



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

**REPLACEMENT OF FLOOR FINISHES FROM CARPET TO
TILES AT AKADEMI AUDIT NEGARA, BANDAR ENSTEK,
NILAI**

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UNIVERSITI TEKNOLOGI MARA
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FEBRUARY 2022

It is recommended that the report of this practical training provided

By

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accepted in partial fulfillment of the requirement for obtaining the Diploma in
Building.

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STUDENT'S DECLARATION

I hereby declare that this report is my own work, except for extract and summaries for which the original references are stated herein, prepared during a practical training session that I underwent at Sri Bukti Construction for a 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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Date : 10 JANUARY 2022

ACKNOWLEDGEMENTS

To the following people deserve my deepest thanks and sincerest gratitude for their assistance and support throughout my internship.

The internship at Sri Bukti Construction provided a fantastic opportunity for learning and professional growth. I count myself lucky to have been hired as an intern at this company since I was able to gain both soft and hard skills. First and foremost, I want to express my great thanks and debt to Encik Abdul Hadi Bin Badruddin and his fellow staff of this company for allowing me to be doing my training under their guidance. This journey has been made possible by their active participation in all of my queries and questions. Working at such a great company was a privilege for me, and I am sincerely honoured.

As long as I've been in this company, I was monitored by Encik Abdul Hadi Bin Badruddin. He always provide guidance and informations for me to conduct this report. Regardless, in deepest sense of gratitude to TS Muhammad Redza Bin Rosman Report Supervisor lecturer and Dr. Dzulkarnaen Bin Ismail who is the Programme Coordinator, En Muhammad Naim bin Mahyuddin, Practical Training Coordinator, and all UiTM lecturers that have taught us as they have provided a huge amount of their precious time and effort to ensure I had a place for my internship.

A thousand thanks and appreciations to my family members and friends for supporting me throughout this practical work by providing all my needs during my internship.

Thank you so much.

ABSTRACT

Sri Bukti Construction has given this opportunity in participating in the company for the practical training in order to complete studies. The project was given to complete this report is Replacement of Floor Finishes from Carpet to Tiles at Akademi Audit Negara, Bandar Enstek Nilai, Negeri Sembilan. The critical part of the project is to chasing the allotted time while having small number or workers. Despite the need to maintain the quality of tiles finishes of this project, there are certain important materials and methods involved. There are also problems and solution included during the work. Therefore, this report is mainly focus on explaining the sequences of materials and methods involved including problems and solutions in completing this project.

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CHAPTER 1.0

INTRODUCTION

1.1 Background

Finishes are applied to the final surface of an element during the construction or manufacturing process. They can provide protection against impact, water, frost, corrosion, abrasion, and other factors, as well as be aesthetic. Finishes are most frequently associated with interior surfaces, although they can also be used on exterior elements. They may be used both wet and dry. Some elements are self-finished, meaning the final surface is made from the same material as the element. Finishing involves the application of many layers, some of which will constitute the final exposed surface, but all of which are called finishes. Before applying the final paint to a wall, for example, an undercoat or primer may be used.



Photo 1.1: Photo Shows a Building of Akademi Audit Negara (Hostel)

As in this report will be more focus on floor finishes which is tiles. Internal walls, ceilings, and floors are typically covered with tiles, which are produced furnishing materials. They might be plain and practical, or they can be decorative and elaborate, such as mosaics. Tiles are thin, square or rectangular covers made of durable materials such as ceramic, stone, metal, baked clay, or even glass.



Photo 1.2: Photo Shows a Hostel Room

The tiling works will be at Akademi Audit Negara, Bandar Enstek. The existing carpet will be replaced with tiles. There are about 100 room of hostel for 4 storey buildings.

1.1 Scope of Study

This report provides information and process of hostel carpet replacement to tiles finishes at Akademi Audit Negara, Bandar Enstek, Nilai, Negeri Sembilan. Cost of this project are about RM 222,600.00.



Photo 1.3: Photo shows tiles installation

The project was expected to be completed by 14 October 2021 within 10 weeks from 5 August 2021. This project does face a few problems but then efficiently

solved the problems occur. Focus of this study is to analyse the method that involved during the instalment of tilling.

