



اَبُو سَيِّدِي تِكْنُوْلُوْجِي مَارَا
UNIVERSITI
TEKNOLOGI
MARA

JABATAN BANGUNAN

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(PERAK)

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It is recommended that this Practical Training Report prepared

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2010278614

Titled

Wall Construction

accepted in partial fulfillment of the requirements for obtaining a Diploma in Building.

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(PERAK)

APRIL 2013

DECLARATION

It is with this, the work of writing this Practical Training Report was produced entirely by me except as expressed through practical training that I went through a period of 5 months from 12 November 2012 to 12 April 2013 on Company Strata Merge (M) Sdn. Bhd. It is also one of the requirements to pass the course DBN307 and received in partial fulfillment of the requirements for obtaining a Diploma in Building.

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Date : 12 November 2012

ACKNOWLEDGEMENT

In the name of Almighty Allah, Gracious, Most Merciful, Firstly, I would like to express gratitude to the Almighty God for the blessings and kindness I can prepare this report, titled of wall construction. This practical training for 5 months beginning on 12th November 2012 to 12th April 2013. Here I would like to take this opportunity to extend thanks and appreciation to all those involved either directly or indirectly in completing this report I have prepared. Among those involved in the cooperation during my practical training is Mr. Nik Mohd Harith Bin Nik Mohd Azmi as a site supervisor. Thank you also to the lecturers of building department consisting of my supervisors Mr. Anas Zafiro Bin Abdullah Halim, as practical training coordinator Mr. Noor Azam Bin Yahaya. Also do not miss our thanks to my colleagues comrades who undergo practical training this semester because of the support, motivation and encouragement to me during the practical training and the successful complete this report.

ABSTRACT

Report entitled wall construction is provided by me to explain about the construction of wall at construction sites that I have learned. I obtained all the information based on the observation and research done by me during the practical training for 5 months at construction sites. This report consists of the company background and the background of the project construction, the place where I go for practical training of a housing development company and Properties at Strata Merge (M) Sdn. Bhd. and projects that are being developed, namely 64 units of single storey terrace houses. Theory in this report will describe in detail the wall construction at sites. The observation and experience during monitoring of construction work performed by workers on site. Besides that, I provide observations about the work ethics wrong when working on site as well as suggestions to solve the problem. In conclusion, I hope this report provided greater convenience to the reader to learn and understand more about wall construction methods at construction sites and matters associated with it and I hope this report can be used as guides in the foreseeable come.

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ABBREVIATIONS

KIST Kolej Islam Sains dan Teknologi

UKM Universiti Kebangsaan Malaysia

CHAPTER 1.0

INTRODUCTION

1.1 Introduction of the Study

Practical training conducted aimed for the students to familiarize themselves with how to work before going to the real working environment. Practical training is an obligatory condition for students to get a diploma roll. Thus, during the period of practical training, students should take the opportunity to gain as much knowledge that can be collected in the field are doing the construction industry such as to ask those who are more expert if not observe and understand and learn all works in done at site.

1.2 Objectives of the Study

Practical training is implemented to help students to master about the ethics of the relationship extensively in construction in detail, this can be generating a knowledgeable student of both theoretical and technical terms of the method of construction.

In addition, the objectives of the research to help students learn and study the construction work performed directly and indirectly. Objectives of the study are;

- 1) To identify the equipment and materials needed for the construction work of the wall.
- 2) To know the work involved during the construction wall.
- 3) To learn project management aspects of the work done during and before construction work.

1.3 Scope of the Study

The scope of this study is to describe in detail the work involved in the wall construction at Taman Sri Sutera undertaken by Strata Merge (M) Sdn. Bhd. In addition, the results of the observations at the construction site during the practical training, the wall construction work has many levels to construct.

1.4 Method of the Study

There are various methods that have been used to complete this study, among them;

1. Electronic Media

A simple reference method for gaining information on construction process. In addition, the electronic media acted quickly and many provide information that can be taken. Consequently, through the use of internet can also help me save hours of work.

2. Observations

The research can be found out exactly whether on site or in the office. While on site, by way of observation can help a little bit to learn something practical, easy to understand and learn.

3. Reference

In addition, the book can be as a reference which contains practical research report.

4. Interview

This method is the most comprehensive and information obtained on the question. At the construction site, the interviewed a number of employees which includes Site Supervisor and Project Manager. In addition, the research with interviews of the parties involved in the completion of my facilitate practical training.

