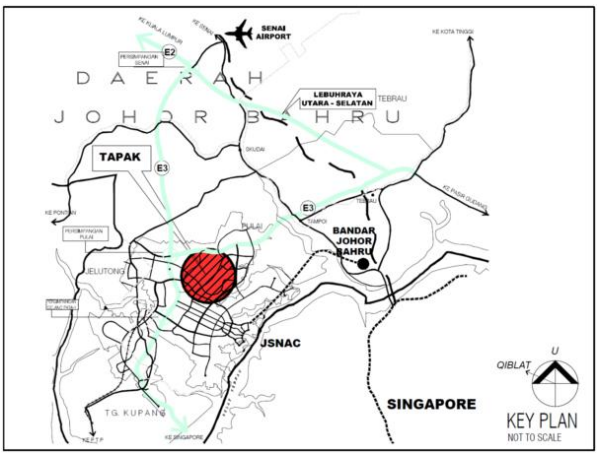

Image 1.5*: Key Plan*

Image 1.6*: Horizon Hills Layout Plan*

3.3 Land Information

The land area for Phase 2A is about 4.14 acres located on PTD 208535. The proposed platform level varies from 11.00 m to 12.00 m. Land use originally Commercial to be converted to International School.

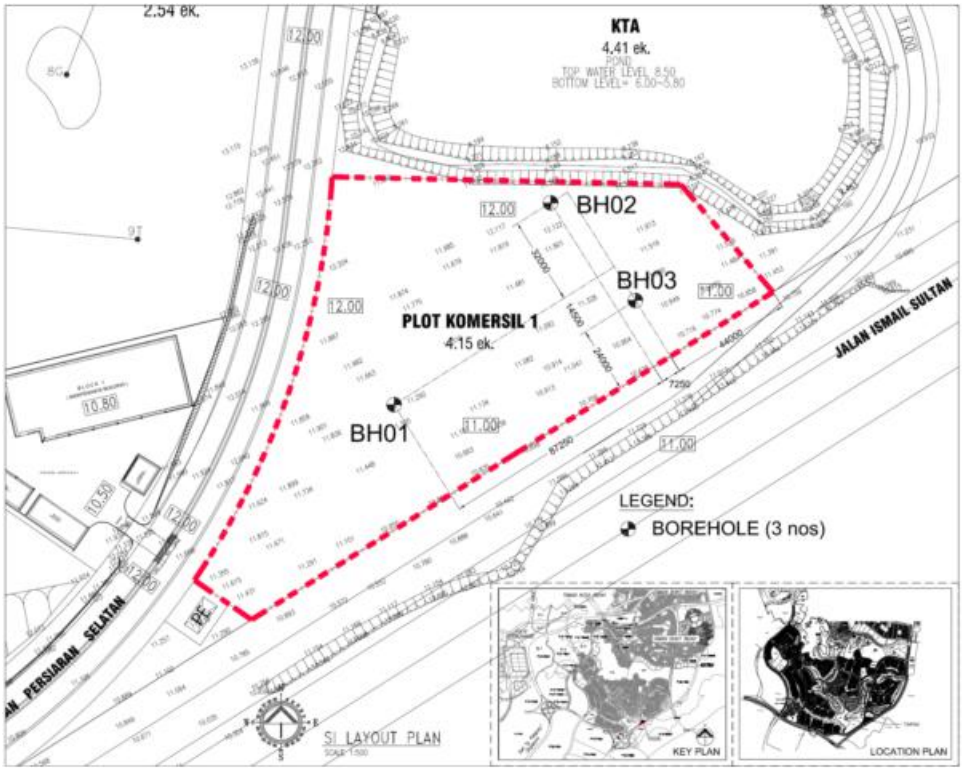

Image 1.7*: Land Information*

3.4 Development Concept

Image 1.8*: Floor Plan of Phase 2A*

Image 1.9*: Elevation of Phase 2A*

3.5 Proposed Consultants

- Planner- AJC Planning Consultant Sdn Bhd
- Land Surveyor- Jurukur Abadi
- Architects- DC Architects Sdn Bhd
- Civil & Structural Engineer- Jurutera JRK Sdn Bhd
- M & E Engineer- PCM Consultant Sdn Bhd
- Quantity Surveyor- JQS International Sdn Bhd
- Landscape Architect- Escape Landscape Consultants Sdn Bhd

3.6 Statutory & Regulation Requirement

- A development proposal involves four main stages which require approval:
- Application for the land matters
- Application for planning permission
- Application for building plan;
- Application for earthworks plan and road and drainage plans.

