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RAZ INTAN DEVELOPMENT SDN. BHD. s4092s-t

PROGRAMME OF BUILDING SURVEYING

DIPLOMA IN BUILDING– AP116

DEPARTMENT OF BUILDING

FACULTY OF ARCHITECTURE, PLANING & SURVEYING

UNIVERSITY TECHNOLOGY MARA, PERAK BRANCH

SERI ISKANDAR CAMPUS

INDUSTRIAL TRAINING REPORT

[06th SEPTEMBER 2021 – 07th JANUARY 2022]

TITLE:

CONSTRUCTION OF BRICK WALL ON BUNGALOW

PREPARED BY:

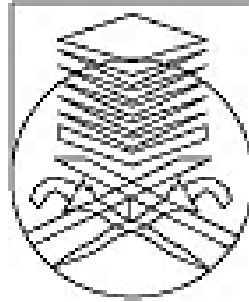
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PROGRAMME OF BUILDING SURVEYING

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ARCHITECTURE, PLANING AND SURVEYING

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TITLE

CONSTRUCTION BRICK WALL ON BUNGALOW

MUHAMAD BADRUL HISHAM BIN MOHAMAD KHAIRI

(2019435326)

DIPLOMA IN BUILDING

PRACTICAL TRAINING REPORT

SEPTEMBER 2021-FEBRUARY 2022



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UNIVERSITI TEKNOLOGI MARA

DEPARTMENT OF BUILDING FACULTY

ARCHITECTURE, PLANING AND SURVEYING

BRANCH SERI ISKANDAR (PERAK)

FEBRUARY 2022

It is recommended that the report of this practical training provided

BY

MUHAMAD BADRUL HISHAM BIN MOHAMAD KHAIRI
2019435326

ENTITLED

CONSTRUCTION BRICK WALL ON BUNGALOW

be accepted in partial fulfillment of requirement has for obtaining Diploma in Building.

Report Supervisor : _____
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CANDIDATE'S DECLARATION

I **declare that this** report entitled “Construction Of Brick Wall On Bungalow” is the result of **my own works** except as cited in the references, prepared during a practical training session that I underwent at RAZ INTAN DEVELOPMENT SDN BHD for duration of 20 week starting from 6/9/2021 and ended on 7/1/2022. It is submitted as one of the prerequisite requirement of BGN310 and accepted as a partial fulfillment of the requirements for obtaining the Diploma in Building

Name of Candidate : MUHAMAD BADRUL HISHAM BIN MOHAMAD KHAIRI

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ABSTRACT

This internship report contains five chapters altogether mainly about the works related to the course that have been attended during the internship period from 06th September 2021 until 07th January 2022 at Raz Intan Development Sdn Bhd. It is cannot be denied that there are lots of new knowledge from the internship.

Chapter 1 is basically introduction about internship, company and report title. Introduction of internship is the overview of the internship programed itself such as objective and the purpose of internship. The introduction of company is about the company biography and history. In four months internship, students are compulsory to choose a title or scope of work to be reported and submit to university. Therefore, this report is about maintenance and repairing work of housing before handover process.

After that, chapter 2 will be described about case study of project named of the work. This part will be present detail information of the brickwork.

Followed by Chapter 3 that been discussing about consturtion of brickwork since the title main report is construction of brick wall on bungalow. There is a literature review about brick and tools needed in that work. There are also common problems happened to the brickwall and the common remedies that are function while last longer. contains the process of the repairing work from beginning until end of the work. It is the work that has been monitored from the first day of work. The materials and the tools used by company also will be described in detail

The final chapter will be chapter 4 where the recommendation and conclusion can be gathered from observation and site monitoring that have been done.

ACKNOWLEDGEMENT



ALHAMDULILLAH praise to Allah S.W.T because for HIS bless and mercy, I managed to completed this report within the time given. With the mercy from HIM, got strength and confidence to completing my project and report even though there are many challenges, obstacles and problems that I have to face to complete this task since it is compulsory to be completed to be able to be graduated. All the process that I have to get through during this task will be a sweet memory for me and will surely become a worthy experienced that I will never forget. I am also excited finishing my internship in Raz Intan Development SDN BHD for four months from 06th September 2021 until 07th January 2022. There are so many knowledge and experiences that are so valuable and I am really appreciated for all of those. This subject thought the real things not only just books and theory. Building course is a course that really needs more practical then theory since it is an outdoor course. This subject also had opened my eyes to be more serious and more passionate to go to pursue my ambition and dream. Through all the months, there are so many parties that help me. Without them, I cannot do well in this my internship. In this opportunity, I want to land my huge thanks to: -

MY SUPERVISOR, DR NOR ASMA HAFIZAH BINTI HADZAMAN that in charge as my supervisor in my internship. The advice and the tips are so valuable for us to go through four months in the industrial training. Their ideas, guidance, advices and comments that is so beneficial for me to get the best outcome for my project and also my report. I also would like to thanks all my lecturers that have taught me for sharing their worthy knowledge and ideas and also to my siblings and my friends that helping me in various ways during the process of completing this task.

RAZ INTAN DEVELOPMENT SDN BHD STAFF, they are so welcoming and so full of responsibilities in us. Without them, I will totally have lost. All the advice, and the knowledge that they give me and the experience that they share with me are so precious. I take note to what they had said to me. They are all helping me with knowledge that I can add in my reports.

To all the parties that I not mentioned in here, thank you so much. Conducting this project and completing this report is an amazing experience for me in order to gain a lot of useful knowledge and information that related to the world of Building Surveying and construction especially and helps me for deeper understanding of this subject. To conclude, once again I would like to say my huge thanks and appreciation to all people and parties that contributed to me in various ways to completing this important and compulsory task. All the helps that I get are never will be forgotten. I hope this report give benefits to the reader.

Thank you.

MUHAMAD BADRUL HISHAM BIN MOHAMAD KHAIRI

2019435326

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Department Of Architecture, Planning and Surveying Perak Branch Seri Iskandar Campus Universiti Teknologi Mara (UiTM) in its course outline which will provide pre-professional work experience to all the students taking the subject. The subject requires the students to undergo the training at selected organization and the industrial training period is 4 months. Students are required to choose any organization for their industrial training placement whether it is paid or unpaid.

Moreover, industrial training or internship is a guided practice based on a theory or knowledge that students learned and gained earlier. During industrial training, students can use this opportunity to gain some experience that they never have in class. Students also need to apply and develop soft skill such as communication skills, teamwork, work ethics and management.

