



**FACULTY OF ARCHITECTURE, PLANNING AND
SURVEYING**

DIPLOMA IN BUILDING

AAP116

**PRE-CONSTRUCTION DILAPIDATION SURVEY ON
BUILDING AND ROAD INFRASTRUCTURE AT SUNGAI ARA
PENANG**

PREPARED BY:

MUHAMMAD IKRAM BIN MOHD BASRI

2019442082

**DEPARTMENT OF BUILDING
FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING
UNIVERSITI TEKNOLOGI MARA
(PERAK)**

FEBRUARY 2022

It is recommended that the report of this practical training provided

By

**Muhammad Ikram Bin Mohd Basri
2019442082**

entitled

**Pre-Construction Dilapidation Survey on Building and Road Infrastructure at
Sungai Ara Penang**

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

Report Supervisor :

 TS. Muhammad Naim Bin Mahyuddin

Practical Training Coordinator :

 DR. Nor Asma Hafizah Binti Hadzaman

Programme Coordinator :

 Cik Nor Azizah Binti Talkis

**DEPARTMENT OF BUILDING
FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING
UNIVERSITI TEKNOLOGI MARA
(PERAK)**

JANUARY 2022

STUDENT'S DECLARATION

I hereby declare that this report is 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 K & P Cove Consultancy Sdn. Bhd for duration of 20 weeks starting from 28 August 2021 and ended on 7 January 2022. 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.

.....
Name : Muhammad Ikram Bin Mohd Basri
UiTM ID No : 2019442082
Date : 07 January 2022

ACKNOWLEDGEMENT

The internship opportunity I had with K&P Cove Consultancy Sdn. Bhd. was a great to get the experience and learning how to be a professional worker. Therefore, I would like to express myself that Allah give me the healthy mental health for complete this internship program and also the report and logbook. I am so grateful for having a chance to meet so many wonderful co-workers and my best supervisor who guiding me through this internship period.

Secondly, I also want to deepest my express thanks to Mr. Zaki as industry training supervisor that has helped me a lot during my internship period. For instance, keep improve my skills to communicate with other co-workers and dealing with clients. He always taught something new when doing the work with him such as how to complete the project report with the fast skills.

Besides, I would to thanks to Sir Naim as industry practical training advisor for helping me to complete this report and giving commitment when I needed the help while doing the reports. He always taking care about his student and always want the report progress to do a correction for get the better marks.

Lastly, I extremely grateful that I can finish my practical training with who helped me in successful during my internship period.

ABSTRACT

This internship report highlight about the pre-construction dilapidation survey and how to conduct the project at Sungai Ara Penang. The scope of study in this report is to identify the factors that can be find in building and road defects, to identify the method of dilapidation survey on building and road defects and to determine the problems and possible solutions or remedies regarding the defects. It will focus on the way how to conduct the dilapidation survey. It can document any existing damage or faults in nearby buildings so will not held liable for them in the future by investing in dilapidation and condition reports before a building project begins. This report will also detail the entire progress and observations made during the survey's completion date.

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CHAPTER 1.0

INTRODUCTION

1.1 BACKGROUND OF STUDY

Dilapidation survey is also known as pre-construction or post construction survey to checking conditions or defects that existing on structure which is on building, road way and bridges. This survey is the most important things because this method should be number one before the project begin. According to Nurul Afiqah (2015), dilapidation survey was performed by a building surveyor to assess the pre-construction condition of property including the internal and external condition, as well adjacent structures. Any existing defects within the structure are then recorded in detailed report which may include cracks, distortion, leakages, settlement, and others.

Dilapidation survey is functioning in the event that something happens the owner of a neighbouring property takes action against for damage that believe it comes from by the nearby building group.

1.2 OBJECTIVES OF THE DILAPIDATION SURVEY

- I. To identify the factors that can be find in building and road defects.
- II. To identify the method of dilapidation survey on building and road defects.
- III. To determine the problems and possible solutions or remedies regarding the defects.

