



**DEPARTMENT OF BUILDING
UNIVERSITI TEKNOLOGI MARA
(MARA)**

**INSTALLATION OF PARTITION WALL
(NON-LOAD BEARING WALL)**

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(PERAK)

AUGUST 2021

It is recommended that the report of this practical training provided

By

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**INSTALLATION OF PARTITION WALL
(NON-LOAD BEARING WALL)**

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

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STUDENT'S DECLARATION

I hereby declare that this practical report is by my own work, except for extract and summaries for which the original references stated herein, prepared during a practical training session that I underwent at Fadlhin Engineering for duration of 20 weeks starting from 23 August 2021 and ended on 7 January 2021. It is submitted as one of the prerequisite requirements of BGN310 and accepted as a partial fulfillment of the requirements for obtaining the Diploma in Building.

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ABSTRACT

Partition walls are one of the most important structures for non-load bearing wall elements of a building. A non-load bearing wall plays several functions in the performance of a house, space and rooms and these functions need to be fully understood in order to create a suitable and comfortable space as well as providing privacy. This report will discuss about the installation of non-load bearing wall which is partition wall of the spaces. This report was conducted for the renovation and modification of director's room of Teknologi Maklumat dan Rekod (BTMR), ibu pejabat, Jabatan Imigresen Malaysia who is located at Putrajaya. The objective of this report is to analyse the installation of partition wall and the way how it carried out. It will focus on the whole process of the installation the partition walls. This report will also look to at the problem and the solution in installation of partition wall.

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

In building construction, a non-load bearing wall are interior walls that do not support any kind of structural weight of a building. Additional than their own weight, they do not bear any other weight of the property's structure. non-load bearing walls, sometimes known as "curtain walls" are largely employed as room separators and generally serve no other purpose. By checking at the joints and rafters in the attic or basements, it can be easily identified. They are most likely non-load bearing walls if they run parallel to the wall. Non-load bearing walls are not responsible for the gravitational support for the structure, so it can be used for whatever used. However, removing a non-load bearing wall, or simply cutting into it can be risky and costly mistakes.

They are some types of non-load bearing wall such as Hollow Concrete block walls, brick walls and partition wall. For partition walls, a partition wall is a thin wall that used to divide a place that is enclosed. It is frequently built as a non-load bearing wall to give privacy, enhanced acoustic, and fire isolation while facilitating spatial division. Partition walls also provide for more freedom in the layout of the structure. Partition walls can be built up to the entire height of the floor or up to a height of 2.5m. as previously stated, they are typically built to hold their own weight and are occasionally utilised to support floor joists and roof trusses. They are referred to as load-bearing partitions in such cases.

They are a few types of partition wall such as brick partition wall, hollow & clay brick partition wall, glass partition walls, plaster slab partition wall and demountable partition wall. For the brick partition wall, it is known for their stretcher bond as the wall is plastered at both sides. This wall is made of raw materials, which makes it cost effective. They are usually tough, long-lasting, reusable, and recyclable. It also produces less pollution as a result of the production process. There are three varieties of brick partition walls, all of which are composed of plain bricks. Reinforced bricks, nogged bricks, and hollow bricks are examples. The simple brick partition of half brick stiffness has a maximum height of 2 metres. The

shape of wire mesh or hoop iron is reinforced by reinforced brick partition walls. Brickwork is built up inside a schema of wooden components to create the brick-nogging partition wall. The brick divider is both fire-resistant and sound-proof. For hollow concrete block partition, individual concrete units are used to create hollow concrete block partitions. The clay blocks used are made of clay or earthenware, and they can be solid or hollow. Hollow clay bricks with a section of 30 cm and a thickness of five to fifteen centimetres can also be employed. These types of walls are light-weight, sturdy, cost-effective, long-lasting, and fire-resistant.

For the demountable walls, it is architectural wall systems that can be dismantled, transported, and reassembled in other locations. Demountable partition is also known as movable wall. Modular and unitized are the two primary forms of demountable partition. Modular systems are often delivered in components that must be constructed on site. Unitized partition come on site as a pre-assembled unit, which allows for a speedy installation and easy reconfiguration with minimal effort.

There are many types of partition wall in theoretically. However, the aim of this report is to discover the installation of demountable partition wall and reuse it in the renovations.

1.2 Objective

There are several objectives have been developed from this construction:

- I. To identify the methods of installation the partition wall.
- II. To identify the problems and solutions during the installation of partition wall.