Furthermore, during the industrial training, students are encouraged to contribute to the organization by joining activities and carryout the responsibilities given to them professionally. Industrial training is relevant since the students are able to show their skills and prepare for the real working environment in the near future.

Internship period can help student to know and experience more about the course and apply all the knowledge from theory to real situation while working. Internship can help student to gain more knowledge and experience which they cannot get during lecture session in class.

During practical internship, I am accepted to do internship at a developer company at Teluk Intan Perak. The name of the company is Raz Intan Development Sdn. Bhd. The scheduled internship period is start from 06th September 2021 until 07th January 2022.

1.2 OBJECTIVES

The objectives of the industrial training are:

- a) To provide pre-professional work experience with specific assignments and responsibilities.
- b) To encourage a personal career interests, serving as a bridge between university and the world of work.
- c) To help students improve their marketability after graduation.
- d) To boost students to apply the skills and knowledge gained from the university to benefit the organizations.
- e) To adapt managerial and technical skills in a library and information environment.
- f) To give students the exposure of real works' environments in the industry before they graduate in their major related to the field.
- g) To give chances for students to apply the knowledge and communication skills that they have learned in UMP into the real works environments.
- h) To give chances for students to learn practically from the industry and use the industrial experiences to be applied into learning process in UMP.
- i) To build a quality professionalism and work ethics to become an efficient, high motivational and responsible professional staff.
- j) To open an enough space for employers in the industry to recognize student's potential and enhance the graduate employability after the graduation.

1.3 SCOPE OF WORK AND TRAINING AREA IN INDUSTRY BUILDING

Table 1-0 SCOPE OF WORK AND TRAINING AREA IN INDUSTRY BUILDING

<u>DEVELOPMENT AND CONSTRUCTION MANAGEMENT</u>	<u>FACILITIES MANAGEMENT AND MAINTENANCE</u>	<u>BUILDING WORKS AND APPRAISALS</u>
<ul style="list-style-type: none"> ✚ Project/site meeting ✚ Project construction management ✚ Site supervision including quality control of works and materials ✚ Taking off quantities and estimating ✚ Preparation and checking of plan drawing ✚ Preparation of feasibility's study and contract administration (new construction works as well as existing properties) ✚ Coordination and negotiation of consultants ✚ Occupational, Safety and Health management ✚ Inspection for building handover ✚ Quality Control and Quality Assessment (QAQC) 	<ul style="list-style-type: none"> ✚ Day to day and comprehensive program of planned repair, renewed maintenance. ✚ Repair negotiation and dilapidation advice ✚ Manage refurbishment contract ✚ Supervision on building services installation plumbing, electrical and air condition. ✚ Space assessment and management ✚ Financial and costing 	<ul style="list-style-type: none"> ✚ Project/site meeting ✚ Building Control for heritage areas ✚ Building Condition and Appraisal ✚ Conservation Management Planning ✚ Historic Architectural Building Surveying (HABS) Assessment and Report ✚ Preparation of measured drawings (AutoCAD/BIM) ✚ Taking off quantities and estimating ✚ Contract administration

<u>BUILDING CONTROL</u>	<u>INSURANCE</u>	<u>BUILDING WORKS AND APPRAISALS</u>
<ul style="list-style-type: none"> ✚ Plan security and legislation requirements in issuing building approval ✚ Inspection of building work during construction ✚ Enforcement and coordinating of building work compliance by act and statutory requirement. ✚ Other matters related to building regulation and enforcement 	<ul style="list-style-type: none"> ✚ Risk assessment ✚ Dilapidation survey ✚ Assessment and negotiation of claims for fire and other risk related property management. 	<ul style="list-style-type: none"> ✚ Structural and condition survey ✚ Preparation of structural and condition survey ✚ Alteration and renovation of building works ✚ Preparation of plan drawings ✚ Taking off quantities and estimating

During practical training, I had places in site supervisor assistant that need to follow up all the construction work. There are three ongoing projects during my internship and I need to follow up all the project. I am mainly in charge in 1 project. The project that I monitor is construction bungalow one storey. I managed to monitor the brickwork until finish.

SCOPE OF WORK GIVEN DURING INTERNSHIP PROGRAMME

During intern at Raz Intan Development Sdn Bhd which is starting from 14th September 2021 until 1th November 2021, there were a few scopes of works that have been given that related to the building construction scope. During this internship period, the scopes given are mostly as a document controller which is related to the construction site. The numerous works need to be covered also including site visit in order to update the progress report of daily works on site. As for example, the task work is need to ensure that appointed workers follow the CPM, to avoid any delay of problems. Table below shows the scope of works given during internship programme.

Table 1-2 SCOPE OF WORKS

NO	SCOPE OF WORKS
1	Monitor the brickwork in site
2	Monitoring the raw material in site
3	Check the plan

2.0 COMPANY BACKGROUND

2.1 INTRODUCTION TO THE COMPANY

COMPANY INFORMATION

Table 2.1-1 COMPANY INFORMATION

RAZ INTAN DEVELOPMENT SDN BHD (840928-T)	
Director	1. Miss Zulaiha Binti Mohd Azam 2. Miss Nor Hafizah Binti Abdul Hanid
Address	No 65, Lorong Raz Intan 3, Taman Raz Intan Cassia. 36000 Teluk Intan, Perak Darul Ridzuan
Tel	+6013-8466896
Email	ridsb.perak@gmail.com
Website/Facebook	RAZ INTAN DEVELOPMENT – TELUK INTAN, PERAK
Company Registration No	840928-T

2.2 RAZ INTAN DEVELOPMENT SDN BHD



RAZ INTAN DEVELOPMENT SDN. BHD. S40928-T

Table 2.1-2 INTERNSHIP SCHEDULE IN RANZ INTAN DEVELOPMENT SDN BHD

INTERNSHIP SCHEDULE IN RAZ INTAN DEVELOPMENT SDN BHD	
Working Days	: Monday – Saturday
Working Hours	: 8.00am (Duty Started)
	:12.00pm – 1.00pm – Lunch Hour
	:6.00pm – Off Duty
Industrial Training Period	:(6th September 2021 – 7th January 2022)

2.3 PROFILE CORPORATE

Table 2.1-3 PROFILE CORPORATE

PROFILE CORPORATE OF RAZ INTAN DEVELOPMENT	
Date of establishment	3 rd October 2003
Company registration number	840928-T
Paid up capital	RM 5,000,000.00
Authorized capital	RM 5,000,000.00
Contractor licensed grad level	G7

2.4 COMPANY BACKGROUND



The company of RAZ INTAN DEVELOPMENT SDN BHD (Company No:840928-T). It is a company incorporated in Malaysia and licensed accordingly below Real Estate Developers (Controls and License) Act 1966. The company is formally established on December 9th, 2008 as a Private Limited Company (PLC).