1.3 SCOPE OF STUDY

This dilapidation survey will be inspect in Penang which is the specific place in Sungai Ara. This scope of study will be focused on all the defect or current condition

that can be fine on the building or infrastructure. The process of this dilapidation survey is this company was hired by GVC PROPERTY SDN. BHD as a third party to do an inspection before the project begins. In addition, this method of survey need to focused on all the elements in that buildings and infrastructure which is road. For instance, dilapidation survey focused on wall, ceiling, ramp, apron, stairs, and etc. The scope of study also focuses on the defect and future defect of the building that will happen when the construction is begin.

1.4 METHOD OF STUDY

1.4.1 Observation.

This method is one of the important things that can see how to identify the defects on building or the roads. The site visit is in Sungai ara, Penang. The observation is to study to identify the defects and method to be done inspection within one or more than two weeks period before the construction begin. The inspections will be carried out by taking notes because it will not be missing during observation. The observation will be supported by taking pictures during inspection.

1.4.2 Interview.

This method which is an interview will be conducted to obtain more thorough information regarding the identification of building or road defects. Encik Zaki as a supervisor will conduct the interview about the inspection survey as experienced person with their own skills to understanding and carefully during the obversation at Sungai Ara, penang.

1.4.3 Document review.

The document review is the one of the method that can be found all the information about the company and the project that they done and still on going. The document review will include the company profile and all the data about the company.

CHAPTER 2.0

COMPANY BACKGROUND

2.1 INTRODUCTION TO K & P COVE CONSULTANCY SDN BHD.

On June 29, 2011, K & P Cove Consultancy Sdn Bhd was founded. K & P Cove Consultancy Sdn Bhd was previously known as Cove Consultancy. The organisation continues to grow in response to the demand for development industry services, particularly in building surveying and management, or more accurately, building inspection, are two related fields.

The company's primary business is building surveying, sometimes known as a condition survey. It is a broad visual inspection of building stocks that is carried out on each site, including commercial, institutional, historical, industrial, and warehouse buildings. Property inspections for residential and commercial buildings are also available, including pre-purchase, pre-auction, new construction stages, handover, and whenever a building inspection is required.

K & P Cove Consultancy Sdn Bhd was located at Bandar Puteri, Puchong Selangor. The figure below show the location of this company.

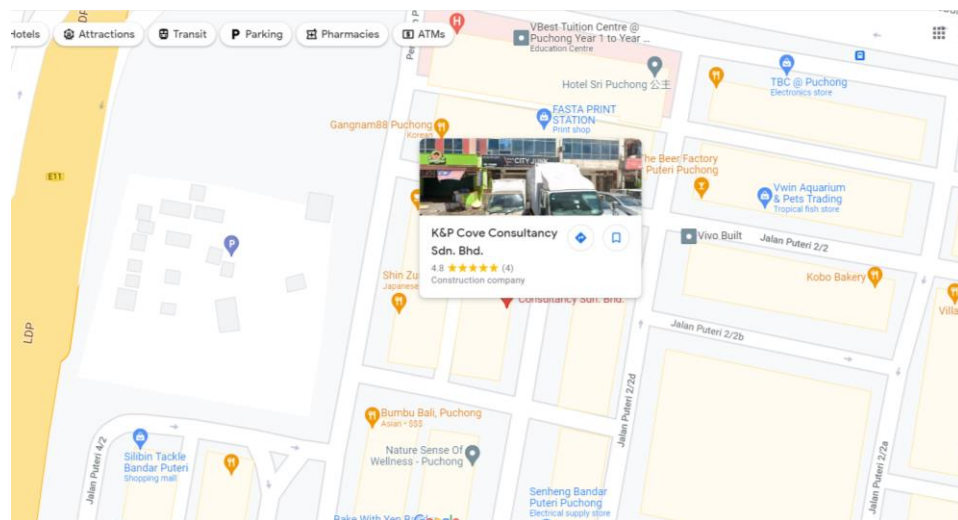


Figure 2.0: Company located in Google maps.