CHAPTER 2.0

2.0 COMPANY BACKGROUND

2.1 Introduction

Name of Company	: Strata Merge (M) Sdn. Bhd.
Date of Operation	: 28hb. October 1993
No Company	: 280024 – (W)
Company Address	: 3180-H, Jalan Sultan Ibrahim, 15000 Kota Bharu, Kelantan.
	Tel:
	Fax: 09-743 6588
Startup Capital	: RM1,000,000.00
Shareholders	: Dato' Sekarnor Bin Che Omar (95%) : Datin Noor Saaidah Binti Johan Noor (5%)

2.2.1 Information Board of Directors

DATO' SEKARNOR BIN CHE OMAR

- ❖ Date of Birth : 03/10/1956
- ❖ No. I / C :
- ❖ Qualification : Bachelor of Economics
(UKM)
- ❖ Position : Managing Director
Strata Merge (M) Sdn. Bhd.
- ❖ Other Position : Chairman of the Housing Developers'
Association Malaysia
(REHDA State Kelantan)
- ❖ Experience : Texes Instrument Company
Malayan Banking Berhad
(8 years)
Company Kelana Bakti Sdn. Bhd.

NOOR ISKANDAR BIN JOHAN NOOR

- ❖ Date of Birth : 06/02/1965
- ❖ No. I / C :
- ❖ Qualification : Degree in Civil Engineering & Computing
(Year 1989)
Degree in Mechanical Engineering & Computing
(Year 1989)
- ❖ Position : Executive Director / Engineer
Strata Merge (M) Sdn. Bhd.
- ❖ Experience : Perwaja Steel Sdn. Bhd.
(Year 1989 - 1998)
Ecostand Engineering Sdn. Bhd. &
Ecostand Telecommunications Sdn. Bhd.
(Year 1998 - 1999)
ZNZ Engineering Sdn. Bhd.
(Year 1999 - 2002)

DATIN NOOR SAAIDAH BINTI JOHAN NOOR

- ❖ Date of Birth : 04/08/1958
- ❖ No. I / C :
- ❖ Qualification : Degree in Art
(University of Malaya)
- ❖ Position : Director
Strata Merge (M) Sdn. Bhd.
- ❖ Experience : Malayan Banking Berhad
(20 years)
(Year 1985 to 2004)