It is now a Bumiputera company headed up by two Young Malay Women Entrepreneurs who have full confidence in the housing industry that the majority controlled by non-Malays. It has been actively involved in Real Estate Developers field in 2012 and has successfully completed almost 100 units of houses with individual residential on individual property and four residential housing projects is Raz Intan 1 & 2, Raz Intan Citra and Raz Intan Cassia.

In addition, the company will develop a Shell Petrol Station operated as a Dealer Own Dealer Operate (DODO). It has a Grade G7 construction contractor license, a government employment certificate and a bumiputera worker contractor certificate by CIDB Malaysia.

2.5 HISTORY OF COMPANY

Raz Intan Development Sdn Bhd was established on October 3, 2003. The purpose of this company was established as Housing Developers and Construction Contractors with Bumiputra class A PKK and licensed CIDB Class G7. The vision of the company is to lead, train, develop and nurture the nature of dedication and commitment in the workforce to work as a family. Additionally, they need to combat themselves with challenges and rivals by making new discoveries and ideas in line with today's technology.

Among the projects that have been completed are the construction of 22 units of single-storey terrace houses and 11 units of bungalows at Teluk Intan. The project is worth RM 5,000,000.00. The project has been completely handed over to customers. The current project is the construction of 16 units of single-storey house at Langkap and 1 unit of bungalow at Tanjung Karang.

Raz Intan Development Sdn Bhd has five subsidiaries of which the company is a subsidiary of Raz Intan Development Sdn Bhd. It also trains the staff here to have leadership qualities and to manage their own company. These subsidiaries include DNBR Construction Sdn Bhd, DNBR Security Sdn Bhd, PMV Energy Sdn Bhd, Sheiks Construct (M) Sdn Bhd and Dynamic Networking Business Resources. Each of these subsidiaries has different tasks and activities.

The main thrust of the Raz Intan Development Sdn Bhd is Mr. Mohd Rezal Bin Ayub. He was assisted by the managing director, Ms. Zulaiha Binti Mohd Azam and the director, Ms. Nor Hafizah Binti Abdul Hanid. Among the other staff of this company is Mrs. Nurul Huda Binti Abdul Rahman as legal advisor, Ms. Jamelah Binti Mohd Azam as marketing manager and Mrs. Sakinah Binti Zakaria as the site supervisor.

2.6 ORGANIZATION CHART



Figure 2.1-1 ORGANIZATION CHART

2.7 OBJECTIVES OF COMPANY

The objectives of the company mainly is become a credible Bumiputera developer company to deliver quality and affordable homes to buyers in an innovative design as time goes by

2.8 VISION

To be a Bumiputera developer company that reliable to give houses that have good quality and able to belong house for buyer in innovative architecture within time to time.

To inspire trust through demonstrated dedication to honesty, integrity, and transparency.

2.9 MISSIONS

To ensure construction work is carried out by skilled personnel, to achieve specified specifications as well as ensuring that the work is implemented in a timely manner.

To provide top quality professional services and support to a wide range of residential real estate owns and investors in effort to help many individual communities in our portfolio is sought after places to live.

2.10 SERVICES PROVIDED

The company has several of high quality of experienced professional staffs and technical executives which had successfully undertaken various projects in the following services: -