2.2 COMPANY PROFILE

Company Name : K&P Cove Consultancy Sdn. Bhd.
Business Address : No. 9-2, 2nd Floor, Jalan Puteri 2/5, Bandar Puteri,
47100 Puchong, Selangor Darul Ehsan
Tel No: 03-80517589
Mobile: 03-20349592
Email: cove.kristy@gmail.com

2.3 COMPANY MISSION

- I. To aid clients assess potential risk for their profit in investing a property.
- II. To merge resources and solution to deficiencies in current building system and workplace.
- III. To lay out an overview of current property condition to the client.
- IV. To achieve excellent in building inspection by issuing a timely, efficient and thorough building inspection.
- V. To boost the life quality, building quality and economic quality.

2.4 COMPANY POLICY

- I. Timely response to client's needs.
- II. Quality constructions.
- III. High standard of ethics and integrity.
- IV. Functional design solutions.

2.5 K & P COVE CONSULTANCY SDN BHD ORGANIZATION CHART



Figure 2.1: Organization chart

2.6 LIST OF PROJECT

Table 2.0: List of project.

No	Job Title	Client	Year Completed
1	Building Defects Inspection for 2-Storey House at No.22, Jalan Taming Emas 3, Taman Taming, Kajang, Selangor.	Sri Tinggi Sdn. Bhd.	October 2019
2	Proposed Property Survey (Condition Survey) at Sunwaymas Community Centre (SMCC) for Messrs. Perbadanan Pengurusan Geran 106696 in accordance with Section 85A (2) (3) (4) (5) (6) (11), Akta Jalan, Parit dan Bangunan 1974.	Perbadanan Pengurusan Geran 106696	August 2019

3	Building Condition Survey at The Potpourri Condominium, Ara Damansara, Petaling Jaya, Selangor.	The Potpourri Condominium Joint Management Body	July 2019
4	Building Condition Survey Report (Visual Inspection) for AEON Taman Equine.	Sunway Geotechnics (M) Sdn. Bhd.	September 2021
5	Cadangan Pembangunan 1 Blok Pangsapuri Suites 34 Tingkat (180 Unit) Yang Mengandungi: 1) 23 Tingkat Unit Pangsapuri Suites dari Aras 10 Hingga Aras 32. 2) 1 Tingkat Podium Kemudahan Penduduk (di Aras 9). 3) 8 Tingkat Podium Tempat Letak Kereta. 4) 1 Tingkat (di Aras Tanah) Yang Mengandungi Lobi Utama, Tadika, Pejabat Pengurusan, Bilik Peti Surat, Tandas, Bilik Mekanikal, Kebuk Sampah, Laman Lanskap, Tempat Letak Kereta Dan Motorsikal. 5) 1 Tingkat (di Aras Tanah) Ruang Servis M&E. 6) 1 Unit Pondok Pengawal di Atas Lot 44, Lot 45 Dan Lot 46, Jalan Abdulah, Wilayah Persekutuan Kuala Lumpur Untuk Tetuan: Bangsar Rising SDN. BHD.	Sunway Geotechnics (M) Sdn. Bhd.	September 2021
6	Defect Investigation Works on Extension Works Only at No.21 (Ptd 13298), Jalan Indah 18/6,	Mr Chu Wee Liang	On-going

	Taman Permata Indah, Sungai Abong Muar, Johor.		
7	Building Condition Assessment (BCA) for D'rapport Residence (Phase 2) Defect Investigation and Proposed Rectification Method for 1099 Units of Condominium & Common Area Facility of Total GFA 384,025M2 in Kuala Lumpur	Perspective Masa Sdn. Bhd.	On-going
8	Cadangan Tambahan dan Ubahsuaian 32 Unit Ruang Pejabat Blok A, B di Aras 1 Hingga Aras 5 Bangunan Perniagaan / Pejabat Da Men USJ Komersial yang Sedia Ada di Atas Lot 91576 (No. Lot Terdahulu: Pt.563, H.S.D 280355) USJ 1, Persiaran Kewajipan, Subang Jaya, Selangor Darul Ehsan.	Prudential Assurance Malaysia Berhad	On-going
9	Cadangan Pembaikan Tebing Sungai Kelantan dan Kerja-kerja yang Berkaitan di Bandar Pasir Mas, Kelantan.	MMC Engineering Sdn. Bhd.	On-going
10	Cadangan Penukaran Sistem Pembentukan Vakum Kepada Sistem Pembangunan Graviti di Bandar Parklands, Daerah Klang, Selangor Darul Ehsan untuk Tetuan Gabungan Efektif Sdn. Bhd.	Gonong Lima Engineering Sdn. Bhd.	On-going