1.2 Objective

The aim of producing this report is to accomplish a few objectives. The following objectives are:

1. To analyse the method that involved during the instalment of tilling.
2. To recognise the problems and solution occur during the instalment.
3. To investigate the equipment and tools involved during the instalment.

1.3 Method of Study

There are few data collection methods of study used in this report which are:

1. Observation

Observation is the most straightforward approach for gathering information. It is simpler to learn and grasp indirectly, based on observation, because we are immediately exposed to the working environment and procedures. Theoretical learning in courses may differ from exposure in real-life situations. By utilising a smartphone, the observations are captured and kept in digital notes, images, and videos.

2. Interviews

One of the most efficient and successful ways to obtain more specific information is through interviews. The unstructured-interview approach entails a bilateral dialogue in which concerns and questions that cannot be obtained from observation are discussed. This strategy is created by interviewing the building site's experienced personnel or crew. These interviews are extremely beneficial in obtaining more specific and dependable information from experienced and skilled construction workers.

3. Document reviews

To acquire data for my study, I employed the strategy of evaluating documents such as construction drawings, progress reports, business profiles, and photographs. The papers are required to comprehend the flow of events on site and to serve as a reference for report writing. This strategy aids in the gathering of data for the study.

CHAPTER 2.0

COMPANY'S BACKGROUND

2.1 Introduction of Company



Figures 2.1: Sri Bukti Construction Company

Sri Bukti Construction was incorporated in 11 January 2013 in Seremban, Negeri Sembilan which means it have been operated about 9 years. Its main address for certification is located at Lot 13741, Jalan Sikamat, Ampangan, 70400 Seremban, Negeri Sembilan Darul Khusus. This company is owned by Encik Abdul Hadi Bin Badruddin. Despite having a limited staff, the company is still able to complete projects of the G2 and G6 types. The company began by just participating in modest projects such as road, pavement, drain, and other similar projects. After that, the company can go on to a larger project, such as the G6 type.

2.2 Company Profile

Company Name : Sri Bukti Construction
ROC Registration number : NS0109565-U
Date of establish : 11 January 2013
Registered address : Lot 13741, Jalan Sikamat, Ampangan, 70400
Seremban, Negeri Sembilan Darul Khusus
Telephone number : 010-221 9056
Company Email : sbcons01@gmail.com
Company Form : Sole Proprietorships
Owner's Name : Abdul Hadi Bin Badruddin
CIDB Registration : Gred G6 (0120130314-NS149052)
Company Bank : Hong Leong Islamic Bank
Account Number : 01101017207

2.3 Organization Chart

In this company which is Sri Bumi Construction, there are recruited staff and employees with various function such as project manager, quantity surveying, site supervisor, and more. With the right structure of organizational, the company is able to carry out work efficiently and ensure to retain strong ties with clients or customer.

