PROGRAM OF BUILDING SURVEYING,
DEPARTMENT OF BUILT ENVIRONMENT STUDIES AND TECHNOLOGY,
FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING
UNIVERSITI TEKNOLOGI MARA PERAK BRANCH
SERI ISKANDAR CAMPUS

PROCESS OF HOUSE DEFECT INSPECTION DURING DLP FOR HIGH RISE BUILDING: CASE STUDY AT TROIKA RESIDENCE

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PRACTICAL TRAINING REPORT

OCTOBER 2021

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(PROCESS OF HOUSE DEFECT INSPECTION DURING DLP FOR HIGH RISE BUILDING: CASE STUDY AT TROIKA RESIDENCE)

OCTOBER 2021

This practical training report is fulfilment of the practical training course.

PREPARED BY
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ACKNOWLEDGEMENT

In the name of Allah, the Most Merciful and the Most Compassionate

My utmost gratitude goes to the Almighty for His blessing has allowed me to successfully finish this report of subject, BSR666 Practical Training in the time given. Without His help, this report cannot be completed. The purpose of this report is to fulfill the requirements for the Bachelor of Building Surveying, UiTM.

Furthermore, I would also like to acknowledge with much appreciation the important role of my supervisor, Sr Dr Alia Abdullah Saleh, who gave the permission to use all required and the necessary materials to complete the task.

A special thank goes to behalf of AKIRA VENTURES ENTERPRISE staffs that help me especially the supervisor in charge, En. Wan Amir Rashdan B. Wan Yaacob to assemble the parts and gave suggestion about the task. Last but not least, many thanks go to my parents in helping complete the search of the task.

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ABSTRACT

The company that has been selected for the practical training is AKIRA VENTURES ENTERPRISE which located at Lot 1530 Tingkat 1, Taman Iman Jaya, Wakaf Che Yeh, Kota Bharu, Kelantan. The practical training started from 11/10/2021 until 30/01/2022. This company is hundred percent (100%) owned by Bumiputera. AKIRA VENTURES ENTERPRISE and partner company, SN EMPIRE CONSTRUCTION actively involved in various services and construction projects at pace according to the progress of the country development. The main activity of AKIRA VENTURES ENTERPRISE is House Defect Inspection (HDI), construction of houses on own land property, interior design & renovation.

CHAPTER 1:

INTRODUCTION

1.0 INTRODUCTION

1.1 INTRODUCTION TO COMPANY

AKIRA VENTURES ENTERPRISE (003206726-X) is a company that incorporated in 2020 with the motto of “professionalism within build in integrity”. The company was established by En. Wan Amir Rashdan Bin Wan Yaacob and En Mohd Syukran Naim Bin Anuyar. AKIRA VENTURES was actively involved in various services and construction project at pace according to the progress of the country development. This company is primarily engaged in providing the house defect inspection services, building/house structural & construction inspection, building/house structural & construction progress inspection and interior designing services.

AKIRA VENTURES ENTERPRISE is hundred percent (100%) owned by Bumiputera. In tandem with the nation’s growth, it is the company desire to increase its participation in construction industry through involvement in providing various services in both construction (civil) & mechanical.

It has always been the Managing Director's inspiration to improve the company's managerial, technological, and financial capabilities in order to improve its competitive position. The management of AKIRA VENTURES recognizes that the key to a successful business venture is to deliver each project on time and to offer the highest quality outputs that are relevant for its purpose. AKIRA VENTURES will contribute to the company's vision and mission fulfillment.