2.3 History of the Company

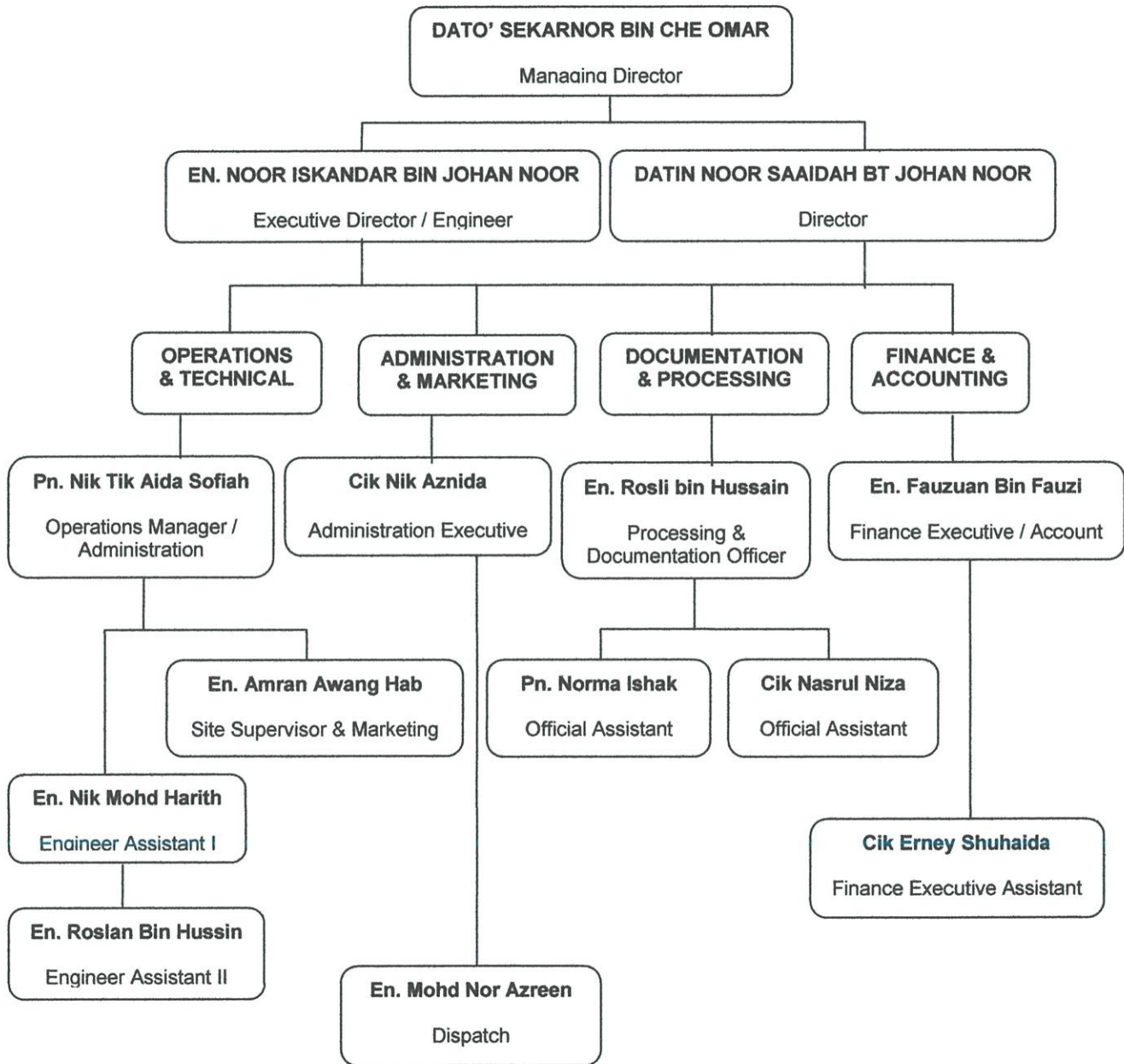
Strata Merge (M) Sdn. Bhd. is a company in Real Estate and Housing Developers' Licensed and is owned by Bumiputra Company established on 28 October 1993 that offers comprehensive solutions in project or construction management services.

Strata Merge (M) Sdn Bhd is actively involved in working on construction projects in particular housing and commercial building in the State. With a dynamic management staff and qualified staff, the company is able to complete the project successfully and to be able to save time and cost of construction.



Figure 2.1 Logo Strata Merge (M) Sdn. Bhd.

2.4 Organizational Chart



2.5 List of Projects

2.5.1 List of Projects Completed

No.	Project List	Contract Amount	Date of Completion
1	TAMAN NASHRIQ, 55 Unit Teres Satu Tingkat, Mukim Senak, Daerah Tawang, Bachok, Kelantan.	RM 4,895,000.00	1999
2	3 BANGLO SATU TINGKAT, Mukim Pauh Sembilan, Daerah Tawang, Bachok, Kelantan.	RM 360,000.00	1999
3	TAMAN SRI SERDANG BARU, 28 Unit Teres Satu Tingkat, 4 unit Banglo Satu Tingkat, 4 unit Semi-D Satu Tingkat, Mukim Telong, Daerah Telong, Bachok, Kelantan.	RM 2,020,000.00	2000
4	TAMAN KULIM INDAH, 44 units Rumah Teres Satu Tingkat, Mukim Pak Pura, Daerah Tanjung Pauh, Bachok, Kelantan.	RM 3,080,000.00	2000

No.	Project List	Contract Amount	Date of Completion
5	TAMAN SRI SELASIH, 12 unit Teres Satu Tingkat, 6 unit Semi-D, 3 unit Rumah Kedai dan 1 unit Banglo Satu Tingkat, Mukim Pak Pura, Daerah Tanjung Pauh, Bachok, Kelantan.	RM 1,620,000.00	2001
6	TAMAN SRI BAYU, 26 Unit Teres Satu Tingkat & 16 Unit Rumah Semi-D, Mukim Telong, Bachok, Kelantan.	RM 2,790,000.00	2001
7	TAMAN KULIM INDAH II, 83 Unit Rumah Teres Satu Tingkat, Mukim Pak Pura, Daerah Tanjung Pauh, Bachok, Kelantan.	RM 7,055,000.00	2002
8	PROJEK: SEKOLAH KEBANGSAAN PANGKAL NERING, MACHANG, KELANTAN. NO. KONTRAK : PER/KN.92/2002 (2 Blok Bangunan Sekolah & 1 Blok Bangunan Kantin)	RM 8,566,855.00	2003