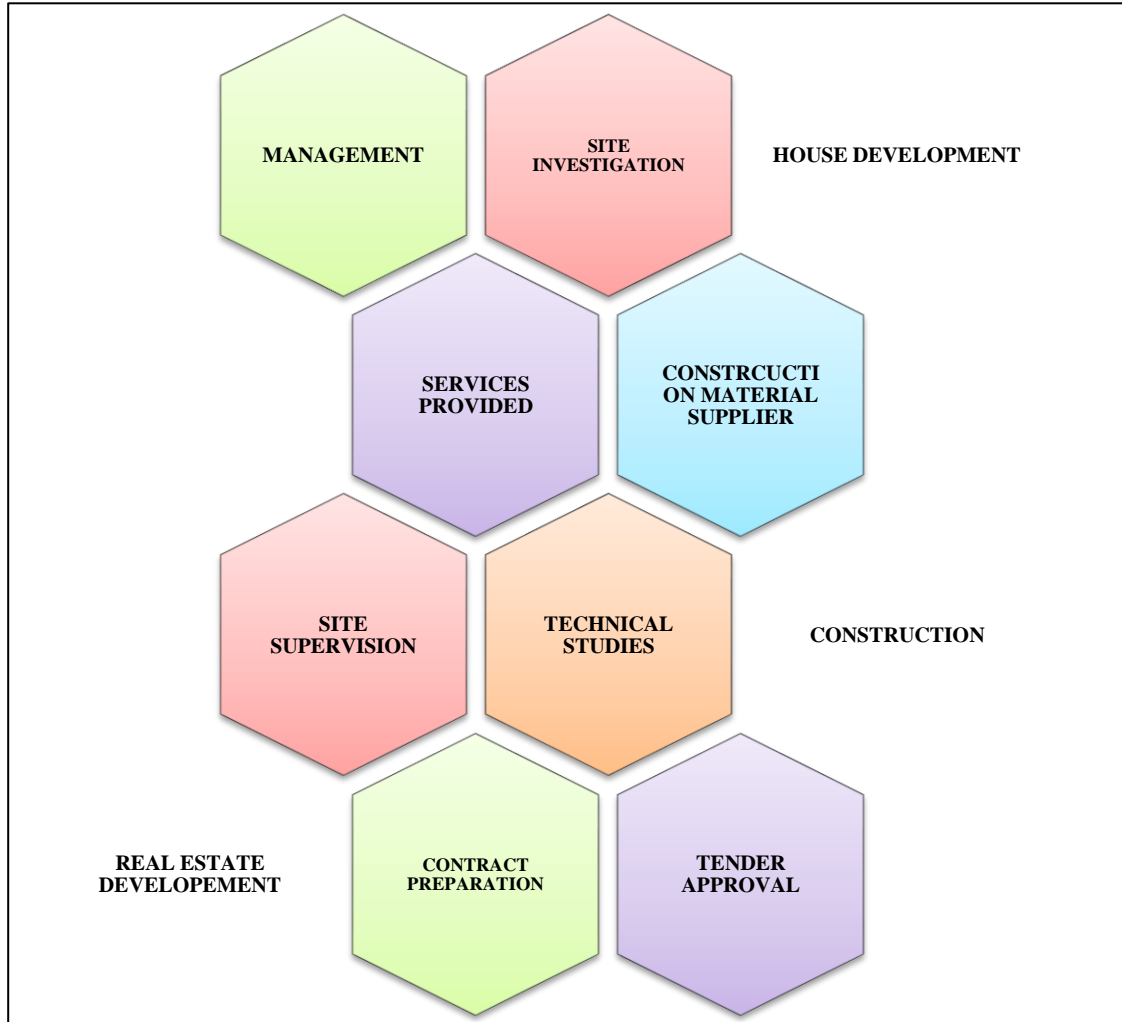


Figure 2.1-2 SERVICES PROVIDED

RAZ INTAN DEVELOPMENT SDN BHD mainly provide a services that related to housing construction which is from the first step of procedure such as loan until it finish construct and become a house that can be sold. This company mostly provides an experiences and qualified buildrs and hardworking employees to ensure all the works can complete perfectly and give good services to our clients or customer. Besides, our architects or plan designer also offer and give a good quality of building plans that regarding to what the client wants.

2.11 LOCATION PLAN



Figure 2.1-3 VIEW OF COMPANY

VIEW OF COMPANY

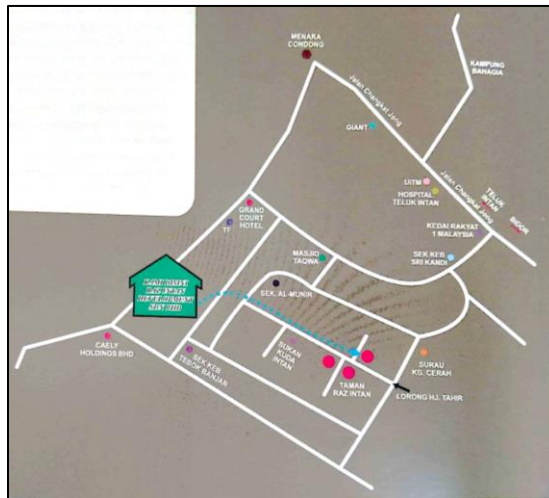


Figure 2.1-4 LOCATION PLAN

LOCATION PLAN

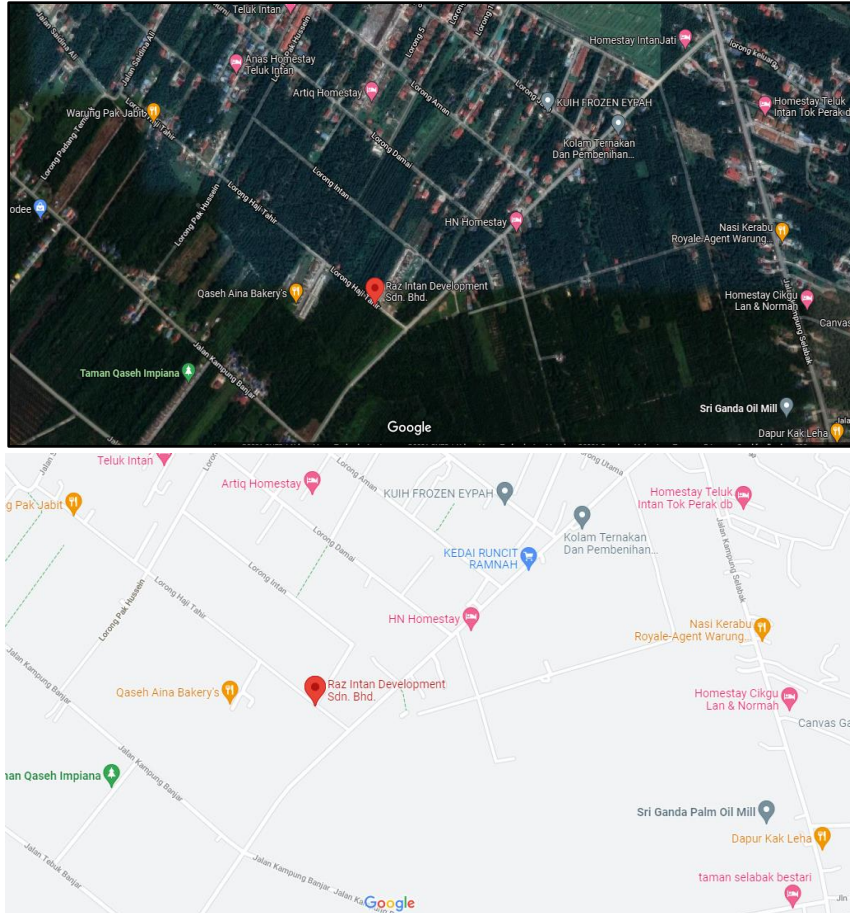


Figure 2.1-5 SITE PLAN

SITE PLAN

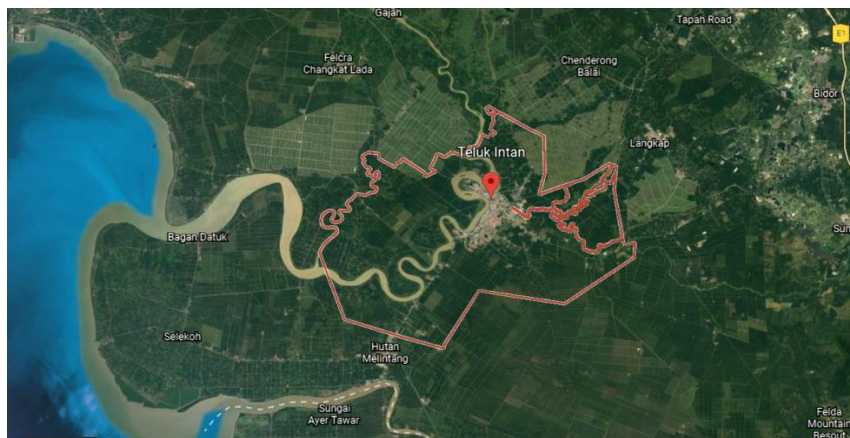


Figure 2.1-6 KEY PLAN

KEY PLAN

BUILDING VIEW OF MY COMPANY



Figure 2.1-7 BUILDING VIEW OF MY COMPANY

2.12 COMPANY PROJECTS

Since its establishment, there were many projects completed and in progress showing that RIDS B has shown its capabilities in their services provided according to their services and divisions respectively. However, due to the company policy, the value of the projects remains confidential and legally privileged.