1.2 COMPANY BACKGROUND

Figure 1.1 Office of AKIRA VENTURES

Table 1.1 Detail of company background

Name of Company	AKIRA VENTURES ENTERPRISE
Date Incorporated	Mid 2020
Address	PT 1530 Tingkat 1, Taman Iman Jaya, Wakaf Che Yeh, 15150 Kota Bharu, Kelantan.
Telephone No	+60123253468 +60162206494
Facebook Page	- Pantai Timur House Defect Inspection - Kaki Reno & Deco
Email Address	amir.pthdi@gmail.com
No of Worker	2
Board of Director	- Wan Amir Rashdan Bin Wan Yaacob - Mohd Syukran Naim Bin Anuyar
Nature of Business	- House Defect Inspection (HDI) - Building/house structural & construction inspection - Building/house structural & construction progress inspection -Interior design

1.3 LOCATION PLAN

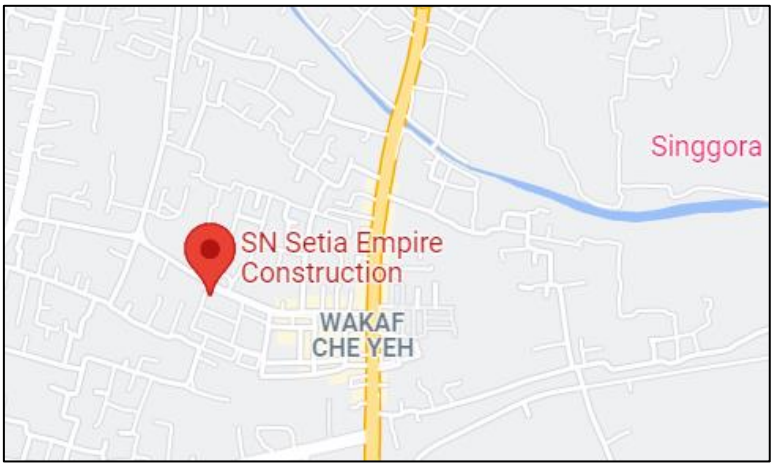


Figure 1.2 Location plan (map)

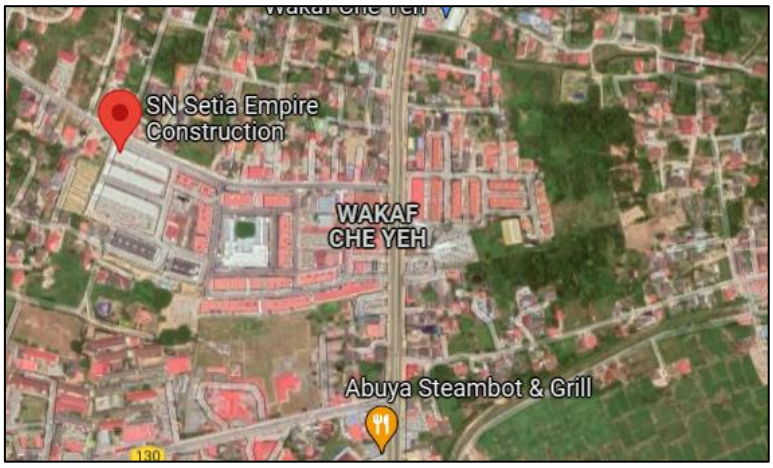


Figure 1.3 Location plan (satellite)

1.4 COMPANY VISION AND MISSION

1.4.1 Vision

AKIRA VENTURES aims to be a company that provides professional services with integrity in the field of construction (civil) & mechanical on the east coast especially in Kelantan.

1.4.2 Mission

AKIRA VENTURES is committed to helping our customers to achieve our professional service satisfaction in total harmony with the company's motto of "professionalism within build in integrity"