1.3 Scope of Study

Place of the case study that have been running were at Jabatan Imigresen Malaysia and it is located at Jalan Permodenan, Presint 3, 62100 Putrajaya, Wilayah Persekutuan Putrajaya. This project has started at 18 October 2021 until 15 November 2021, and it takes four weeks, it is a project of renovation and modification of director's room of teknologi maklumat dan rekod (BTMR) ibu pejabat, Jabatan Imigresen Malaysia. This project is to change the office room into the director's room. The cost for this project is Fifty-Six Thousands Five Hundreds and Sixty Ringgit Malaysia only (RM56,560.00). This project has finally completed, and the focus of the study is to determine on how the wall construction process for the non-load bearing wall is undertaken. This study will not be explained on how the non-load bearing wall, which is partition wall has been installed, it will also teach on the advantages of applying the partition wall. Furthermore, the problems and solution also included in this study. Observation, interview, and document reviews are the three approaches that must be used in order to complete the data, Finally, any further explanations pertaining to the preceding procedure were explained as below.

1.4 Methods of Study

1. Observation

The observation is one of the method on collecting data through observing. This observation is about how the wall construction process of non-load bearing wall from dismantled the existing partition wall to the process of installation until the finishes process of the wall. The amount time of taken for this observation appropriately around 2-3 hours but it is only for the dismantled the existing partition wall. If there has a lot of existing partition wall so the times might be longer. Overall, it took a whole week to dismantle all the existing partition wall and to install the partition wall. Meanwhile, for the finishes of the wall, it can take 1 week to finish it with the process of skimming and painting the partition wall. Overall, it will take around two and a half weeks to complete the task from the beginning until the end.

2. Interview

The interview is a way of collecting the construction data by doing the structured or semi structured interview with the trusted people for the project. This interviewer has been conducted with the company manager, the contractor who is responsible for handling the project at the construction site. The workers also can be the person who can be interviewed while they are doing the dismantle of existing the partition wall. This interview has been done while doing the observation and while doing the work at the site. The semi-structured interview is conducted by the same contractor who in charge for the project for each week in the office and usually carried out around 10-15 minutes.

3. Document Review

The document review that has been used to collect all the data for the construction is company profile, bill of quantities, construction drawing, illustration concept drawing and standard operating procedures (SOP), progress report and the pictures that been taken by the workers. Drawing plans, bill of quantities and illustration drawing will be placed on construction site for been used as reference for the workers. Meanwhile, the others document will be placed at the office. It will usually take 30 minutes for reviewing the document.

CHAPTER 2.0

COMPANY BACKGROUND

2.1 Introduction of Company

FADLHLIN Engineering has legally been registered under company registration act 1956 on 21 October 2008 and it has been registered at Kementerian Perdagangan dan Perindustrian, Shah Alam branch. FADLHLIN Engineering also has been registered under the Malaysian Construction Industry Development Board (CIDB). This company is registered in grade G2 in category B (building construction) for specialization B04, B07, B09, B11, B13, B14, B15, B24, B28. CE (civil engineering construction) for CE01, CE14, CE19, CE20, CE21, CE32, CE40, CE41, CE42, CE43, and ME (mechanical and electrical) for E01, E02, E03, E06, E09, E10, E11, E16, E1, E21, E32, M01, M02, M03, M06, M10, M12, M15, M19, M20, M22, M23. Other from being registered under CIDB Malaysia, FADLHLIN Engineering has SSM Business Registration certificated (SA0072088-A), Bumiputera Company Ministry of Finance (0120111109-TR132709) also it has been registered under Ministry of Finance Malaysia (K63086403022608574). FADLHLIN Engineering has make a collaboration with a lot of professional contractor company to meet the clients standard. All the companies have their own specialities in architects, surveyors, water and gas pipe system. There are also some general workers and skilled workers who have skills and experienced in the field of wiring, electrical, air conditioner system, fire alarm system and water pipe system.

2.2 Company Profile

FADLHLIN Engineering has been established and started the operation during 21 October 2008 and now currently this company is active in renovation, modification, piping works, landscaping, government project work tenders and other related work. FADLHLIN Engineering is based in Dengkil and located at No.43-1, Jalan Cyber Valley 1b/1, Cyber Valley Commercial Centre, 43800 Dengkil, Selangor.



Figure 2.1: Location of the company based on the satellite maps

Source: <https://www.google.com.my/maps>

This company mission is to become one of the top bumiputera construction company in grade G2 so there are able to provide the best quality services to all the customers and to give a lot of job opportunities among bumiputera. This company has more than five employees and has more collaborated with a lot of construction-related companies. FADLHLIN Engineering can be contacted via company email at fadhlinengineering77@gmail.com, fax (0-7982 5906) or directly contact thru company numbers (013-353 5965/ 011-5683 8774)

2.3 Company Organization Chart

In Fadhlhin Engineering, there are 7 employees who have their own role for their job scope to make the implement project smoothly. Mr Mohd Zaini has a role as manager for this Fadhlhin Engineering company and assisted by the project manager Mr Zairul Zaiky and the admin & accountant Mrs Nur Afliza. They are 6 workers sorting to their own role such as Mr Zamani is assigned for the water & gas pipe system project, and Mr Mohamad Khalil who is assigned for the fire alarm system. Figure 2.2 show the organization chart of Fadhlhin Engineering.