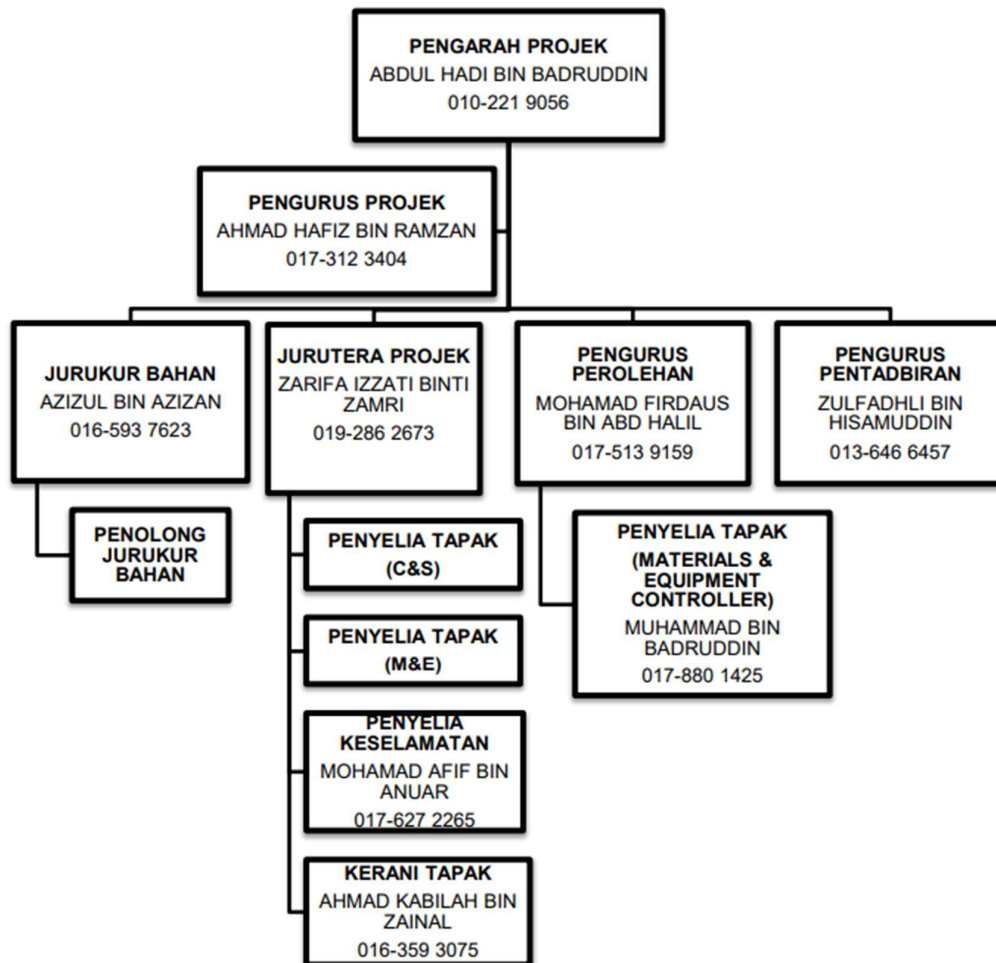


Figure 2.3: Organizational chart of the company.

2.4 Completed Projects

Table 2.1: List of Completed Project by Sri Bukti Construction

No	Projects	Total (RM)	Start Date	Duration of Project	Completion Date	Clients
1.	Kerja-kerja Menyelenggara dan Membaikpulih Infrastruktur Di Taman Eko Rimba Ulu Bendul, Negeri Sembilan Darul Khusus.	RM 241,585.00	27/11/2019	3 Week	18/12/2019	Jabatan Hutan Negeri Sembilan
2.	Cadanagn Menurap Semula Jalan Serta Kerja-kerja Berkaitan Di Persiaran Seremban Tiga 1, Seremban Tiga, Seremban.	RM 359,960.00	16/10/2019	8 Week	11/12/2019	Majlis Perbandaran Seremban
3.	Kerja-kerja Menyelenggara Longkang Di Jalan Tok Dagang dan Lain-lain Kerja Yang Berkaitan Daerah Seermban, Negeri Sembilan Darul Khusus.	RM 447,701.00	20/05/2019	12 Week	12/08/2019	Jabatan Kerja Raya Daerah Seremban
4.	Cadangan Membina Dan Menyiapkan Sebuah Rumah Banglo I Setengah Tingkat Di Atas Lot 13731 GRN 43684, Mukim	RM 335,000.00	07/01/2019	5 Month	25/06/2019	Lembaga Pembiayaan Perumahan Sektor Awam, LPPSA

	Bandar Seremban.					
5.	Cadangan Membina dan Menyiapkan Sebuah Rumah Banglo 1 Tingkat Di Atas Lot 4404, Jalan Bhagia 8, Kampung Bahagia Jiboi, Ampangan	RM 338,000.00	27/12/2019	5 Month	10/04/2019	Norbitah Binti Yaacob
6.	Cadangan Membina Dan Menyiapkan (A) 10 Unit Rumah Teres Satu Tingkat (B) 20 Unit Rumah Berkembar 1 Tingkat (C) 4 Unit Rumah Banglo 1 Tingkat Di Atas Hak Milik GM203, Lot 3968, Seluas 3.891 Ekar, Taman Kenanga, Mukim Kelanang, Daerah Kuala Langat, Selangor Darul Ehsan.	RM 1,220,000.00	26/12/2016	14 Month	31/02/2018	IHRAF VENTURES SDN BHD

CHAPTER 3.0

CASE STUDY

3.1 Introduction of Case Study of the Replacement of Floor Finishes from Carpet to Tiles






Photo 3.1: Photo shows a completed installation of ceramic tiles.