A) LIST OF COMPLETED PROJECT

Table 2.1-4 LIST OF COMPLETED PROJECT

NO	PROJECT TITLE	START DATE	COMPLETION DATE	PROJECT DURATION
1.	Built 2 units of a single storey house on PT 21526 and PT 21527, Mukim Durian Sebatang, Perak.	27/02/2012	4/7/2013	1 Year, 4 Months, 7 Days
2.	Built 1 unit of a 1 1/2 storey house on PT 24480, Kampung Cerah, Mukim Durian Sebatang, Perak.	10/07/2013	11/11/2014	1 Year, 4 Months, 1 Day
3.	Built 1 unit of a single storey house on PT 24479, Kampung Cerah, Mukim Durian Sebatang, Perak.	19/12/2013	19/03/2015	1 Year, 3 Months,
4.	Built 1 unit of a single storey house on PT 1289, Mukim Sungai Manik, Perak.	11/12/2013	01/06/2015	1 Year, 5 Month, 21 Days
5.	Built 1 unit of a 1 1/2 storey house on LOT 34518, Mukim Durian Sebatang, Perak.	31/07/2013	19/02/2016	2 Years, 6 Months, 19 Days
6.	Built 11 units of a single storey house on PT 24477 - PT 24487, Mukim Durian Sebatang, Perak.	31/10/2012	11/08/2016	3 Years, 9 Months, 11 Days
7.	Built 1 unit of a single storey house on PLOT 8, LOT 8648, Mukim Durian Sebatang, Perak.	12/05/2016	05/10/2016	4 Months, 23 Days
8.	Built 1 unit of a single storey house on PLOT 7, LOT 8648, Mukim Durian Sebatang, Perak.	12/05/2016	07/11/2016	5 Months, 26 Days
9.	Built 1 unit of a single storey house on PLOT 6, LOT 8648, Mukim Durian Sebatang, Perak.	12/05/2016	24/02/2017	9 Months, 12 Days
10.	Built 1 unit of a single storey house on PLOT 5, LOT 8648, Mukim Durian Sebatang, Perak.	12/05/2016	21/03/2017	10 Months, 9 Days

11.	Built 22 units of a single storey terrace houses on PLOT 01 - PLOT 22 (LOT 8577), Mukim Durian Sebatang, Perak.	08/10/2013	12/11/2018	5 Years, 1 Months, 4 Days
12.	Built 8 units of a single storey house and 4 units of double storey house on PLOT 01 - PLOT 12 (LOT 8573), Mukim Durian Sebatang, Perak.	03/07/2013	10/02/2020	6 Years, 7 Months, 7 Days
13.	Built 2 units of double storey Semi-D house on LOT 60212 GM 8530 and LOT 60211 GM 8531, Mukim Durian Sebatang, Perak.		20/12/2021	

B) LIST OF ONGOING PROJECT

NO.	PROJECT TITLE	START DATE	ESTIMATED OF COMPLETION DATE	PROJECT DURATION
1.	Built 1 unit of a single storey bungalow on LOT 34519, Mukim Durian Sebatang, Perak.		2022	
2.	Built 2 units of double storey Semi-D house on LOT60210 HSM8532 & LOT 60209 HSM8533, Mukim Durian Sebatang, Daerah Hilir Perak,		2022	

CHAPTER 3

3.1 INTRODUCTION CASE STUDY

In this internship training, a student must present a topic title for submission report. I choose the bungalow brickwork as my main topic since it is the site that I am supervise fully in the months of internship training. I need to do a simple report for this site's job to be submitted to the company. it is on the appendices of this report. I understand the works and that is the main reason why I choose bungalow brickwork as my main topic for my internship report.

- OBJECTIVES OF PROJECT

The objectives of the project report is to prepare a complete report as developer in make sure the condition of the house is in a best condition before handover process. The report will be act as guidance for future reference if the same defect happen again and as a proof that the developer have give its best to the house before handover process. This procedure and documentation are important for next argumentation if happen between developers and owner of the house. This report have been submitted to the company developer and I choose this report to be submitted towards my university since this scope of work are related to the course as well as my main project that I handled myself as intern student during my internship.

- CASE STUDY

The project of bungalow named as “*Banglo Mewah Satu Tingkat*” . There are three bungalow that place and one bungalow in construction and want to sell. These are the list of details about the involved bungalow.

DETAILS BUNGALOW

Table 3-0 DETAILS BUNGALOW

No	Buyers name	Lot number	Address properties	Mail address	Type of building
1	Available	LOT34519	Lorong Haji Tahir, Padang Tembak, 36000 Teluk Intan, Perak Darul Ridzuan	Lorong Haji Tahir, Padang Tembak, 36000 Teluk Intan, Perak Darul Ridzuan	Single Storey Bungalow

-AIM OF PROJECT REPORT

1. To check the the brick wall should as per drawing
2. To know the right method and construction in brickwork
3. To find out the best materials and tools in brickwork