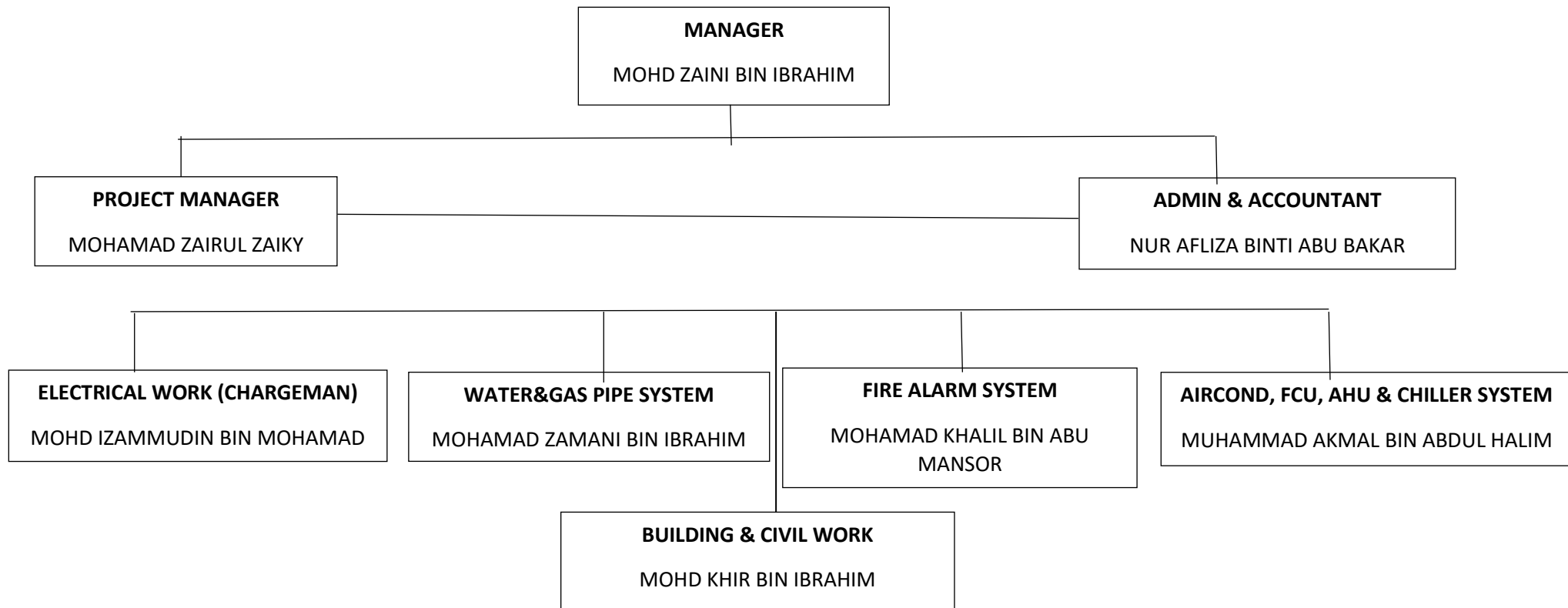


Figure 2.2 Company organization charts

2.4 List of Project

2.4.1 Completed Project

Fadhlhin Engineering have been in construction world for 12 years, and they have been involved in various project scopes. Some of the project that they have involved are piping works, mechanical and electrical works, water supply and treatment and building and civil works. Fadhlhin Engineering have experience with competent in all phases of project that they have been involved. Table 2.1 shown all the completed project for the past five years.

Table 2.1: Completed projects.

NO.	PROJECT TITLES	PROJECT VALUE	START DATE	COMPLETION DATE	CLIENT
1	Kerja-kerja pengubahsuaian ruang makmal chocolate bakery & cheese plant aras 1 & 2, bangunan kimia & teknologi di ibu pejabat MPOB	275,000.00	1/6/2021	31/8/2021	Lembaga Minyak Sawit Malaysia.
2	Kerja-kerja penggantian satu set ot light dan penambahbaikan system elektrik dewan bedah no. 2 bangunan obstetric serta kerja berkaitan di Pusat Perubatan University Malaya.	358,970.00	21/12/2020	31/5/2021	Pusat Perubatan Universiti Malaya
3	Pengurusan permohonan dan pemasangan meter air Syabas berjumlah 85 unit di 29 lot komersial, nadi 15, presint 15, Putrajaya, dan kerja-kerja teknikal berkaitan termasuk pengurusan dokumen kelulusan, membuat stand meter dan kerja-kerja berkaitan.	112,745.00	10/11/2020	11/1/2021	Pulse Group.