No.	Project List	Contract Amount	Date of Completion
9	PROJEK STRATA VILLA PCB, 7 Unit Banglo Satu Tingkat, Mukim Semut Api, Daerah Badang, Kota Bharu, Kelantan.	RM1,295,000.00	2003
10	TAMAN MACHANG INDAH, 50 Unit Teres Satu Tingkat & 10 unit Banglo Satu Tingkat, Mukim Limau Hantu, Daerah Pangkal Meleret, Bachok, Kelantan.	RM 5,750,000.00	2004
11	TAMAN SRI CEMPAKA, 33 unit Teres Satu Tingkat & 7 unit Kedai Satu Tingkat, Mukim Telong, Daerah Telong, Bachok, Kelantan.	RM 3,315,000.00	2004
12	TAMAN PERSISIRAN, 61 Unit Teres Satu Tingkat, Mukim Telong, Daerah Telong, Bachok, Kelantan.	RM 4,270,000.00	2004

No.	Project List	Contract Amount	Date of Completion
13	TAMAN LABOK JAYA, 181 Unit Rumah Teres Satu Tingkat, Mukim Labok, Daerah Labok, Machang, Kelantan.	RM 13,575,000.00	2004
14	TAMAN BANGGU JATI, 27 Unit Teres Satu Tingkat, & 2 Unit Semi-D, Mukim Banggu, Daerah Lubok Pukol, Kota Bharu, Kelantan.	RM 2,106,000.00	2005
15	TAMAN KUIING INDAH, 61 Unit Rumah Teres Satu Tingkat, Mukim Labok, Daerah Labok, Machang, Kelantan.	RM 5,368,000.00	2005
16	TAMAN PERINGAT PUTRA, FASA I 20 Unit Banglo Satu Tingkat, Mukim Peringat, Kota Bharu, Kelantan.	RM 5,000,000.00	2006

No.	Project List	Contract Amount	Date of Completion
17	TAMAN SRI DELIMA, 20 Unit Banglo Satu Tingkat, Mukim Parit, Daerah Limbat, Kota Bharu, Kelantan.	RM 4,000,000.00	2006
18	DESA BUKIT ILMU, 83 Unit teres Satu Tingkat, Mukim Ulu Sat, Daerah Ulu Sat, Machang, Kelantan.	RM 16,104,000.00	2009
19	TAMAN PERINGAT PUTRA - Fasa II, 10 Unit Rumah Semi-D, Satu Tingkat, Mukim Peringat, Jajahan Kota Bharu.	RM 1,700,000.00	2009
20	TAMAN SRI NILAM, 8 Unit Banglo Satu Tingkat, Kampong Wakaf Zain, Mukim Pauh Sembilan, Daerah Bachok, Kelantan.	RM 2,400,000.00	100% (CCC)

No.	Project List	Contract Amount	Date of Completion
21	TAMAN SRI IMPIAN, 38 Unit Teres Satu Tingkat, Mukim Telong, Bachok, Kelantan.	RM 3,800,000.00	100% (CCC)
22	TAMAN SRI BAIDURI (FASA 1), 4 Unit Semi-D Satu Tingkat, Mukim Telong, Bachok, Kelantan.	RM 1,700,000.00	100% (CCC)

2.5.2 List of Projects in Progress

No.	Project List	Project Value	Percent Readiness
1	TAMAN DE BALI, 2 Unit Banglo, 12 Unit Teres Satu Tingkat, Mukim Tok Bali, Pasir Puteh, Kelantan.	RM2,600,000.00	45%
2	DESA SRI PERMATA, 72 Unit Teres Satu Tingkat, Mukim Pasir Genda, Tanah Merah, Kelantan	RM7,200,000.00	45%
3	TAMAN SRI SUTERA, 64 Unit Teres Satu Tingkat, Mukim Telong, Bachok, Kelantan.	RM6,400,000.00	65%
4	TAMAN SRI BAIDURI (FASA II), PT 7518 – PT7522, 4 Unit Banglo Satu Tingkat, Mukim Telong, Bachok, Kelantan	RM1,020,000.00	65%