3.1.1 KEY PLAN, LOCATION PLAN, SITE PLAN AND FLOOR PLAN

KEY PLAN OF THE BUNGALOW ONE STOREY

-KEY PLAN

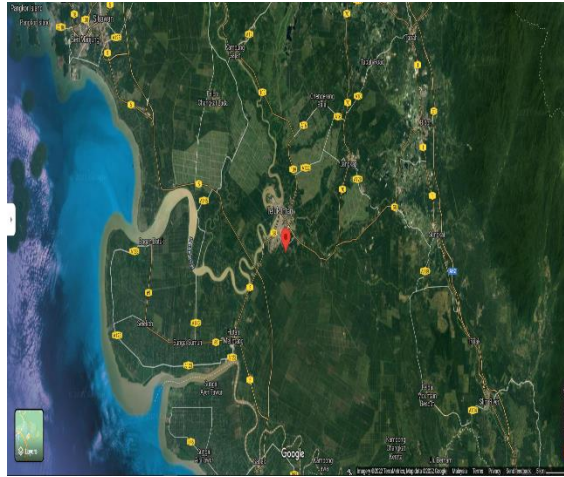


Figure 3.1-1 KEY PLAN

-LOCATION PLAN

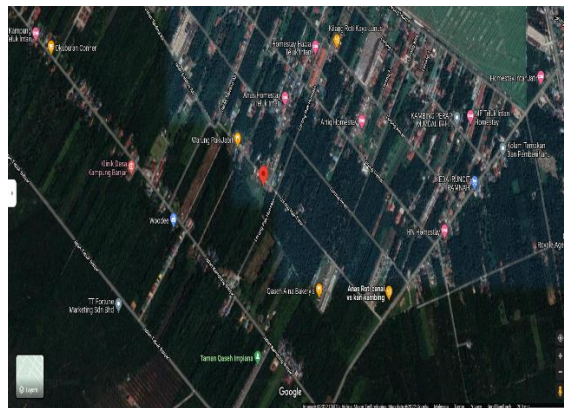


Figure 3.1-2 LOCATION PLAN

-SITE PLAN

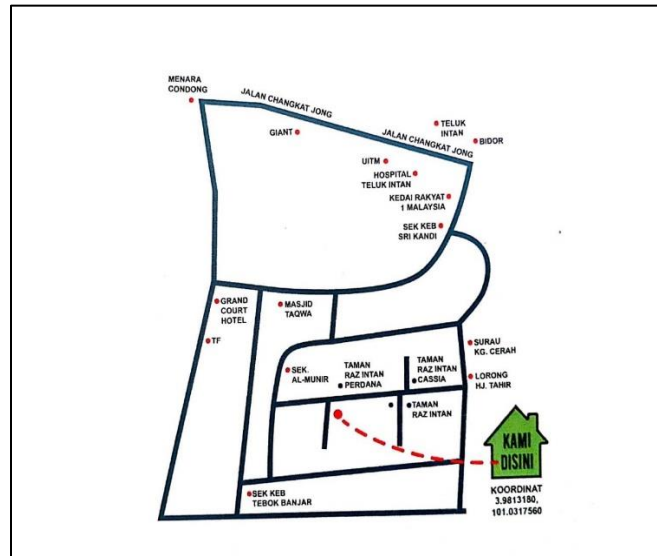


Figure 3.1-3 SITE PLAN

-FLOOR PLAN

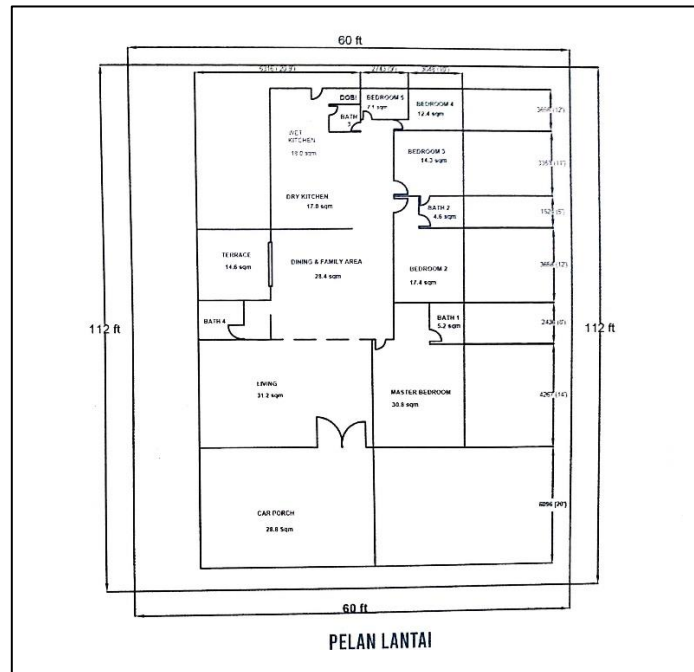


Figure 3.1-4 FLOOR PLAN

3.1.2 THE BUILDING AREA CONDITION OF BUNGALOW ONE STOREY SITE LOT-34519

-FRONT VIEW



Figure 3.1-4 FRONT VIEW OF BUNGALOW

-LEFT SIDE VIEW



Figure 3.1-5 LEFT SIDE VIEW OF BUNGALOW

-RIGHT SIDE VIEW



Figure 3.1-6 RIGHT SIDE VIEW OF BUNGALOW

-REAR VIEW



Figure 3.1-7 REAR VIEW OF BUNGALOW

3.2 DEFINION OF BRICKWORK

Defntion of brickwork

Brickwork is mansory produced by a bricklayer, using brick and mortar. Typically, rows of bricks called courses are laid on top of one another to build up a structure such as a brick wall.

3.3 INSTRUMENT AND MATERIAL IN BRICKWORK

-The following are the instrument and material used on the site bungalow one storey for the brickwork.

Material

-Clay Bricks

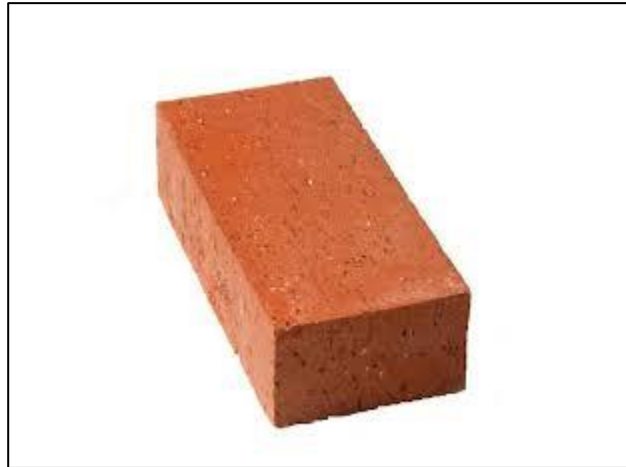


Figure 3.2-1 CLAY BRICKS

Clay brick is usually $215 \times 102.5 \times 65$ mm ; plus 10mm joint, nominal size of $200 \times 112.5 \times 75$ mm. Common Clay Bricks is suitable for general building work without any special characteristic for an attractive appearance. Dark orange to deep red color. Many available finishes and size.