4	Kerja-kerja membaikpulihan semula jalan dan kerja-kerja berkaitan di jalan setia jaya dan jalan hj yusof, daerah Sabak Bernam, Selangor.	387,935.00	30/9/2020	4/11/2020	Jabatan Kerja Raya Sabak Bernam
5	Kerja-kerja pembaikan dan penggantian bumbung hanger paskau dan kerja berkaitan di Rejimen TUDM Jugra, Selangor.	300,591.00	13/8/2020	8/10/2020	Tentera Udara Diraja Malaysia
6	Kerja-kerja membaikpulihan keseluruhan system visual projection dan kerja-kerja berkaitan di dewan seri lestari aras bb1, Kementerian Pembangunan Luar Bandar (KPLB), Lot 4G8, Presint 4, Putrajaya	429,380.00	15/7/2020	7/10/2020	Jabatan Kerja Raya Putrajaya
7	Kerja-kerja pembaikan dan ubahsuai system air terawatt diasrama cempaka maktab PDRM Kuala Lumpur, Cheras, Selangor.	399,735.00	5/6/2020	25/9/2020	Maktab Polis Diraja Malaysia Kuala Lumpur.
8	Kerja-kerja pembaikan system loji rawatan kumbahan dan pembentungan (stp) di Institut Latihan Islam Malaysia, Bangi, Selangor.	210,930.00	12/11/2018	14/01/2019	Institut Latihan Islam Malaysia (ILIM)
9	Kerja-kerja menaiktaraf dan penambahbaikan lobi di blok E11, Lembaga Peperiksaan, Kementerian Pendidikan Malaysia	255,237.40	5/1/2018	1/3/2018	Lembaga Peperiksaan
10	Kerja-kerja membaiki kamera litar tertutup dan system di Institut Penilaian Negara (INSPEN) Kajang, Selangor	297,374.52	11/10/2017	31/10/2017	Institut Penilaian Negara
11	Kerja-kerja menurap semula permukaan tempat letak kereta di sekitar pangsapuri cendekiawan, pangsapuri murni, dewan seri sarjana, dan perpustakaan di Universiti Teknologi Nasional, Kampus Putrajaya.	358,875.72	1/3/2017	27/4/2017	Universiti Tenaga Nasional
12	Menaiktaraf jalan dan lain-lain kerja berkaitan di jalan SS2/24, simpang jalan SS2/75 dan jalan SS2/24, simpang jalan SS2/25, SS2 Petaling Jaya (Tawaran Semula)	355,396.80	23/1/2017	6/3/2017	Majlis Bandaraya Petaling Jaya.

Source: Fadlhlil Engineering Company Profile

2.4.2 Project in Progress

There are some projects that in a progress. The project scope include renovation works, building and structural works, piping works, also maintenance works. Table 2.2 shown the list of in progress project conduct by Fadhlhin Engineering.

Table 2.2: Project in progress.

NO.	PROJECT TITLES	PROJECT VALUE	START DATE	COMPLETION DATE	CLIENT
1	Kontrak berjadual bagi kerja-kerja penyelenggaraan kolam selam dan kerja berkaitan untuk tempoh dua puluh empat bulan di kem TUDM Jugra, Banting, Selangor	250,00.00	2/6/2021	1/6/2023	Jabatan Kerja Raya Malaysia
2	Kerja-kerja pembaikan kebocoran paip irrigation serta lain-lain kerja berkaitan di taman saujana hijau, presint 11, Putrajaya	19,800.00	30/11/2021	1/12/2021	Perbadanan Putrajaya
3	Kerja-kerja pembaikan motor pam dan water pam serta kerja-kerja lain yang berkaitan di taman saujana hijau, presint 11, Putrajaya	19,800.00	1/11/2021	17/11/2021	Perbadanan Putrajaya
4	Kerja-kerja membaik pulih Kuarters Block A (pakej 2) serta kerja-kerja berkaitan di Institut Penilaian Negara (INSPEN) Kajang, Selangor	25,028.10	25/10/2021	15/11/2021	Institut Penilaian Negara
5	Kerja-kerja pengubahsuaian bilik pengarah bahagian teknologi maklumat dan rekod (BTMR) ibu pejabat Jabatan Imigresen Malaysia	56,560.00	18/10/2021	15/11/2021	Jabatan Imigration Malaysia

Source: Fadhlhin Engineering Company Profile

CHAPTER 3.0

CASE STUDY

3.1 Introduction to Case Study

This case study is about partition wall installation (non-load bearing wall). This project has started during 18 October 2021, and it completed on 15 November 2021. This project is the government project who is cost around Fifty-six thousands Five hundreds and sixty Ringgit Malaysia (RM 56,560.00). Luckily this project has been completed according to the time given. Thus, the study will be explained not only regarding the installation, but it is also included on tools that have been used during this project of renovation and modification of director's room of Teknologi Maklumat dan Rekod (BTMR), ibu pejabat, Jabatan Imigresen Malaysia. Nevertheless, the study does not concentrate on cost and manpower. Figure3.1 shown the location of the proposed project.