CHAPTER 3.0

CASE STUDY

3.1 INTRODUCTION OF CASE STUDY.

The case study of this report about pre-construction dilapidation survey which means to check current conditions of their houses and the road within the radius that can be affected based on the plan given at Sungai ara, Penang. This project was hired by GVC PROPERTY SDN. BHD to K&P COVE which our company as a third party to do the inspection in Penang. In addition, this project involving one apartment, police station, eight houses, school and five roads to cover. This project was divided by two teams and this team will cover all the area that has been highlight in the site plan below:

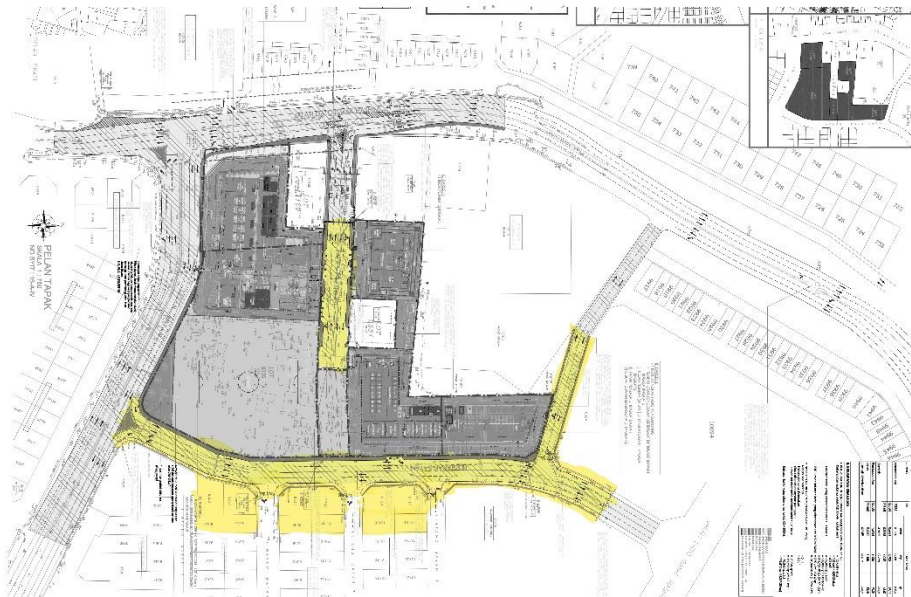


Figure 3.1: Site plan to cover the area

This project was incharge by 4 workers which is supervisor, one assistant supervisor and two practical students.

3.2 THE FACTORS THAT CAN BE FIID IN BUILDING AND ROAD DEFECTS

3.2.1 TYPE OF DEFECTS

In this practical learning the defects should be recognizes because all the pictures that been taken in site should put in the report and label the defects. Furthermore, the defects also can be anywhere which is on a wall, road, ramp and anything else. So, in this topic will be focused on the types of defects. In addition, this is the common defects that can be found throughout the dilapidation survey.

I. CRACKED

Firstly, the main of the defects that everyone knows is cracked which it can be found on road or something that related with that. For instance, cracked defects has three differences which is cracked less than 5mm, medium cracked and huge cracked. Medium cracked is the crack was above than 5mm and it is not the same as a huge cracked. The picture below will show the type of cracked but in different elements.