This report is carried out in Akademi Audit Negara, Enstek, Negeri Sembilan Darul Khusus. The main activity of this project is to replace a carpet, to tiles finishes at 4 storey hostel building of Akademi Audit Negara. The tender for this project was released by Jabatan Kerja Raya (JKR) Daerah Seremban. Sri Bukti Construction was chosen to work for the project because of the reasonable quotation with a total cost of RM 222,600.00. This project are expected completion date on 14 October 2021. However, there are several problems which cause the completion date of the project to be postpone. Besides that, the company is well prepared and stable with the needed tools and equipment to conduct this project.

3.2 Equipment and Tools Use for the Installation

Table 3.1: Table of Equipment and Tools Use for the Installation

Equipment.	Function
<p>1. Sculptor</p>  <p>Photo 3.2: Photo of Sculptor</p>	<p>A sculptor is use for skirting removing work. All the skirting needs to be removed before removing the carpet.</p>
<p>2. Drill</p>  <p>Photo 3.3: Photo of Drill</p>	<p>A drill is use for removing door.</p>
<p>3. Grinder</p>  <p>Photo 3.4: Photo of Grinder</p>	<p>A grinder is used to cut a little piece of tiles to ease the installation. For example, to make sure it fit at the tiny space of the room's corner.</p>

4. Scrapper



Photo 3.5: Photo of Scrapper

A scrapper mostly used at the clearance work which is to remove the stain on the floor after carpets removed.

5. Rubber Mallet



Photo 3.6: Rubber Mallet

Rubber mallet used on the tile's installation. It will be pair with spirit level to make sure the tiles are flat without any slope.

6. Ceramic Cutting Machine



Photo 3.7: Photo of Ceramic Cutting Machine

Ceramic cutting machine is used to cut the tiles. Same function like grinder but its more effective and easier.

7. Trowel



Photo 3.8: Photo of Trowel

Trowel is used for apply the cement mixture on floor before applying the tiles.

8. Electric Concrete Mixer

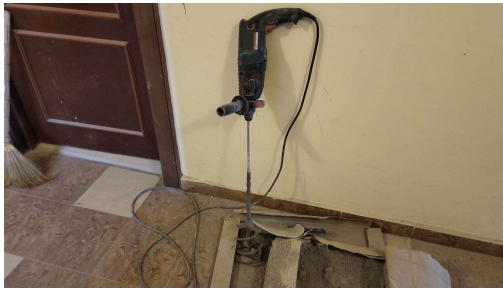


Photo 3.9: Photo of Electric Concrete Mixer

Electric concrete mixer uses to mix the concrete for tiles installation

9. Plastic Concrete Bucket



Photo 3.10: Photo of Plastic Concrete Bucket

Plastic concrete bucket used to carry the concrete mixture easily.

10. Spirit Level



Photo 3.11: Photo of Spirit Level

Spirit level used to make sure the surface of tiles is flat without any slope.

11. Marker Pen



Photo 3.12: Photo of Marker Pen

Marker pen used to mark the line on tiles to ease the tiles cutting work.

12. Floor Mops



Photo 3.13: Photo of Floor Mops

Floor mops used for the work of cleaning all the dirt attached to the tile.

13. Measuring Tape

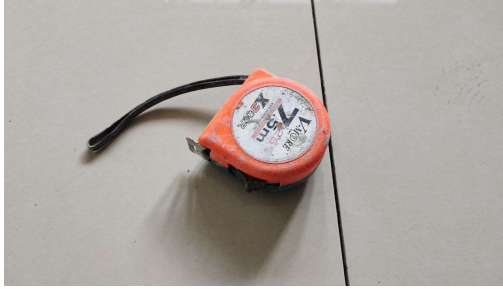


Photo 3.14: Photo of Measuring Tape

Measuring tape used to measure tiles that need to be cut, to make sure it fit to all over the floor especially at the corner of the room.

14. Hammer



Photo 3.15: Photo of Hammer

Hammer will be use with sculptor for skirting removing work.