Figure 3.1: Location of the project at Jabatan Immigration, Putrajaya

Source: <https://www.google.com/maps>

The project of renovation and modification is located at Jalan Permodenan, Presint 3, 62100 Putrajaya, Wilayah Persekutuan Putrajaya. This renovation room is located at the fifth floor of Jabatan Imigresen. The office of Jabatan Imigresen area is such a strategic place because it is in the centre of Putrajaya. There has Federal Court of Malaysia besides the main office of Jabatan Imigresen. It is also had Jabatan Pendaftaran Negara (JPN) in front of the Jabatan Imigresen building, and it is also had Tengku Mizan Zainal Abidin Mosque around the Jabatan Imigresen building area.

3.2 To Identify the Methods of Installation the Partition Walls.

The activities that have been carried out on the site is the installation of partition wall. This works can be handled by the ordinary workers, but it must be supervised and carried out by at least one skills workers to get the perfect partition walls. There are also some of the ordinary workers that helps to dismantle the existing partition walls and some of the unskilled workers that help the skilled workers reinstalled the partition walls. The tools that been used in this renovations are, measuring tapes, gypsum board, grinder, screwdriver, plastering and skim coat and many more. These are the method that must been followed for the installation of the partition walls. Figure 3.2.1 shown the planning on the partition wall process.

I. PLAN OUT THE WALL



Figure 3.2.1: Planning on the partition wall

First of all, the length for the area of the director's room must been measured. There are four spaces area provided by the floor plan for the renovation of the director's room. There are discussing area, personal assistant work area, rest area and also room prayer. The concept for this director's room is an open concept which is there have two rooms personal assistant work area and room prayer. The amount of partition that been used is slightly. After that, the subcon have to measure the demountable wall partition for make sure the partition that used is suit enough. Figure 3.2.2 shown the floor plan, figure 3.2.3, figure 3.2.4, figure 3.2.5 and figure 3.2.6 shown the bill of quantities.