Figure 3.2: Crack on floor tiles

Figure 3.2 was showed that cracked was located on floor tiles and that is means the cracked is less than 5mm because the picture it does not show that crack ruler was exist in that photo. For instance, when the crack ruler was existed in the photo that is means the cracked is above than 5mm or maybe more.



Figure 3.3: Crack on road drain

Lastly, this defect also can be found in building which is any elements of building which is wall, ceiling, skirting, wall tiles and others. It is still in the same defects but in different elements.

II. CHIPPED OFF

Chipped off is something elements that can be found it already missing a pieces or it can be known as something come off in flakes or thin small pieces. For example, this defect always happened on wall or cement screed and others. This is because when the weather is unstable which rainy and hot the elements in that building will be easily chip off.



Figure 3.4: Chipped off cement screed.

In figure 3.4 was showed the defects was located on apron which is the back lane of the house between drainage and drain wall. It was cleared that defect was obviously chip off because can see something come off in flakes.

III. SEPARATION GAP AND WATER STAIN MARK

Separation gap is the building has gap between one element in building which is the easier that can be found between wall to wall, between skirting and wall, wall and door frame. This is because when the underground piling has started it can affected to elements in building because of soil movement. In addition, for water stain mark it usually happened because of leak pipe.



Figure 3.5: Separation gap on wall tiles.



Figure 3.6: Water stain mark on wall.

3.3 METHOD OF DILAPIDATION SURVEY

I. FAMILIARIZE WITH SURROUNDING

Site plan is the one of the most important elements in site visit. It is because when the development was prepared the site plan and the surveyor need to familiarize with surrounding area that has been located to do a survey. Lastly, the leader of the surveyor must brief and divide by two teams to do the inspections.

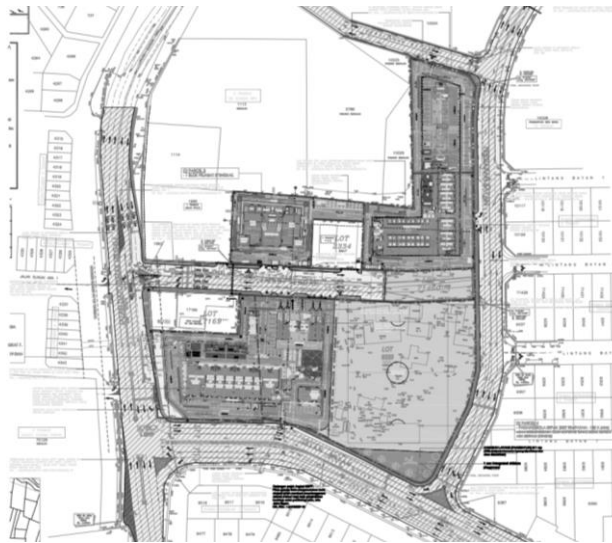


Figure 3.7: Site plan

II. PREPARATION EQUIPMENT

The equipment that usually use in site or while conducting dilapidation survey are such as chainage, crack ruler, camera and others equipment when doing dilapidation survey. It is because all the equipment in this project was sponsored by the company to make it easier work and to bring it back or using it with full of awareness and carefully. The equipment used will be describe below:

- Chainage or Measuring wheel



Figure 3.8: Measuring wheel

Measuring wheel or known as a chainage is for measuring the distance on the road. It is the most important things while doing the dilapidation survey because the clients give the limited distance about the survey on the road and using this measuring wheel can get the specific distance that clients want it. Lastly, the advantages for this measuring wheel is high quality and durable.

- Crack ruler



Figure 3.9: Crack ruler

Crack ruler usually use to measure the length and width of a crack of concrete such as wall, bricks, floor and others that related in dilapidation survey. It is possible to precisely understand how cracks change and behave.

- Camera



Figure 3.10: Camera

In dilapidation survey camera works as to take a clear and high quality of defects photo. It is because camera also taking the measuring wheel reader and everything about dilapidation survey. Lastly, in dilapidation survey cannot using the mobile camera because the quality is not enough and when it copy to the computer it can be worst and blur and that is why in dilapidation survey preferred using a camera for taking all the photo on site.