MIXING CEMENT

-The material use to make mixing cement :

1)Cement



Figure 3.2-2 CEMENT

2)Sand



Figure 3.2-3 SAND

3)Lime



Figure 3.2-4 LIME

4)Water

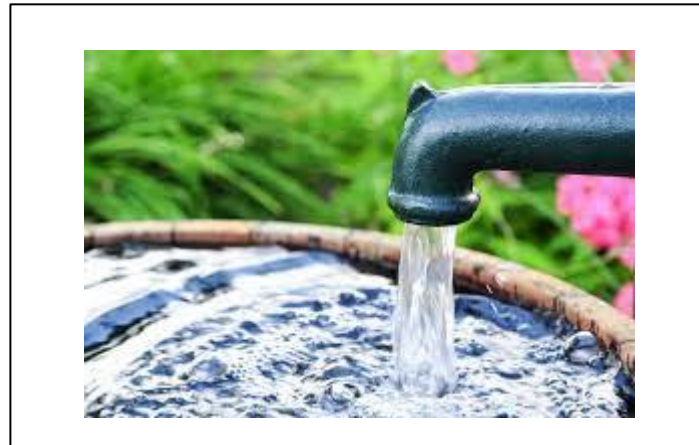


Figure 3.2-5 WATER

TOOLS

-String



Figure 3.2-6 STRING

String work as guideline when building the brick wall

-Mixing Bucket



Figure 3.2-7 MIXING BUCKET

Mixing bucket is using to carry mortar,cement and concrete.

-Level Bar

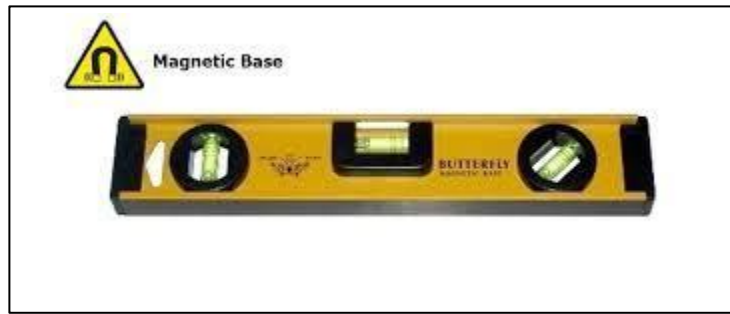


Figure 3.2-8 LEVEL BAR

Level bar is used to measure the stability

-Measuring Tape



Figure 3.2-9 MEASURING TAPE

Measuring tape is ruler that portable and is long enough for construction purpose. It can reach point where normal ruler can't.

-Trowel



Figure 3.2-10 TROWEL

Trowel is a hand tools used for digging,smoothing,moving around small amounts of viscous or mixing purpose.

-Claw Hammer



Figure 3.2-11 CLAW HAMMER

Claw hammer is tool primarily used for pounding nails into or extracting nail.It can also use to split the bricks in to half

-Wheelbarrow



Figure 3.2-12 WHEELBARROW

Whellbarrow is a small hand-propelled vehicle, it use to carry an amount of viscous. It carry a larger amount compare to trowel.

-Shovel



Figure 3.2-13 SHOVEL

Shovel is a tool for digging, lifting, moving bulk material and mixing purpose.

3.4 TYPE OF BRICK BONDING

-The bungalow one storey at site lot-34519 that I monitor, the brick wall are use stretcher bond. The stretcher bond is usually use at house in Malaysia.

Stretcher bond

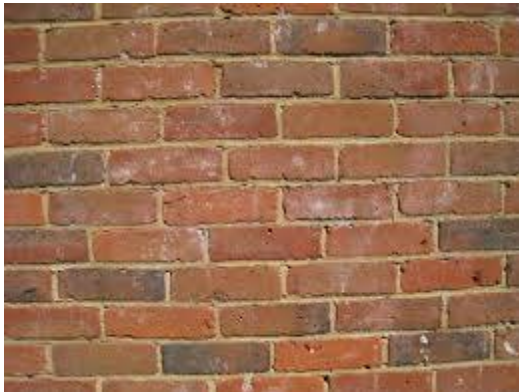


Figure 3.2-14 STRETCHER BOND

The most commonly used bond in the UK, a pattern is made only using stretchers, with the joints on each course centred above and below by half a brick. This type of bonding is not particularly strong. A variation is the raking stretcher bond. The overlap between bricks is usually a third or a quarter of a brick, instead of half a brick.

English bond



Figure 3.2-15 ENGLISH BOND

This is a pattern formed by laying alternate courses of stretchers and headers. The joints between the stretchers are centred on the headers in the course below. This is one of the strongest bonds but requires more facing bricks than other bonds.

English garden wall

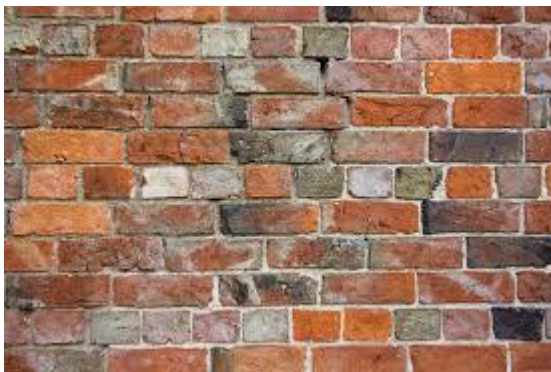


Figure 3.2-16 ENGLISH GARDEN WALL

This is similar to the English bond but with one course of headers for every three courses of stretchers. The headers are centred on the headers in course below. This gives quick lateral spread of load and uses fewer facings than an English bond.

English cross bond

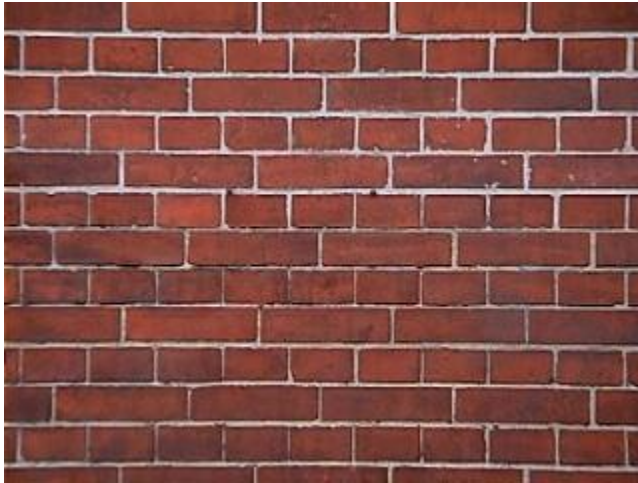


Figure 3.2-17 ENGLISH CROSS

This alternates courses of stretchers and headers, with the alternating stretcher course being offset by half a brick. The stretchers are centred on the joints between the stretchers below them, so that the alternating stretcher courses are aligned. Staggering stretchers enables patterns to be picked out in different texture or coloured bricks.