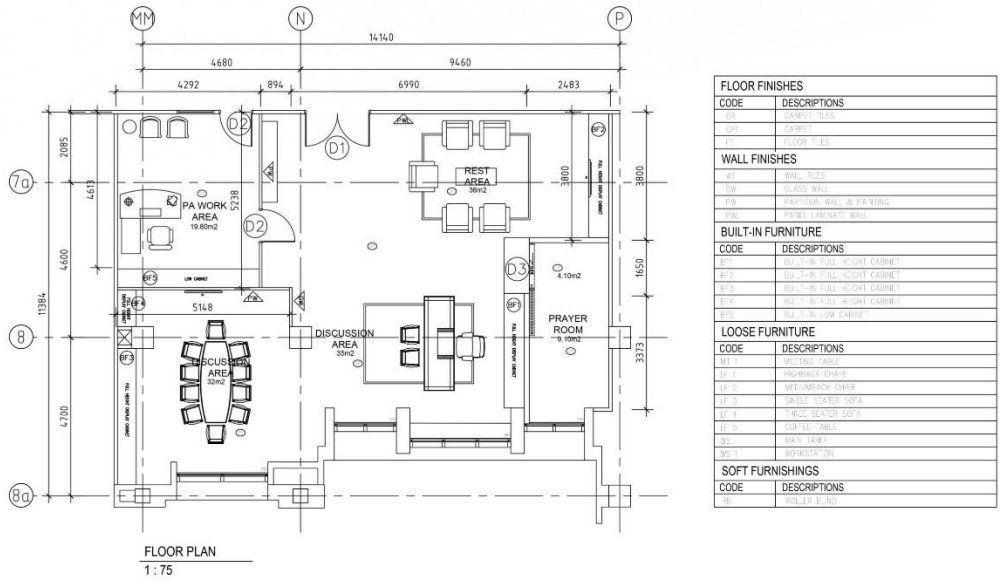


Figure 3.2.2: Floor Plan for the director's room

Source: Fadhlhin Engineering project document

BILL NO. 2 - KERJA-KERJA MEROBOH		
1	Meroboh siling sedia ada dan pelupusan sampah, membaiki kerosakan oleh kerana kerja-kerja tersebut mengikut arahan dan spesifikasi yang diluluskan.	M ²
2	Meroboh pintu-pintu sedia ada dan pelupusan sampah, membaiki kerosakan oleh kerana kerja-kerja tersebut mengikut arahan dan spesifikasi yang diluluskan.	No
3	Membuka dan membuang perabot dari kawasan pembinaan ke kawasan yang dibenarkan dan membaiki kerosakan oleh kerana kerja-kerja tersebut serta memastikan keadaan sekeliling berada dalam keadaan baik dan sempurna.	LS
4	Membuka dan membuang segala yang berkaitan dengan mekanikal dan elektrik di kawasan terlibat mengikut arahan dan spesifikasi yang diluluskan.	LS
1 LANTAI DAN KEMASAN		
a	Kerja-kerja memasang rekaan moden untuk carpet tile yang mematuhi spesifikasi dan arahan pegawai penguasa	M ²
2 DINDING DAN KEMASAN		
a	Kerja-kerja membekal dan memasang "100mm Gypsum Board 12mm thick partition wall from floor level surface to soffit slab level, complete with 50mm thick Rockwool Safe'n Silent Pro 330 thermal installation fittings and accessories" mengikut arahan dan spesifikasi pengilang serta corak dan warna yang diluluskan. (PW)	M ² 52

Figure 3.2.3: Bill of quantities page 1

Source: Fadhlhin Engineering project document

b	Kerja-kerja membekal dan memasang " 100mm thick Cement Board 12mm thick partition wall from floor level surface to soffit slab level, complete with all installation fittings and accessories" mengikut arahan dan spesifikasi pengilang serta corak dan warna yang diluluskan. (CB)	M ²	52
c	Kerja-kerja membekal dan memasang "12mm thick tempered glass wall with 1.2mm thick powder coated aluminium frame installed up to beam level with 'sand blast sticker' complete with accessories" mengikut arahan dan spesifikasi pengilang serta corak dan warna yang diluluskan. (GV)	M ²	9
d	Kerja-kerja mengecat dengan kemas cat 1 "primer coat" dan 2 "Premium quality washable emulsion" dan "Low VOC" di permukaan baffle gypsum board mengikut warna yang diluluskan.	M ²	147
e	Kerja-kerja membekal dan memasang "full height Panelling features wall mdf pattern in laminated finish " seperti warna yang diluluskan	M ²	22
3 KERANGKA PINTU			
a	Kerja-kerja membekal dan memasang kerangka pintu "1.2mm thick 'Zincalume Steel' with coating mass-AZ150 welded to Rondo 64mm x 0.5mm x 75mm boxed stud at door jarob slab to slab: atau yang setaraf berdasarkan arahan pengilang.		
	i. D1 - 1800mm x 2400mm	NOS	1
	ii. D2 - 900mm x 2100mm	NOS	3
	iii. D3 - 1000mm x 2400mm	NOS	1
4 PINTU			
a	Kerja-kerja membekal dan memasang "Grade B wood panel door complete with door installation fittings, laminated finishes and stainless steel ironmongery accessories" mengikut arahan dan spesifikasi pengilang.		
	i. D1 - 1800mm x 2400mm	NOS	1
	ii. D2 - 900mm x 2100mm	NOS	3

Figure 3.2.4: Bill of quantities page 2

Source: Fadhlhin Engineering project document

b	Kerja-kerja membekal dan memasang "panel sliding doors complete with door installation fittings, laminated finishes and stainless steel ironmongery accessories" mengikut arahan dan spesifikasi pengilang.		
	i. D3 - 1800mm x 2400mm	NOS	1
5 BUILT IN CABINET DI BILIK PENGARAH DAN BILIK SETIAUSAHA			
a	Membina "built in full height cabinet, overall size 3800mm (L) x 800mm (W) x 2800mm (H) complete with 150mm (H) to ID approval, constructed with timber framing to be finished with selected high pressure laminated plywood backing and door panel, drawer open shelf to manufacture detail including all plywood backing to designer's approval" dan seperi drawing yang berkaitan (BF2)	NOS	1
b	Membina "built in full height cabinet, overall size 4000mm (L) x 600mm (W) x 2800mm (H) constructed with timber framing to be finished with selected high pressure laminated plywood backing and door panel, drawer open shelf to manufacture detail including all plywood backing to designer's approval" dan seperi drawing yang berkaitan (BF3)	NOS	1
c	Membina "built in full height cabinet, overall size 1700mm (L) x 600mm (W) x 2800mm (H) constructed with timber framing to be finished with selected high pressure laminated plywood backing and door panel, drawer open shelf to manufacture detail including all plywood backing to designer's approval" dan seperi drawing yang berkaitan (BF4)	NOS	1
d	Membina "built in full height cabinet, overall size 4500mm (L) x 600mm (W) x 1000mm (H) complete with 150mm (H) stainless steel metal leg to ID approval, constructed with timber framing to be finished with selected high pressure laminated plywood backing and door panel, drawer open shelf to manufacture detail including all plywood backing to designer's approval" dan seperi drawing yang berkaitan (BF5)	NOS	1