1.5 ORGANIZATION CHART

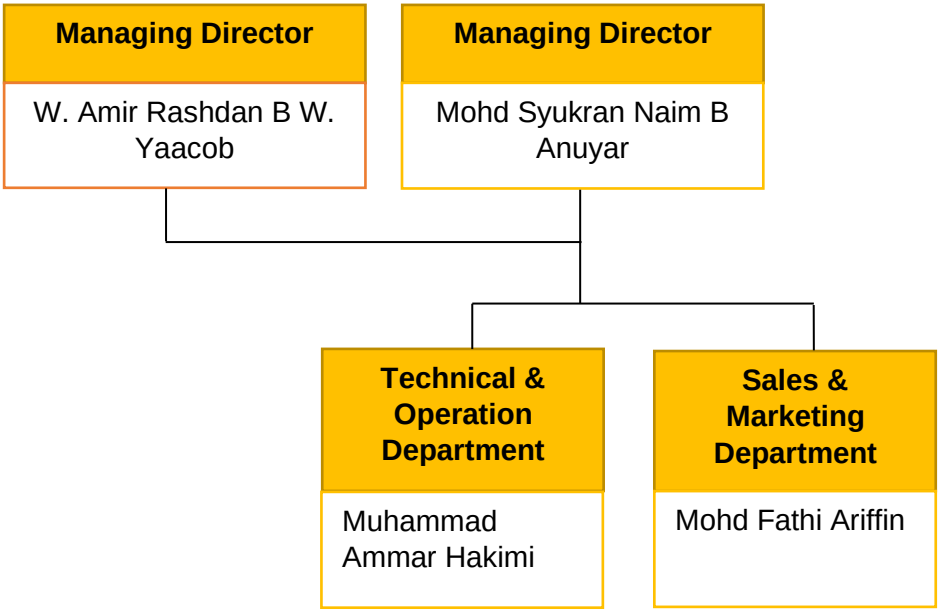


Chart 1.1 Organization chart of AKIRA VENTURE

1.6 SCOPE OF WORK

The departments have their own person in charge that had responsibility and their own scope of work to ensure the efficiency and smoothness of the company and their works.

Table 1.2 Scope of Work

Position	Scope of Work
Managing Director	• Responsible for the performance of the company

	• Formulating and successfully implementing company policy • Prepare and implement comprehensive business plans to facilitate achievements and goals • Manage key personnel, clients and service providers • Manage resources including attracting, hiring and retention of personnel
Technical and operation officer	• Supervise of all construction work pertaining to client requirement • Inspect, monitor, evaluate, supervise and verify the performance of company • Responsible for the overall management of all equipment, material and work on site • Develop the processes for resolving the technical challenges and client concern • Ensure all employees meet the technical requirements outlined for every project
Sales & Marketing Department	• Assist in communication of potential sales leads, both online and over the phone • Plan proactive plan for sales leads • Create campaigns for, and manages company social media • Manage company websites • Attend all project hand off meetings

1.7 SUMMARY

This chapter, it discusses on the introduction to the company selected including the company detail, organization, person in charge and their scope of work. The scope of work serves as a communication tool for employees, allowing them to clearly understand the expectations of the role, its essential duties and required competences, educational qualifications and experience for the role.

CHAPTER 2:

LITERATURE REVIEW

2.0 LITERATURE REVIEW

2.1 HIGH RISE BUILDING

High rise building is known as a tall building that have a multi-story structure in which most occupants depend on elevators or lifts to reach from a place to another place. Hall, J. R. (2000) stated that for most purposes, the cut-off point for high-rise buildings is around seven storey. Occasionally, seven storey or higher define a high-rise, while sometimes the definition could be more than seven storey. Sometimes, the definition is stated in terms of linear height (feet or meters) rather than stories. Fire and building codes for the country, region, state, or city where the building is located usually specify the exact height over which it is classified a high-rise.

2.2 BUILDING DEFECT

BS 3811 (Code of Practice, British Standard 1984) defined defect as the deterioration of building features and services to unsatisfactory quality levels of requirement of the users. Building defects could appear in both new and old buildings. Non-compliance with the Building Code and published acceptable tolerances and standards may cause defects in new buildings.

In the meanwhile, older structures or buildings that are no longer under warranty may not achieve these standards, but they must be judged against the standard in place at the time of construction or refurbishment. According to Nadia (2014), building defects can be divided into two categories which includes:

i. Structural defect

   Any problem in a structural element of a structure that is related to defective design, defective or poor workmanship, or defective material, or perhaps any combination of these, is referred to as a structural defect. Retaining walls, columns, beams, and slabs are all part of the building structure. Deterioration, wear and tear,

overloading, and poor maintenance can all cause structural defects in a building over time. They must be fixed in order to preserve the structure of the building and prevent subsequent failures. Most of the structural failure could also be avoided through the implementation of the precise and detail design and planning beside the regular inspection.

ii. Non-structural defect

Brickwork defects, moisture in old structures, and plasterwork defects are examples of non-structural defects. By indicating precise and comprehensive design and planning, the most of structural problems can be avoided.