15. Wheelbarrow



Photo 3.16: Photo of Wheelbarrow

Wheelbarrow used to reduce workload for lifting heavy objects.

16. Shovel



Photo 3.17: Photo of Shovel

Shovel used to scope cement into the bucket before mix the cement.

17. Trolley



Photo 3.18: Photo of Trolley

Trolley used to reduce workload for lifting heavy materials.

18. Disposal Bin



Photo 3.19: Photo of Disposal Bin

Disposal bin used to dispose all the waste to make sure the site is all clean and safe.

19. Latex-108



Photo 3.20: Photo of Latex-108

Latex-108 used as base coat for floor screeds as a flexible adhesive for tiles after mixing it with cement.

20. Cement



Photo 3.21: Photo of Cement

Cement used as main ingredients to create a base coat and bonding agent to make sure the tiles are stick to the floor.

21. Cement Gum



Photo 3.22: Photo of Cement Gum

Cement gum used for bonding ceramic tiles in continuous thin layer.

22. Tiles



Photo 3.23: Photo of Tiles

White 2ft x 2ft ceramic tiles.

3.3 Method Involved During the Process of Ceramic Tiles Installation

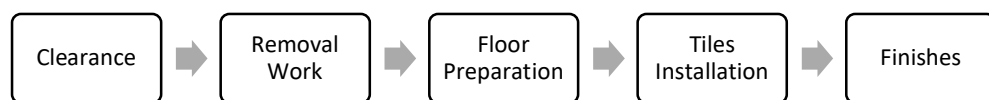


Figure 3.1: Flow chart of tiles installation method involved

a. Clearance



Photo 3.24: Photo of clearance work

Photo 3.3.1: Photo shows a removing work on one of the furniture in the room

Based on the observation, every room is completed with the furniture. Before any other work can be conducted, the furniture must be firstly moved to the other space to be placed such as the hall way of the hostel. Example of stuff that must be remove from the room is such as television, bed, chair, cabinet and some other stuff to easier the work. For this clearance work, there are at least two workers per room.

b. Removal Work

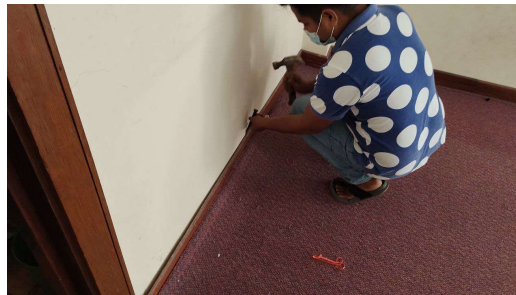


Photo 3.25: Photo of skirting removing work

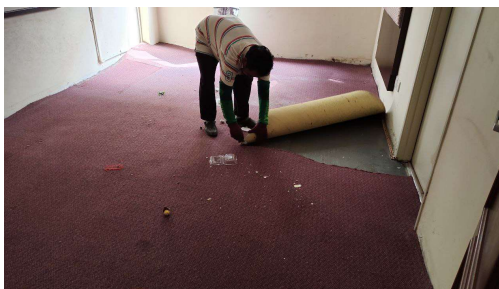


Photo 3.26: Photo of carpet removing work

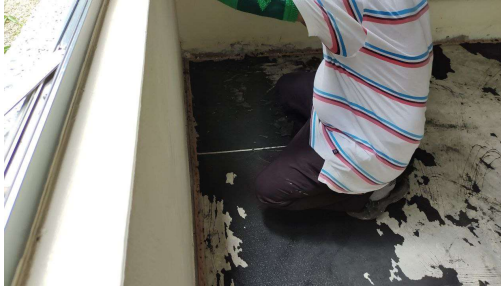


Photo 3.27: Photo of the removing works of old carpet's glue

The removal work is conducted to remove the skirting and the carpet beforehand. The skirting will be removed firstly just by using a sculptor and hammer. After that, the removal work will be continued to the carpet. The carpet is removed just by pulling it up. It is easier to be pull after the skirting removing work is completed. Even after the carpets are removed, there are still left some old glue of the carpet stick on the floor. For that, it will be remove using scrapper. For this removal work, there are at least two workers per room.

c. Floor Preparation



Photo 3.28: Photo of the floor that have been hack.