Figure 3.2.5: Bill of quantities page 3

Source: Fadhlhin Engineering project document

	<i>Roller blind</i>		
a	Kerja-kerja membekal dan memasang "roller blind" berukuran 2500mm x 2700mm termasuk aksesori yang diperlukan	NOS	4
	<p>Nota:</p> <p>i. Kontraktor Utama hendaklah melantik Kontraktor Elektrik yang bertauliah untuk menjalankan kerja-kerja elektrik termasuk membekal, memasang, mengujiterima dan pentauliahan (testing & commissioning)</p> <p>ii. Kontraktor yang dilantik hendaklah mengemukakan sampel/ katalog/bahan untuk mendapatkan kelulusan dari Pegawai Penguasa</p> <p>iii. Sebutharga ini hendaklah dibaca bersama-sama dengan spesifikasi tambahan bagi mengelakkan sebarang percanggahan dalam dokumen yang lain.</p>		

Figure3.2.6: Bill of quantities page 4

Source: Fadlhlin Engineering project document

II. CLEAN THE AREA



Figure 3.2.7: The room area that have been cleaned

Source: Fadlhlin Engineering project document

All of the working spaces, tables, chairs, and cupboard has been moved out from the area. The floor is swept, and all unnecessary items was removed from the area. This can make the work run smoothly and it is easy for workers to rearrange the partition wall. Figure 3.2.7 shown the room area that have been cleaned.

III. REMOVE THE WALLPAPER



Figure 3.2.8: The wallpaper has been removing

Source: Fadhlhin Engineering project document

All the wallpaper at the current partition must be removed first before to rearranged it. The wallpaper must be the first to remove because it can make the worker easy for the skimming and painting process. The process for removing the wallpaper take 2 days of working days. It started from 20 October 2021 until 21 October 2021. After removed all the wallpaper at the existing partition, all of the wallpaper must collect and throw it away. Figure 3.2.8 shown the removing wallpaper process.

IV. DISMANTLED THE CURRENT PARTITION

Next, time is the most important things for the success of construction, this project has started a bit late from the promised duration and the contractor must be catch up with the limited time provided which is four weeks only. There has four new partition wall that must be installed in this room. Before started the installation of the new partition wall, the current partition must be dismantled first, and it can be reused for the new partition to make the partition stronger. After that, the finishes come with skimming process and painting process. This process will take a long time as it requires precision. Therefore, the time used for the installation will be recorded started from the dismantled of the current partition until the wall finishes process. Figure 3.2.9 shown the dismantled process.



Figure 3.2.9: The workers dismantle the current partition.

Source: Fadhlhin Engineering project document

After the process of removing the wallpaper, the workers have to dismantled all of the current partition wall and rearranged it according to the drawing with the same height and lengths. The current partition wall that has been used are demountable partition wall. There are some partitions that do not have to dismantled because the position is the same with the floor plan. It is some part of the personal assistant room and the prayer room. The workers have to dismantle the other partition and arrange it at some place for it can be reuse for the installation of the partition. This process takes 3 days for it, it is from 22.23 and 26 October 2021.

V. INSTALLATION OF THE PARTITION

For the installation of the partition wall in this project, it is supposed to take around two weeks unfortunately it took around two and a half weeks to finish the partition wall including the skimming and painting finishes from the start to the end. Throughout the construction there are some obstacles such as the stock from the supplier is running late for two or three days and also the pandemic of Covid-19 that control the movement of construction. Those are some of the obstacles that makes the works delayed. Figure 3.2.10 shown the installation process.



Figure 3.2.10: The installation of the partition

Source: Fadhlhin Engineering project document

The current partition which is the demountable partition wall is a sound resistant and it is strong enough for been reused for the new partition in the room to make the partition stronger. Firstly, the workers have to reinstall the framework at the floor and the ceiling. It is to make the partition can be easily to filled in. the workers have to reinstall the partition, the door frame. The glass panel also have to installed but it is only at personal assistant office. The duration for reinstalled the partition it is take 3 days 27 October 2021 until 29 October 2021 to reinstalled it.

VI. SKIMMING PROCESS



Figure 3.2.11: The workers do the skimming process

Source: Fadhlhin Engineering project document

Figure 3.2.11 shown the workers do the skimming process. Skimming is one of the finishes processes for the interior wall in construction. The skimming process started at 1 November 2021 after the installation of the partition finished. The steps for this skimming process are first, the partition have to be cleaned and it must be free from the dust. After that, it has to be skim for at least two times because it can make the layer becomes thick. If the partition has a joint in it, the workers can also use a net and put it on the joint part to cover it up. After the skimming process is completed which is during 2 November 2021, is for the painting process. Figure 3.2.12 shown the installation of the net meanwhile figure 3.2.13 shown the installation of the gypsum board.