Each application processes are provided for under the various related legislation namely:

- Environmental Quality Act 1974 and its regulations and rules
- Local Government Act 1976
- Solid Waste and Public Cleansing Management Act 2007
- Street, Drainage & Building Act 1974
- Town and Country Planning Act 1976
- Earthwork By-law 1996
- Uniform Building By-Laws 1984
- Other applicable laws and regulations

In implementing the process, different departments are responsible for each application. The flow chart below shows the processes carried out by the related departments according to their own responsibilities

Environmental Requirements

- Environmental Quality Act 1974 and its regulations and rules
- EIA Report & EIA Approval Conditions
- EMP Report & EMP Approval Conditions
- Erosion and Sediment Control Plan (ESCP)
- DOE Written Notices and Written Instructions
- DOE Guidelines and Manuals

CHAPTER 4: CONSTRUCTION OF FLOOR

4.1 Progress of Work

Table 1.1: *Progress of Work*

Building Block	**Remarks**
Block A	Ground floor slab and column completed 1st floor slab in progress
Block B	1st floor beam and slam completed 1 st floor column in progress 2nd floor slab in progress Ground floor brick works in progress
Block C	Ground column completed 1st floor slab completed 1st floor column in progress
Block D	Ground floor slab completed Ground column completed 1 st floor slab in progress

4.2 Architecture Role In The Project

Architecture in construction phase plays a big role because they are responsible for the visual appearance of buildings and structure are follow every specification from construction drawing. The work carry out by architect have to be properly organized. This is to make sure all the record for the project progress are keep carefully. They must know the time limit and day by day progress report by communicate with the engineers and discuss if any technical issues in the project.

4.3 Civil Engineer Role In The Project

Project Planning Management Department will handle the progress for each consultant for the project. Usually civil engineer will assist construction manager on site. Most of the time project engineer will spend most of their time at the site. The project engineer will update the site workers with the progress and report to the project manager at the end of the day. The project engineer responsible in interpretation of the project drawings. If there is any changes during construction, the drawing must be amend and superseded.

4.4 Mechanical and Electrical Role In The Project

Mechanical and Electrical scope focus on installation of electrical and mechanical work. They are responsible for the implementations and inspection of all mechanical related operations at site as per construction drawing. Mechanical engineer will design the mechanical components of a building and plumbing systems within a building. The mechanical contractor must comply with the drawing plans and specification and submit document progress to mechanical engineer for them to review. They must attend meeting for mechanical works together with contractors, to discuss any problems arise during installation and to ensure all the materials installed are in correct order. Mechanical and electrical engineer must ensure the equipment on site are erected, have been tested and commissioned in accordance with agreed contracts. Coordinate with the suppliers are really important task to prevent extended time during construction.

4.5 Quantity Surveyor Role In The Project

Quantity Surveyor act as cost advisor to the client including forecasting the initial and life-cycle costing of project. Therefore, they must prepare tendering documents to be used by contractors in competitive tendering. Usually, client will create interview session with contract and commercial department to interview the best and suitable contractor for a project. Quantity surveyor also prepares and report interim payments and financial progress to control financial expenditure of the project. Other than that, they must work on progress payments and claim management to Project Planning Management Department.

4.6 Quality Control Role In The Project

Quality Control usually will reviews the specification of materials used in construction site. They must ensure that all the materials used, the work method apply for each progress are comply with construction plan. Quality control must review and record either the work practices are such that expected quality standard. Next, they must examine the quality of ongoing and completed work to determine it meets the requirement of project. Quality control will make a thoroughly inspection daily or weekly on site. The inspection process or procedure will engage with contractor to ensure the required quality of the project is achieved.

4.7 Safety Role In The Project

Having safety and environmental consideration as key element of the company management objectives. Carrying out sustainable development, protecting the environment and preventing environmental pollution. Safety officer ensuring management and employees are fully conversant with their safety and environmental responsibilities. They must providing the information and training necessary to enable all personnel to work in a safe and environmentally sound manner. Besides, they have to identify the key risks on safety and significant environmental impact, and then develop control measures promptly to eliminate or reduce them. Next, they must consulting with employees, sub-contractors, consultant and suppliers to share and learn from each other safety at site.