2.3 COMPONENT ASSESSMENT

According to the Construction Industry Standard (CIS 7:2014) By CIDB, all projects applying for QLASSIC assessment must provide a declaration document from the Superintendent Officer (SO) stating that they are in accordance with Section 33C of the previously mentioned act. Prior to each assessment, the assessor determines the samples (elements or locations) to be assessed. Then, the scoring will be done on the works that were inspected. The component and element that were corrected after the assessment will not be scored. The component to be assessed are divided into a few components which includes:

- Structural works

  The assessment of structural works consisted of non-destructive testing on concrete, test result of compressive and tensile strength of concrete and also site inspection of reinforced concrete, steel and prestressed concrete structure
- Architectural work

  This usually related to the finishing when the quality and standard of workmanship can be seen. Architectural work includes the floor, wall, ceiling, door, window, internal and external fixtures, roof and more.

- Mechanical & Electrical work

  The M&E work includes the electrical works, HVAC system, fire system, sanitary work, plumbing work, and also basic M&E fitting. It is vital to assess the quality of M&E works because it will be affecting the cost and performance of the building.

- External work

  The external works includes all the general external element and component such as perimeter drain, apron, car porch, gate, fence and more.

2.4 PROCEDURE OF DEFECT INSPECTION

Before Vacant Possession, a Certificate of Completion and Compliance (CCC) will be issued in most situations. Before being officially approved by the project's Superintending Officer (SO), the units must fulfill a series of inspections and approvals by various departments and authorities. Home buyers will be notified to take vacant possession of their units at a specified slot or timeline set once the units are ready.

The Defects Liability Period begins on the date the owner obtain vacant possession of the unit and ends on the date they receive delivery of the unit. During this crucial time, the developer is responsible for repairing any defects caused by poor workmanship or defective materials. The DLP typically lasts 12 or 24 months from the date of vacant possession. It also depends on the Sales and Purchase Agreement (SPA). The owner might hire a professional building surveyor or inspector to inspect on their units and reporting it to developer during the specific period.

Procedure and method of inspection mainly deals with the on-site inspection work. Different type of inspection requires different procedure and method. It is noted that there is no stringent or rigid method inspection as mentioned by Glover (2006).

2.4.1 Procedure According to JKR

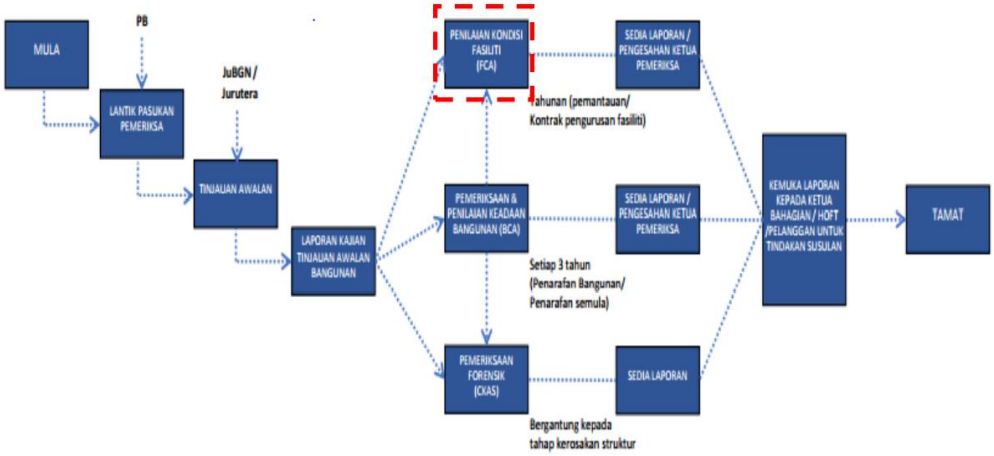


Chart 2.1 Procedure of inspection according to JKR

The inspection of building defects started when the building surveyor or inspector were appointed. The appointment of the building inspector should be based on instruction issued. After the issuance of building inspector or surveyor, preliminary survey/ inspection shall be done immediately prior to the terms and agreements with client. The following preparations and requirements should be prioritized by building inspectors:

1. Obtain building information and conduct research including the completed drawings, service records, maintenance, building registers, operation manuals, location, maintenance costs and related maintenance records.
2. Preliminary survey either in writing, telephone or site visit for information and preliminary overview of the building to be examined
3. Arrange for access to the area of the site to be inspected
4. To research or make inquiries and obtain accurate information from certain authorities
5. Preliminary survey reports are required to be completed within one (1) to seven (7) days depending on the size and location of the preliminary examination.

After completing the preliminary survey and its report, the building inspector is required to conduct a visual inspection and examination of:

1. Physical condition of the building
    a. Identify types of defects / damage to the physical of buildings
    b. Identify any signs of deterioration of substances
2. Condition of building structure
    a. Identify types of defects / damages to structures
    b. Identify any signs of deterioration of substances
3. Any additions or changes that affect the structure of the building by identify any additions or changes that may affect the building structure.
4. Other conditions that may affect the safety of occupants based on the function of the building built including
    a. Water tank condition
    b. Stability of area and building
    c. Location
    d. Suitability of use of building materials
    e. Design compatibility
5. The method of inspection that can be implemented is through the space tagging method which must include the following:
    a. Inspection of roof space
    b. Room by room or space
    c. Inspection of basement space if available
    d. Environment, surrounding or outdoor inspection
    e. Drainage system inspection
6. Inspection and evaluation of the condition of the building may also assist in the preparation of a reported study for elements or conservation components of historic buildings

After the inspection had been done, the inspector must prepare the inspection report in the form of written document. The report must contain all the necessary information which including:

1. Description of visual inspection and any thorough examination of the building
2. Analysis of the results of the findings of examinations and tests conducted for the examination of the prefix of the condition of the building is referring to the Building Condition Assessment Rating

System (BARIS) or any current system developed as stipulated in this Guidelines

Skala		Tahap Keutamaan Tindakan Penyenggaraan				
		5	4	3	2	1
Tahap Keadaan Fizikal Komponen Bangunan	5	25	20	15	10	5
	4	20	16	12	8	4
	3	15	12	9	6	3
	2	10	8	6	4	2
	1	5	4	3	2	1

Figure 2.1 BARIS according to JKR standard

3. Provide suggestions / recommendations or technical certificates through the preparation of a complete photography report
4. The results and conclusions of the report must be presented with the aim of improving the maintenance system implemented

2.4.2 Procedure According to RISM

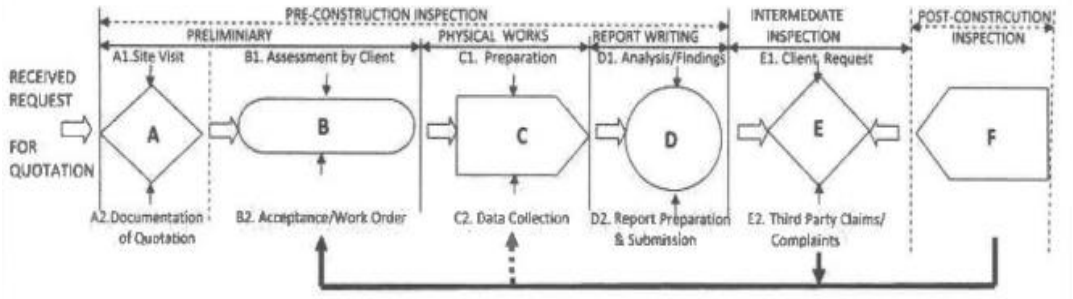


Chart 2.2 Procedure of inspection according to RISM

The procedure of inspection in both guidelines from RISM in the CPBS101 and CPBS103 mention to formulate, prepare and implement the best practices in inspection through the following steps:

1. Specifies scope, duration of work, service fees and Terms and Condition Services (TCS)
2. Obtain a Letter of Intent or Appointment Letter or Written Work Order from the Client either by official letter, fax, or email
3. Site visit for early assessment of work preparation or mobilization
4. Preparation of preliminary works, staff, equipment and mobilization before site work begins (this period is subject to the distance between the competent person's office and the location of the inspection site
5. The details of the competent person's work service contain at least the following details:
    a. Scope of work and parameters, or extensive coverage or Radius of Inspection (ROI)
    b. Method statement
    c. Work implementation period
    d. Total fees, other service fees and GST
    e. Payment methods and complete payment periods by the client
    f. Fines do not comply with the conditions or negligence
    g. Dispute resolution methods
    h. Conditions
6. Access: client must acquire, seize, and supply access information, documents and paths related to the assets to be examined
7. Work execution: the client must prepare and provide an entry authorization letter to any part of the assets to be inspected including buildings, premises, structures, infrastructure, surrounding areas with accessibility access and without restrictions or disturbances
8. Preparation of reports: the consultant must provide at least 3 copies of the report. one original report, the rest is duplicates. the client keeps 1 original copy, the rest for the reference of the relevant party. The report should contain at least the following information:
    a. General information- building name and address, name of owner/tenant/management and no. contact date, inspection date, time of inspection, weather conditions, building or construction type, type of structure, name of inspector and supervisor

b. Photographs of the elements and components of the building or assets of the damage occurred (focusing foresight and close view), the front page and/or side therein, the back of the building/premises.
c. Plan or sketch - inspection area, site and/or floor structure
d. Marking/tagging- indicating the location or direction of existing inspections and defects with consecutive indications of numbers. Example of space tagging is shown below:

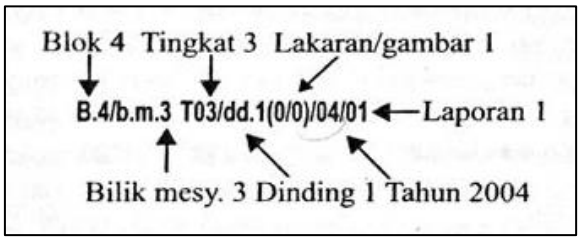


Figure 2.2 Example of space tagging

2.5 SUMMARY

From this chapter, the high rise building and building defect were defined thoroughly. The component that required to be assess during inspection were also included in this chapter. The highlight of this chapter is the procedure of defect inspection after the vacant possession. It includes the flowchart and guidelines that mainly referred by the surveyor in Malaysia which are from Jabatan Kerja Raya (JKR) and Royal Institution of Surveyor Malaysia (RISM).

CHAPTER 3:

CASE STUDY

3.0 CASE STUDY

3.1 INTRODUCTION TO CASE STUDY

Figure 3.1 TROIKA Kota Bharu, Kelantan

The case study was initially chosen to make a further study about the procedure to carry out the defect inspection for high rise building. For purpose of confidentiality, some information of the company and case study building might be limited and could not be revealed while other information provided as factual.

TROIKA is located on at the east coast of Peninsula Malaysia, which is Kota Bharu, Kelantan. It is a strategic location that could reach out to a huge market over 150,000 households. TROIKA is a leasehold commercial building with a built-up area of 506 sqft to 1,518 sqft, which could make it as the tallest skyscraper in Kelantan. TROIKA is a two-story retail avenue with 338 units with maintenance fees of about RM0.25 per square foot for Troika Residences, which are placed on the 7th to 36th floors, including the penthouse on the 34th to 36th floors. Then, Troika Avenue has 21 commercial units and built for a perfect comfy life. The units are available in a variety of sizes, ranging from 775sqft to 2,185sqft. Below is the detail of level for both Troika Residence and Troika Avenue.