Flemish bond

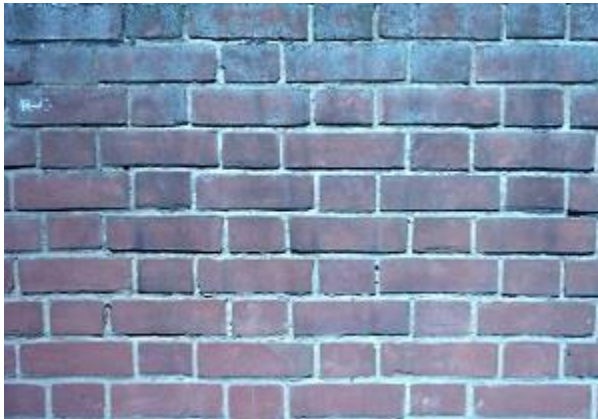


Figure 3.2-18 FLEMISH BOND

This is formed by laying headers and stretchers alternately in each course. The headers of each course are centred on the stretchers of the course below. This bond is strong and often used for walls which are two-bricks thick.

Flemish garden wall (also called Sussex bond)

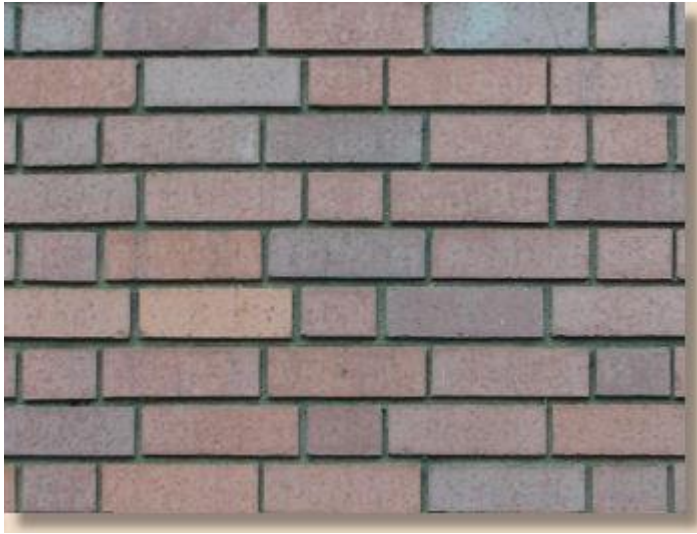


Figure 3.2-19 FLEMISH GARDEN WALL

This variant of Flemish bond uses one header to three stretchers in each course. The header is centred over the stretcher in the middle of a group of three in the course below.

Monk bond

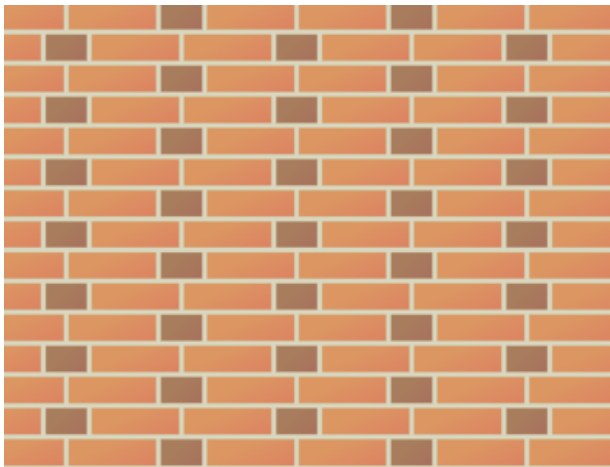


Figure 3.2-20 MONK BOND

This variant of Flemish bond involves two stretchers between the headers in each course. The headers are centred over the join between the two stretchers in the course below.

Header bond



Figure 3.2-21 HEADER BOND

This bond features courses of headers offset by half a brick. It is similar to the stretcher bond but with headers instead of stretchers.

Stack bond



Figure 3.2-22 STACK BOND

In stack bond, bricks are laid directly on top of one another with joints aligned, running vertically down the entire wall. Bricks can either be stacked horizontally or vertically. The alignment of joints results in minimal bonding which means that this bond is weak and often structurally unsound unless wire bed-joint reinforcement is placed in every horizontal course or, where loading is moderate, every alternate course. This is often used purely for decorative purposes and in rain-screen applications.

Sussex bond (same as Flemish garden wall bond)



Figure 3.2-23 SUSSEX BOND

This bond uses three stretchers and one header in each course.

3.4.1 PHOTOS THE BRICK WALL USING STRETCHER BOND AT BUNGALOW ONE STOREY AT SITE LOT-34519



Figure 3.2-24



Figure 3.2-25

3.3 BRICK WORK ON THE SITE BUNGALOW ONE STOREY AT LOT-34519



Figure 3.3-1

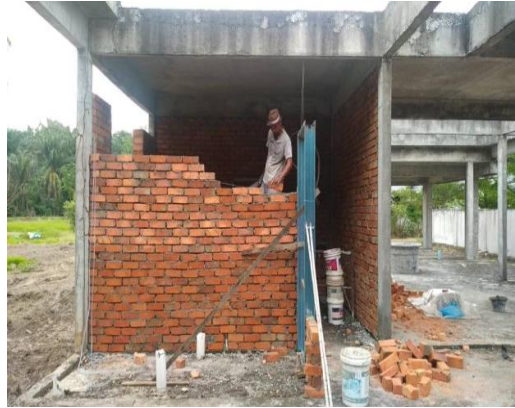


Figure 3.3-2



Figure 3.3-3



Figure 3.3-4



Figure 3.3-5



Figure 3.3-6

CHAPTER 4

4.0 CONCLUSION

As conclusion, there are many types of brick bond. All the details information about all types of bonds of brick work have been explained clearly throughout this report. In this report, the type of brick bond that have been focused and being used on the site project that I have monitored during my internship is stretcher bond. Throughout the project of brickwork, I have managed to know the price of raw materials, the labor workers wages, the tools and equipment used as well as the structure of the bond use towards the brickwork acting on the site bungalow one storey at lot-34519.

During my internship in this company, there are many knowledge that I have gained and all of it should be wise knowledge to be use for my future jobs and scope of work that I want to covered. I am not only exposed to the real site project situation and facing several problems related to the workers, materials and budget costing, I also being exposed to others works such as monitored other projects.

LIST OF REFERENCES

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- NOR HAFIZAH BINTI ABDUL HANID (DIRECTOR RANZ INTAN DEVELOPMENT SDN BHD)

-AZLAN BIN ARIFFIN (SITE SUPERVISER RANZ INTAN DEVELOPMENT SDN BHD)

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