HEAD OFFICE

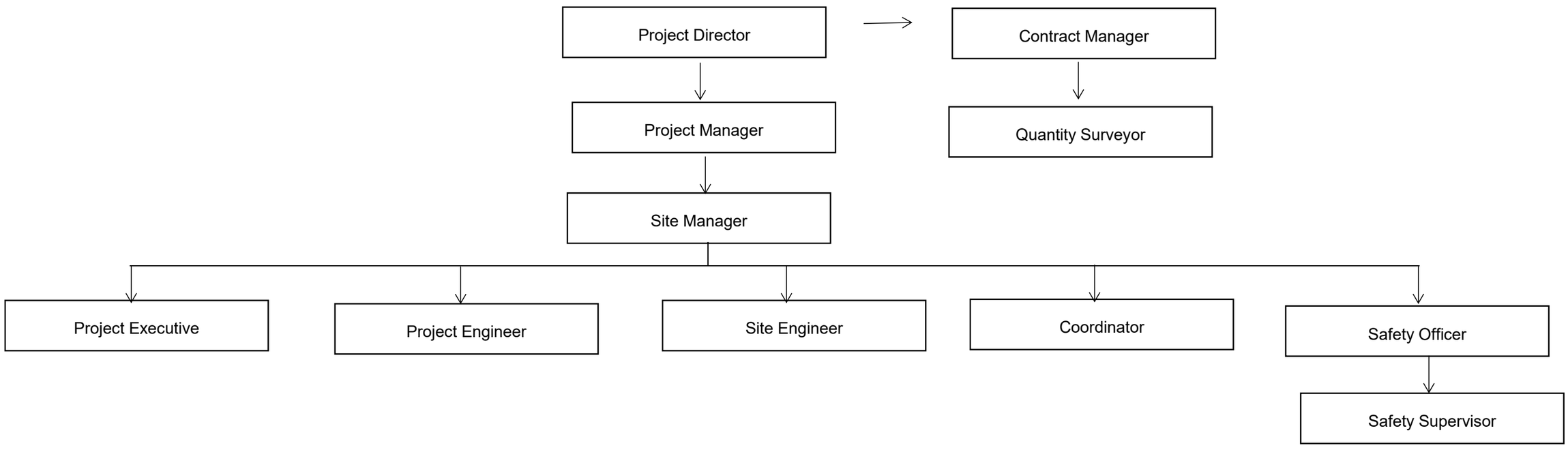

Chart 1.4: *Organisation of Head Office*

4.8 Concrete Floor Slab Process

1. Erect Form work

Image 2.0: *Erection of Form work*

Form work erected correctly to withstand pressure from concrete. Make sure there is no leak and no defect during erection. Site engineer or building supervisor need to do inspection thoroughly

2. Place Reinforcement

Image 2.1: *Placement of Reinforcement*

Installment of reinforcement is to prevent concrete from crack once a load is placed. The worker must make sure the reinforcement bars, spacers and ties are installed accordingly and correctly.

3. Pour, Compact and Finishing Concrete Floor Slab

Image 2.2: *Pour of Concrete*

Pour the concrete properly. Then, the concrete should be compacted to mold and fixed properly into place. Usually use vibration method for compaction. Make sure the slabs should finished according to building plan.

4. Curing Concrete

Image 2.3: *Curing Concrete*

Slab curing methods use water cure. Concrete will flood or pond with water approximately 7 day period. Usually they will use canvas to cover the water retaining to kept the slab surface wet continuously, avoid evaporation and contaminated water. Remove the form work properly to avoid ant damage towards the concrete slab.

4.9 Problems At Site

- Most of plywood are not arranged neatly and not being stored properly and the reinforcement bar is exposed to weather before being installed properly into framework.
- A few labors are not wearing a proper safety boot

Image 2.0 : *Improper stored of plywood that have been used.*

Image 2.1: *Labors are not wearing a proper safety boot.*

CHAPTER 5: RECOMMENDATION AND CONCLUSION

Recommendations

(a) Problem:

- Most of plywood are not arranged neatly and not being stored properly.