2.5.3 List of Coming Soon Project

No.	Project List	Project value	Target Project Initiation	Reservation status
1	TAMAN SRI BAIDURI (FASA III), PT 7511 – PT 7517, 8 Unit Rumah Kedai 2 Tingkat, Mukim Telong, Bachok, Kelantan.	RM 3,600,000.00	May 2013	3 unit
2	TAMAN SRI SUTERA II, Lot 4372, 10 Unit Semi-D setingkat dan 3 unit Banglo Setingkat, Mukim Telong, Kelantan.	RM 2,740,000.00	June 2013	2 unit Semi-D, 1 unit Banglo
3	TAMAN SRI CEMPAKA, PT 4893 – PT4896, 4 unit Rumah Kedai 2 Tingkat, Mukim Telong, Kelantan.	RM 1,800,000.00	August 2013	-

CHAPTER 3.0

3.0 Wall Construction

3.1 Introduction

The wall is an important part of a building structure. It also comprises the main structure that divides the interior space home. In addition, the wall is able to provide protection to the occupants of the house. Wall construction designed as follows:

1. To give identity design from the point of view of a building exterior and interior design of the building.
2. To support loads include wind forces, self-weight, possibly the weights of walls and floors from above.
3. Provides protection from heat and cold, sunlight, ultraviolet radiation, rain and sound, while containing desirable interior environmental conditions.
4. To provide resistance to passage of fire for some defined period of time
5. Safeguard the privacy of the home interior division.

Once the floor structure is in place the walls are erected directly on top of the slab. Walls act as a loading bearing support for the roof and provide space for openings such as doors and windows, and they enclose the house and seal it from weather.

3.2 Background of the Project

Strata Merge (M) Sdn. Bhd. a housing development company and a leading licensed property specifically in Kelantan as well as in Malaysia. The company focuses on the development of housing projects only. Housing project in Taman Sri Sutera offers 64 units of single storey terrace houses a land area of 1,200 square. Development project which began operations in August 2010 and delivery of development projects at the end of February 2012. The submission of this project had to be postponed due to a number of factors that are not avoided and construction period of the projects will have to be extended until the end of June 2013.

In addition, the benefits offered to buyer's location as a strategic location on the edge of the main road between Melawi and Tok Bali. The location closes to facilities such as the Sekolah Menengah Kandis, Sekolah Kandis and Health Clinic. Subsequently, a location close to centers of learning such as Universiti Malaysia Kelantan, the Kolej Islam Sains dan Teknologi (KIST), Pusat Tahfiz.





Photo 3.2 Location Plan



3.3 Case Study

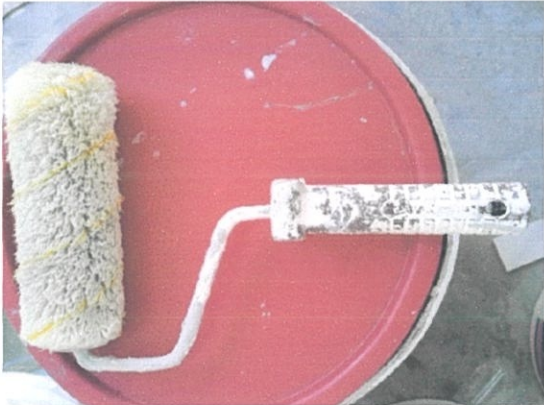

3.3.1 Component of Involved

No.	Diagram	Details	Size / Price
1	 <p>Photo 3.3.1.1 Phoenix Cement</p>	<p>-Portland cement used to concrete work.</p> <p>- Cement is binding material in the cement concrete</p>	<p>- 50 kg -RM18.00/ per bag</p>
2	 <p>Photo 3.3.1.2 Walcrete Cement</p>	<p>-Walcrete cement use to plastering work</p> <p>- It provides strength to concrete on setting and hardening.</p>	<p>-50kg -RM19.00 /per bag</p>



No.	Diagram	Details	Size / Price
3	 <p>Photo 3.3.1.3 Cement Brick</p>	<p>-The function of cement bricks are durable and unbreakable</p>	<p>- 210mm x 100mm x 65mm -RM 0.24 per unit</p>
4	 <p>Photo 3.3.1.4 Concrete Mixer Machine</p>	<p>- Cement mixer use for smaller volume works portable concrete mixers are often used so that the concrete can be made at the construction site.</p>	<p>-RM 4,795.00 per m³</p>