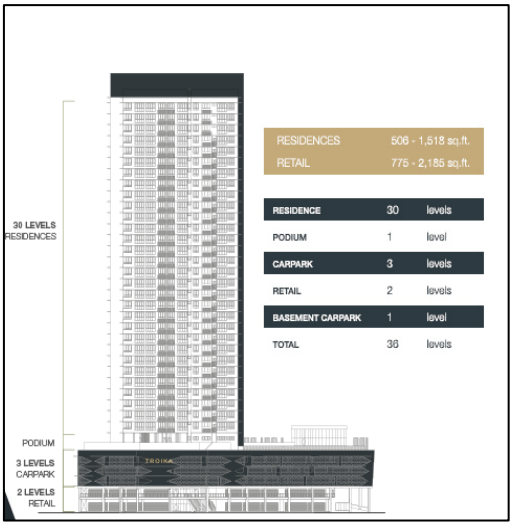


Figure 3.2 Level of TROIKA

TROIKA is being chivalrous towards the residents because it is built encompassing public amenities and conveniences close by such as Hotel Perdana, KB Mall, KPJ Perdana Specialist Hospital, Universiti Teknologi MARA (Kota Bharu campus), stadium, hospital, and government office.

TROIKA are also stated as being considerate towards the residents because it is built surrounding the public amenities nearby such as Hotel Perdana, KB Mall, KPJ Perdana Specialist Hospital, government offices, Universiti Teknologi MARA (Kota Bharu campus), stadium and hospitals.

Table 3.1 Background of case study

Name of building	TROIKA Kota Bharu
Address	Lot 10014, Seksyen 12, Kota Bharu, Kelantan
Developer	Kelmedic Sdn Bhd (Subsidiary of Malvest Group)
Number	09-7138000
Fax no.	09-712115
Type of building	Service Apartment & Retail (Mixed Development)
Land title	Commercial
Type of tenure	Leasehold

Built up area	506sqft – 1,518sqft
Number of units	338 units
Floor level	36 level
Maintenance fee	RM0.25/sqft approximately
Facilities	Open plaza, multi-purpose hall, pool, sun deck, reading area, gymnasium, male and female shower & changing room, play deck and playground, family area, BBQ area, management office, and surau

3.2 LOCATION OF CASE STUDY

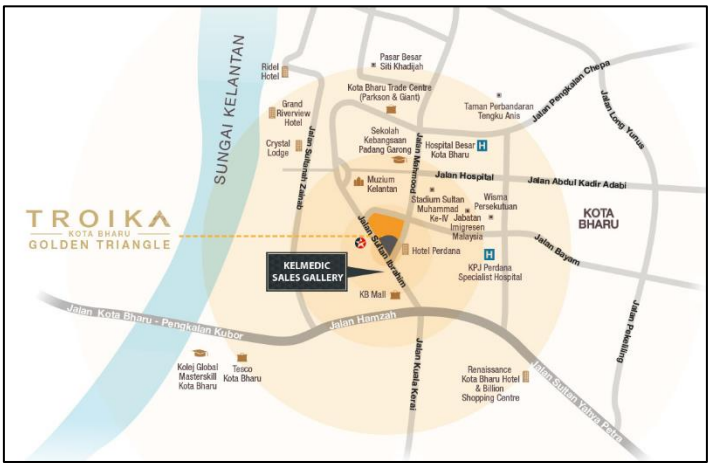


Figure 3.3 Location of TROIKA

3.3 CLIENT INFORMATION

Table 3.2 Information of inspection client

Name of client	Dr. Ahmad Fadhli Bin Sakri
Address	TR31-01 Troika Residence, Jalan Mahmood, 15200 Kota Bharu, Kelantan.
Type of building	High rise building (1 bedroom condo)
Status of occupancy	Newly house
Build up area	506 sqft
Date of inspection	18 October 2021