Recommendation:

- Store the materials in a building which is dry, leak proof and as moisture proof as possible.
- Keep storage building free from accumulated materials that cause tripping, fires, or explosions, or that may lead to the harboring of rats and other pests.
- If it is required to store the timber for about an year or more, then coat the ends of all members with coal tar, aluminium leaf paints, micro crystalline wax; to prevent end cracking in the material.

(b) Problem:

- A few labors are not wearing a proper safety boot

Recommendation:

- Safety boot with reinforced toes can help keep workers safe and can prevent injured from stepping on nails or other sharp objects.
- Safety boot that fit well will help maintain balance and will be comfortable, preventing any trips or slips
- The safety boot need to be made from non-conductive materials such as leather or rubber so as to prevent the chances of experiencing an electric shock.

CONCLUSION

An important aspects of a sustainable school design is the extent to which the buildings can accommodate user need, climate conditions and local populations. School will be built if there are any development of houses. Well-designed schools building will minimize environmental impacts and risks, and meet the user needs.

Ergonomics focuses on the work environment at construction site, such as its design and function, as well as items such as the design and function of work stations, controls, displays, safety devices, tools, and lighting to fit the suitable requirements and to ensure the safety and health of employee. Ergonomics includes restructuring or changing workplace conditions, to a suitable and proper workplace. Thus, it will make the job easier, and reducing stress that cause musculoskeletal disorders. In the area of materials handling and storing, ergonomic principles may require controls such as built a proper storage plant, stack each of material proper and orderly, wear a suitable safety attire, reducing the size or weight of the objects lifted, installing a mechanical lifting aid, or changing the height of a pallet or shelf.

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APPENDIX

4.1.1 Progress Block A

Table 1.2*: Progress Block A*

ID	Task Name	Duration (days)	Item Completed
1	**Mobilisation**	16	100%
2	**Setting Out**	60	100%
3	**Piling**	104	100%
4	**Sub-structure**		
	Pilecap & Stump	97	100%
	RC Retaining Wall	90	100%
	Lower Ground Beam	120	100%
	Basement Column	116	100%
	Ground Beam	107	100%
5	**Superstructure**		
	Toxil Soil Treatment	108	100%
	Ground Floor Slab	108	100%
	Ground Floor Column	108	100%
	1st Floor Beam & Slab	104	95%
	1st Floor Column	103	80%
	2nd Floor Beam & Slab	99	60%
	2nd Floor Column	99	NIL
	3rd Floor Beam & Slab	96	NIL
	3rd Floor Column	96	NIL
	Roof Beam	96	NIL
	Roof Slab	92	NIL
	Lift Core	163	85%
	RC Staircase	179	40%
6	**Brickwork**		
	Internal	168	30%
	External	171	30%
	Sunshade Panel	154	NIL
	Door Frame	166	35%

	Window Frame	151	15%
7	**Roof Covering**		
	Steel Roof Structure	124	NIL
	Roof Covering	124	NIL
	Rainwater Goods	110	10%
	Waterproofing	106	NIL
8	**Ceiling & Floor Finishes**		
	Asbestos Free Ceiling	124	NIL
	Skim Coat	192	35%
	Gypsum Plaster Ceiling	110	NIL
	Ceramic Floor Tile	221	NIL
	Cement Screed	198	10%
	Staircase Finishes	182	NIL
9	**Wall Finishes**		
	Int Plastering	235	20%
	Ext Plastering	252	15%
	Wall Tiles	236	NIL
	Int Painting	176	NIL
	Ext Painting	166	NIL
	Door Panel	151	NIL
	Ironmongers	150	NIL
	Aluminium Panel	192	NIL
	Handrail	161	NIL
10	**Plumbing, M&E**		
	Cold Water Plumbing Services	277	36%
	Sanitary Plumbing Services	273	36%
	Electrical Services	325	33%
	Telephone Services	280	33%
	Lightning Protection System	295	40%
	ACMV Services	271	33%

	Kitchen Exhaust Ducting Services	273	30%
	Fire Protection Services	295	33%
	Kitchen Wet Chemical Services	171	NIL
	LPG Services	117	NIL
	ELV Services	336	33%
	Lift Installation	119	NIL
11	**Fitting**		
	Sanitary Fitting	131	NIL
	Electrical Fitting	131	NIL
	Counter Top	118	NIL
12	**External**		
	Ex. Concrete Floor Slab	86	NIL
	Brick Fencing Wall & Gate Post	87	NIL
	M.S. Gate	87	NIL
	Underground Sewerage	90	60%
	Drainage	111	80%
	Water Reticulation	62	NIL
	Telephone Infrastructure	88	NIL
	Street Lighting	76	NIL
	TNB Cabling Works	62	NIL
	Road Works	119	NIL
	Landscape Works	84	NIL
	Site Cleaning	96	NIL
	GQUAS Assessment	7	NIL
	CPC & CCC	7	NIL