No.	Diagram	Details	Size / Price
5	 <p>Photo 3.3.1.5 Scaffolding</p>	<p>-Used to support people and material in the construction.</p>	
6	 <p>Photo 3.3.1.6 Wheelbarrow</p>	<p>- Use of wheelbarrows is common in the construction site.</p>	<p>-RM 100.00</p>



No.	Diagram	Details	Size / Price
7	 <p>Photo 3.3.1.7 Plaster Equipment</p>	<p>- For plastering works.</p>	
8	 <p>Photo 3.3.1.8 Bucket</p>	<p>- For concrete works.</p>	



No.	Diagram	Details	Price
9	 <p>Photo 3.3.1.9 Paint Brush</p>	<p>-Use this for painting works</p>	
10	 <p>Photo 3.3.1.10 Paint</p>	<p>-Paint use to protect surfaces and add colour.</p>	



3.3.2 Method Statement

No.	Method	Diagram	Details	Labour	The Period of Time
1	Concrete Ground Floor		<p>-The work of concrete ground floor have be done after complete a ground beam.</p>	<p>-2 skilled worker -2 semi skilled worker</p>	1 day
2	Concrete Column		<p>-Make a formwork concrete column.</p>	<p>-1 skilled worker -2 semi skilled worker</p>	2 day

No.	Method	Diagram	Details	Labour	The Period of Time
3	Types of Brick		<ul style="list-style-type: none"> -The cement brick use in construction site. -Easy to used. -Order from Factory. 		
4	Bonding (internal)		<ul style="list-style-type: none"> -The use of bonding is stretcher bond. -The brick work can be faster. 	<ul style="list-style-type: none"> -3 skilled worker -1 semi skilled worker 	3 day for each building

No.	Method	Diagram	Details	Labour	The Period of Time
5	Bonding (external)		<p>-The use of bonding is stretcher bond.</p>	<p>-3 skilled worker -1 semi skilled worker</p>	<p>3 day for each building</p>
6	Starter Bar		<p>-The starter bar use to give strength and support of the brick wall -The starter bar is a steel reinforcement. -To connect in a second stage the reinforcement of walls.</p>		

No.	Method	Diagram	Details	Labour	The Period of Time
7	Put Lintel		<p>-Lintel use to carry load from roof system and transfer to brick wall.</p> <p>-This use to support window frame.</p>		
8	Concrete Roof Beam		<p>-To concrete roof beam</p>	<p>-1 skilled worker.</p> <p>-2 semi-skilled workers.</p>	<p>-1 day for each building</p>

No.	Method	Diagram	Details	Labour	The Period of Time
9	Plastering Work		<p>-Plastering serves a protective function</p>	<p>-3 skilled worker -1 semi skilled worker</p>	<p>-3 day for each building</p>
10	Finishes (painting)		<p>-First painting use of undercoat paint. -Second painting use of emulsion paint.</p>	<p>-Only 1 worker</p>	<p>-1 day for each building</p>

3.3.3 Problem and Solution

Mildew of Paint Surface

The rain water causing moisture in the walls cause mildew of paint surface. The black, brown or green blotches that form on the surface. The damp or high humidity areas that receive little sunlight or ventilation. Painting over a substrate containing mildew.



Photo 3.3.4 Mildew of Paint Surface

The remove by scrubbing surface with a 1:3 solution of household bleach to water. Besides that, allow surface to dry thoroughly. The process of repainting may not be necessary. If you do need to repaint, use top quality emulsion paint as it resists mildew better than oil based or alkyd paints.

Chapter 4.0

4.1 Conclusion

As a conclusion, the construction projects can run smoothly if the hot weather at the construction site, the project can be completed on time. In addition, the structure of the wall gives an important role to support the load of the roof system. Thus, the wall structure also makes a difference to a building. Moreover, without wall structure we may be exposed to hazards such as the threat of wild animals, air pollution, for privacy and can cause us vulnerable to unpredictable weather, namely hot and rainy.

4.2 Recommendation

Based on the observation that use on the construction site during the practical training at the project site Taman Sri Sutera, the process of construct the wall is one of the factors that should be considered in the context of construction. Secondly, to ensure that the wall construction work to be completed in a short time for a building.

List of References

1. Nik Mohd Harith, Engineer Assistant, Strata Merge (M) Sdn. Bhd.
2. <http://www.answers.com/topic/wall-construction#ixzz2JXSL2qzN>
3. McGraw-Hill Science & Technology Encyclopedia: Wall Construction