III. APPROACH HOUSE OWNER

In dilapidation survey the third method is approach house owner which is when all the team is ready and all equipment site was prepared, approach houses can be start. This is about to get the permission from the property owner about inspection in property owner houses. In addition, approach house owner is to get the appointment to do an inspection because when the property owner give the appointment date to do an inspection it will easy for the surveyor to do the job. Lastly, in figure 3.10 will show the sample of letter to approach house owner about the inspection.



Figure 3.11: Sample of letter to approach house owner.

IV. VISUAL INSPECTIONS

After getting the permission and appointment date from the property owner, an inspection of the building will be started. Lastly, taking all the defects photo that existed in the property houses by using a camera.



Figure 3.12: Inspection survey.



Figure 3.13: Inspection survey.

3.4 DETERMINE THE PROBLEM AND SOLUTION REGARDING THE DEFECTS

Determine the problem and solution regarding the defects are like solving any kind of problem. This process is acted up step by step to make sure the problem is solving in proper. In dilapidation survey to identify the problem is in inspection survey because the defects on building structure is the problem to solve it.

Furthermore, to solving the problem is need to preparation the dilapidation report for the clients. All the defects photo must put in the report with description and label the defects to focused on the defects that have describe. For instance, the one house had 62 photos of defects and need to describe in report which is using Microsoft Excel to do a report.


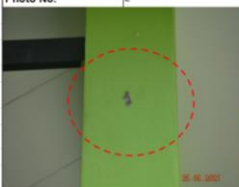
		Water Seepage/ Leakage	
		-	
Other Defects		-	
Remarks		General view	
Photo No.	2	Location	Area
		External	Front Elevation
		Crack/Gap	Wall
		Water Seepage/ Leakage	
		-	
Other Defects		Chipped off	
Remarks		-	

Figure 3.14: Describe the defects.

Moreover, when the reports is already done next step need to scales the houses by using Autocad to show the location of the defects on the building and will show in figure 3.14 below:

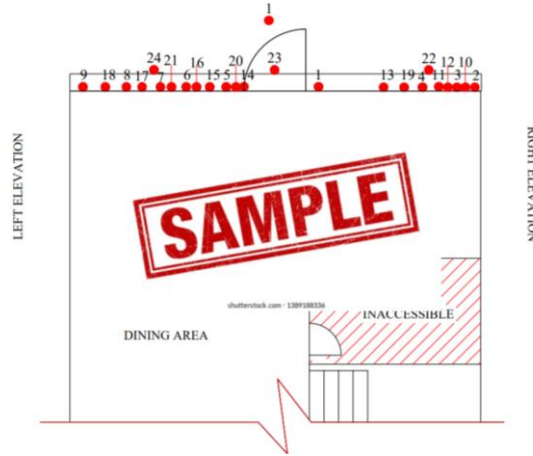


Figure 3.15: Located the defects.

Lastly, after all the report and the layout is done need to printing the report for the clients to check up the defects based on the report was given. For instance, all the soft copy which is reports and photos of defects will be stored in CD and submitted with the hard copy reports to the clients.



Figure 3.16: Printing the report and prepared the CD

CHAPTER 4.0

CONCLUSION

4.1 CONCLUSION

In conclusions, dilapidation survey is known as inspection survey to update current condition for the building before the construction begin. It was a complete useful experience working at K&P Cove Consultancy Sdn. Bhd. This is the best opportunity for me to learn building surveyor scope of work and can use a bit of my syllabus on it. In the first week during my internship I was so confusing about this company because it is not in my scope of study but then I realized that it was not to hard to study something new and earned more knowledge. For additional, I have learn basic skills to conduct the project about this dilapidation survey which is in communication skills as discuss about something arguing about while doing the project. Overall, practical training gives me so much experience as a real workers at office and site that need to deal with different environment and situation to give a commitment to each other.

REFERENCES

Mohammad Batni, Nurul Afiqah. "The importance of dilapidation survey before the commencement of construction work in Malaysia." (2015).