Photo 3.29: Photo of the base coat that have been applied to the floor.

Floor preparations are to make sure the floor is ready for tiles installation. First, the floor will be hack using an appropriate tool. Then, a layer

of base coat will be applied which using a mixture of cement and latex-108. Before that in order to prevent for any problem to occur during the tile installation work, the floor must be clean from any dust and debris which cause by the hacking work. For this floor preparation work, there are two workers needed per room.

d. Tiles Installation



Photo 3.30: Photo of the installation of tiles

After the floor are prepared, then we will proceed with the tile installation. Tiles used for this project are ceramic tiles 2ft x 2ft with white colour. There are at least 50 pieces of tiles are using per room. Which means 5,000 pieces of tiles are been used for this project. There is only one skill worker needed for installation of tiles per room.

e. Finishes

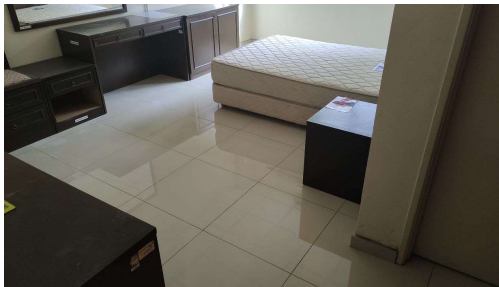


Photo 3.31: Photo of a completed installation of ceramic tiles.

Lastly after the tiles work are complete, we proceed to the last steps which is finishes. Before moved all the furniture back to the room, the surface of the tiles need to be clean up first. Using a broom and floor mops. This is to make sure there are no dust in the room. It is very important to make sure the surface of tiles is all clean and look shine and more attractive. After that, then

there are at least two workers will move all the furniture back to their place in the room. Even after moving in all the furniture, the floor tiles will be swept again to clean all the dust. For this finishes work, there are two workers needed per room.

3.4 Problem and Solution for Ceramic Tiles Installation

Table 3.1: List of Problems and Solutions

Problems	Solution
<p>a. Lack of Material</p> <ul style="list-style-type: none"> - At the end of projects, there are two more box of ceramic tiles needed to complete for the instalment. But it cannot be delivered due to a certain consequence such as cost of the delivery. If the tiles cannot be delivered on time, the instalment will be delay and the project will unable to be complete based on the due date given. 	<p>a. Delivery Planning</p> <ul style="list-style-type: none"> - One of Sri Bukti Construction staff using their personal transport to deliver the material.
<p>b. Lack in Number of Workers</p> <ul style="list-style-type: none"> - Mostly workers are not involved in one project to work. Some of the worker need to be transfer to other site as well to finish other certain required work. 	<p>b. Additional Workers</p> <ul style="list-style-type: none"> - Encik Abdul Hadi decided to bring the other workers as much as two people from the other site to finish this tiles instalment. With the help of two additional workers, the tile instalment work can be done within the due date

	<p>given without causing any delay in work.</p>
<p>c. Workability</p> <ul style="list-style-type: none"> - The building consists 4 floor which is ground floor, 1st floor, 2nd floor, and 3rd floor. For that, elevator is mostly used to easier the movement of materials and stuff. However, the movement are interrupted in the middle of the project, because of the broken elevator. It then makes it difficult to move the materials and stuff especially on the 2nd and 3rd floor. 	<p>c. Report to Authority</p> <ul style="list-style-type: none"> - After reporting the problem to the authority which is the management of Akademi Audit Negara, the problem is solved after 3 working days. Right after that, the moving work can be proceeded as usual without any problem.

CHAPTER 4.0

CONCLUSION

In conclusion, the project was executed by Sri Bukti Construction which is appointed by Jabatan Kerja Raya for provide comfort to civil servant of Jabatan Audit at Akademi Audit Negara. Especially when there is event that required for them to use this hostel.

Overall, this method of tile installation can be carried out without any major problems. Although there were some minor problems, I was able to solve it with Encik Hadi's guidance.

Finally, the project went off without a hitch, with no major issues that may have resulted in damage or cost overruns. The project is still manageable and controllable. There has been no conflict between the company and the Jabatan Kerja Raya (JKR). As a result, the project earns a good grade since it is well-executed.

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