4.1.2 Progress Block B

Table 1.3*: Progress Block B*

ID	Task Name	Duration (days)	Item Completed
1	Mobilisation	16	100%
2	Setting Out	39	100%
3	Piling	83	100%
4	Sub-structure		
	Pilecap & Stump	76	100%
	RC Retaining Wall	76	100%
	Lower Ground Beam	98	100%
	Basement Column	94	100%
	Ground Beam	86	100%
5	Superstructure		
	Toxil Soil Treatment	87	100%
	Ground Floor Slab	87	100%
	Ground Floor Column	87	100%
	1st Floor Beam & Slab	83	100%
	1st Floor Column	82	95%
	2nd Floor Beam & Slab	78	80%
	2nd Floor Column	78	NIL
	3rd Floor Beam & Slab	75	NIL
	3rd Floor Column	75	NIL
	Roof Beam	75	NIL
	Roof Slab	71	NIL
	RC Staircase	158	50%
6	Brickwork		
	Internal	147	40%
	External	149	40%
	Sunshade Panel	133	NIL
	Door Frame	145	40%
	Window Frame	130	25%

7	Roof Covering		
	Steel Roof Structure	103	NIL
	Roof Covering	103	NIL
	Rainwater Goods	89	15%
	Waterproofing	85	NIL
8	Ceiling & Floor Finishes		
	Asbestos Free Ceiling	103	NIL
	Skim Coat	171	40%
	Gypsum Plaster Ceiling	89	NIL
	Ceramic Floor Tile	200	NIL
	Cement Screed	177	80%
	Staircase Finishes	161	NIL
9	Wall Finishes		
	Int Plastering	214	25%
	Ext Plastering	229	20%
	Wall Tiles	215	NIL
	Int Painting	155	NIL
	Ext Painting	145	NIL
	Door Panel	130	NIL
	Ironmongeries	129	NIL
	Alumn. Panel	171	NIL
	Handrailing	140	NIL
10	Plumbing, M&E		
	Cold Water Plumbing Services	274	40%
	Sanitary Plumbing Services	270	40%
	Electrical Services	322	40%
	Telephone Services	277	40%
	Lightning Protection System	292	40%
	ACMV Services	268	30%
	Kitchen Exhaust Ducting Services	270	40%

	Fire Protection Services	292	35%
	Kitchen Wet Chemical Services	168	NIL
	LPG Services	114	NIL
	ELV Services	333	35%
11	Fitting		
	Sanitary Fitting	125	NIL
	Electrical Fitting	125	NIL
	Counter Top	112	NIL
12	External		
	Site Cleaning	75	NIL
	GQUAS Assessment	7	NIL
	CPC & CCC	7	NIL

4.1.3 Progress Block C

Table 1.4*: Progress Block C*

ID	Task Name	Duration (days)	Item Completed
1	**Mobilisation**	**16**	**100%**
2	**Setting Out**	**39**	**100%**
3	**Piling**	**83**	**100%**
4	**Sub-structure**		
	Pilecap & Stump	69	100%
	RC Retaining Wall	76	100%
	Lower Ground Beam	98	100%
	Basement Column	95	100%
	Ground Beam	86	100%
5	**Superstructure**		
	Toxil Soil Treatment	87	100%
	Ground Floor Slab	87	100%
	Ground Floor Column	87	100%
	1st Floor Beam & Slab	83	100%
	1st Floor Column	82	90%
	2nd Floor Beam & Slab	78	40%
	2nd Floor Column	78	NIL
	3rd Floor Beam & Slab	75	NIL
	3rd Floor Column	75	NIL
	Roof Beam	75	NIL
	Roof Slab	71	NIL
	RC Staircase	69	NIL
6	**Brickwork**		
	Internal	140	25%
	External	142	25%
	Sunshade Panel	133	NIL
	Door Frame	142	30%