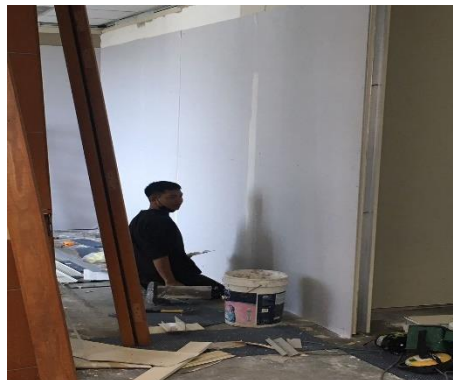


Figure 3.2.12: The installation of gypsum board at the partition wall

Source: Fadhlhin Engineering project document



Figure 3.2.13: The installation of net at the gypsum board

Source: Fadhlhin Engineering project document

VII. PAINTING PROCESS



Figure 3.2.14: The painting process

Source: Fadhlhin Engineering project document

Painting is the last process of the finishes process. After the skimming process completed, the workers must use double coating painting. The first layer for the white color and the next one is the color that have been request by the customer. It is to make sure the color that the customers requested is perfect. The duration for painting process is 3 days. On 3 November 2021, it is the first step for first coating which is used the white color and it takes only 1 day for completed it. Next is the second coating, from 4 November until 5 November, it is the time for paint all the partition with the color provided. Figure 3.2.15 and 3.2.16 shown the first coating for column and partition wall. Figure 3.2.17 and 3.2.18 shown the second coating for the column and the partition wall.



Figure 3.2.15: The first coating paint for the column
Source: Fadhlhin Engineering project document

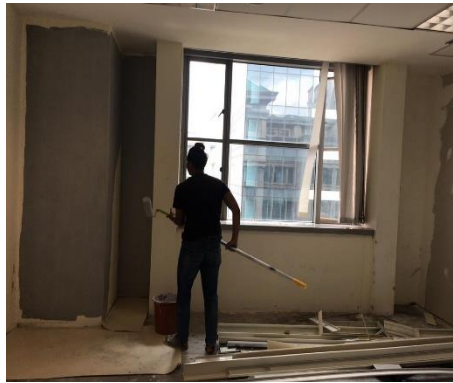


Figure 3.2.16: The first coating paint for the wall and the partition wall
Source: Fadhlhin Engineering project document



Figure 3.2.17: The second coating paint for the column
Source: Fadlhlin Engineering project document



Figure 3.2.18: The second coating paint for the partition wall
Source: Fadlhlin Engineering project document

3.3 To Identify the Problems and Solution in Wall Construction

Last but not least, the problems of installation process will be determined throughout the construction process. The solutions of the problems also will be state after determining the problem of the process. This section will be focused on the problems and solutions for the installations.

i. Problem: The length for the partition wall is not fit

After the dismantled process, the current demountable partition wall has their own length, it can make some problem for the reinstalment such as the length of the demountable is more than the length of the partition wall provided by the floor plan.

Solution: Cutting the partition wall

The partition wall is an adjustable wall which can be dismantle and install easily. Measure the length that been needed with measuring tape, mark it the length with a marker and finally cut the partition wall followed by the measurement for the partition wall to be fit.



Figure 3.3.1: The workers cut the demountable partition

Source: Fadhlhin Engineering project document

ii. Problem: Joints in the partition wall

After finished the installment the partition, all the partition may have the joint in it. It can make a problem for the skimming process and painting process because the joint can be seen.

Solution: Put a net between the joint

The joint in between the partition wall can be prevent bi installing the net in between them during the skimming process for the finishes. To obtain a nice finish, the joint must be covered with a net, and it must be skim together to the joint.



Figure 3.3.2: The installation of net at the gypsum board

Source: Fadhliln Engineering project document

CHAPTER 4.0

CONCLUSION

The non-loadbearing walls such as partition walls are very important to the building to create a suitable and comfortable environment as well as its provided privacy. The installation of partition wall method was started from planning out the position of the partition walls. Next, if there have a current partition, dismantled all the current partition walls, clean all the floor, lifted, and install the partition walls. Therefore, do the skimming process for the partition walls, the purpose is to prevent the joint to be seen. Lastly, paint the partition walls according to the color that have been ordered.

The process usually took around 5 to 10 days starting from 20 October 2021 until 5 November 2021 including the wall finished work. Unfortunately, the installation process of partition walls has been delayed a few days because of the movement control order and the quarantine process during the pandemic Covid-19. Therefore, it takes a few times to finished it.

This method of installation the partition walls is the common method. In addition, there are some kinds of problems during the installation of the partition walls, such as the length of the partition walls is not fit and there has a joint in the partition walls, but all the problems have been solved easily.