	Window Frame	130	NIL
7	**Roof Covering**		
	Steel Roof Structure	102	NIL
	Roof Covering	103	NIL
	Rainwater Goods	89	10%
	Waterproofing	85	NIL
8	**Ceiling & Floor Finishes**		
	Asbestos Free Ceiling	103	NIL
	Skim Coat	171	40%
	Gypsum Plaster Ceiling	89	NIL
	Ceramic Floor Tile	200	NIL
	Cement Screed	177	NIL
	Staircase Finishes	161	NIL
9	**Wall Finishes**		
	Int Plastering	214	NIL
	Ext Plastering	229	NIL
	Wall Tiles	215	NIL
	Int Painting	155	NIL
	Ext Painting	145	NIL
	Door Panel	130	NIL
	Ironmongeries	129	NIL
	Alumn. Panel	171	NIL
	Handrailing	140	NIL
10	**Plumbing, M&E**		
	Cold Water Plumbing Services	261	45%
	Sanitary Plumbing Services	257	45%
	Electrical Services	309	40%
	Telephone Services	264	40%
	Lightning Protection System	279	45%
	ACMV Services	255	40%

	Kitchen Exhaust Ducting Services	257	40%
	Fire Protection Services	279	40%
	Kitchen Wet Chemical Services	155	NIL
	LPG Services	101	NIL
	ELV Services	313	40%
11	**Fitting**		
	Sanitary Fitting	120	NIL
	Electrical Fitting	120	NIL
	Counter Top	107	NIL
12	**External**		
	Site Cleaning	75	NIL
	GQUAS Assessment	6	NIL
	CPC & CCC	7	NIL

4.1.4 Progress Block D

Table 1.5*: Progress Block D*

ID	Task Name	Duration (days)	Item Completed
1	**Mobilisation**	**16**	**100%**
2	**Setting Out**	**39**	**100%**
3	**Piling**	**83**	**100%**
4	**Sub-structure**		
	Pilecap & Stump	69	100%
	RC Retaining Wall	76	100%
	Lower Ground Beam	98	100%
	Basement Column	95	100%
	Ground Beam	86	100%
5	**Superstructure**		
	Toxil Soil Treatment	87	100%
	Ground Floor Slab	87	100%
	Ground Floor Column	87	95%
	1st Floor Beam & Slab	83	95%
	1st Floor Column	82	30%
	2nd Floor Beam & Slab	78	NIL
	2nd Floor Column	78	NIL
	3rd Floor Beam & Slab	75	NIL
	3rd Floor Column	75	NIL
	Roof Beam	75	NIL
	Roof Slab	71	NIL
	RC Staircase	69	NIL
6	**Brickwork**		
	Internal	133	NIL
	External	135	NIL
	Sunshade Panel	133	NIL
	Door Frame	142	NIL

	Window Frame	130	NIL
7	**Roof Covering**		
	Steel Roof Structure	102	NIL
	Roof Covering	103	NIL
	Rainwater Goods	89	5%
	Waterproofing	85	NIL
8	**Ceiling & Floor Finishes**		
	Asbestos Free Ceiling	103	NIL
	Skim Coat	171	50%
	Gypsum Plaster Ceiling	87	NIL
	Ceramic Floor Tile	200	NIL
	Cement Screed	177	NIL
	Staircase Finishes	161	NIL
9	**Wall Finishes**		
	Int Plastering	214	NIL
	Ext Plastering	229	NIL
	Wall Tiles	215	NIL
	Int Painting	155	NIL
	Ext Painting	138	NIL
	Door Panel	123	NIL
	Ironmongery	129	NIL
	Alumn. Panel	171	NIL
	Handrailing	133	NIL
10	**Plumbing, M&E**		
	Cold Water Plumbing Services	248	45%
	Sanitary Plumbing Services	244	45%
	Electrical Services	296	45%
	Telephone Services	251	45%
	Lightning Protection System	266	45%
	ACMV Services	242	40%

	Kitchen Exhaust Ducting Services	244	35%
	Fire Protection Services	266	40%
	Kitchen Wet Chemical Services	142	NIL
	LPG Services	88	NIL
	ELV Services	300	45%
11	**Fitting**		
	Sanitary Fitting	115	NIL
	Electrical Fitting	115	NIL
	Counter Top	102	NIL
12	**External**		
	Site Cleaning	75	NIL
	GQUAS Assessment	5	NIL
	CPC & CCC	7	NIL