3.4 PROCEDURE OF HOUSE DEFECT INSPECTION (HDI)

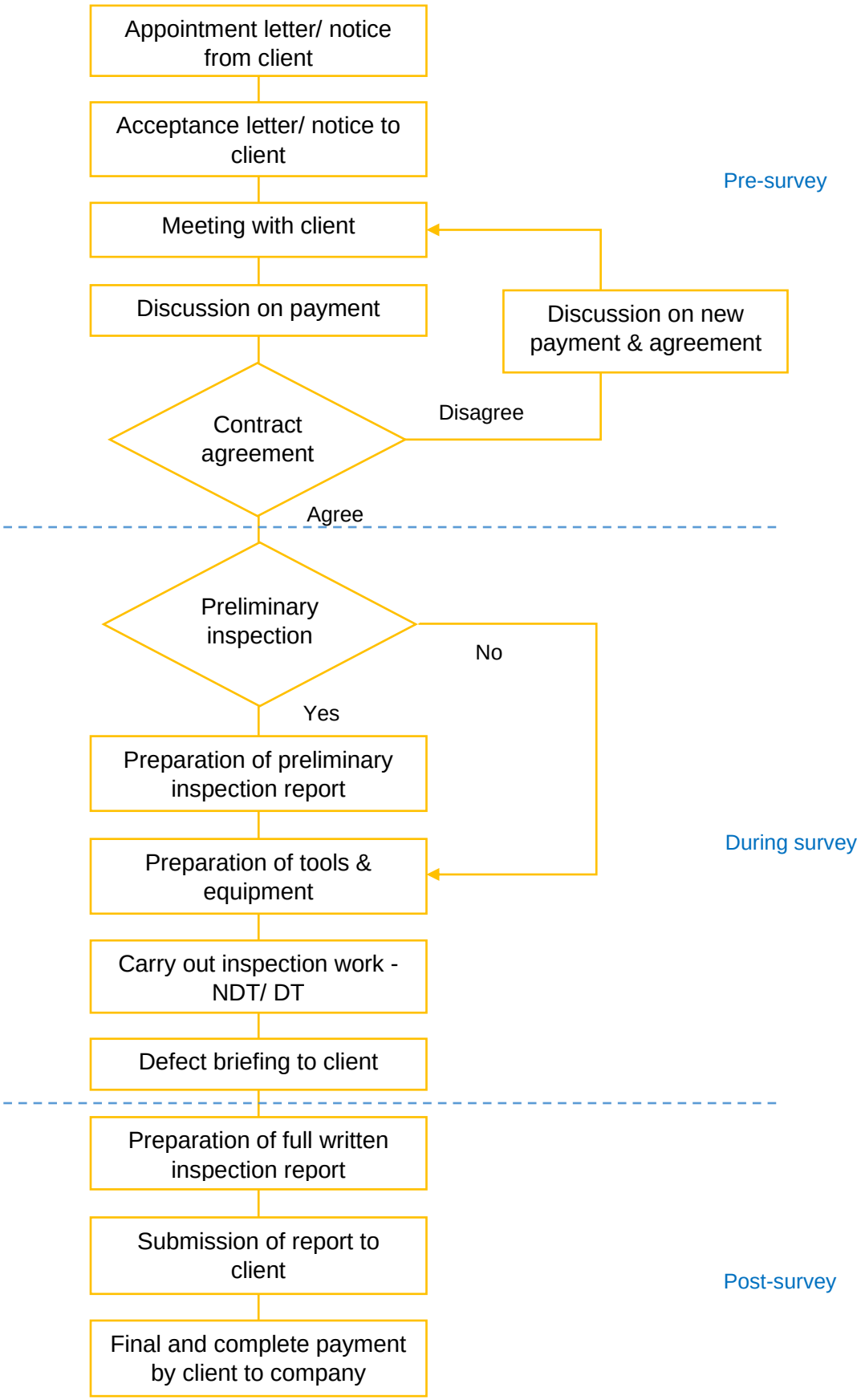


Chart 3.1 Process flow of House Defect Inspection (HDI)

Chart 3.1 above show the whole process flow of performing House Defect Inspection (HDI). The chart was established for the purpose of company use according to the guidelines from CIDB, JKR and RISM. The defect inspection consists of three main phases which are pre survey, during survey and post survey. The procedure detailing on all the step that should be followed by the building inspector or surveyor starting from the appointment from client to the company until submission of report with certification to the client.

3.4.1 Pre-Survey/ Inspection

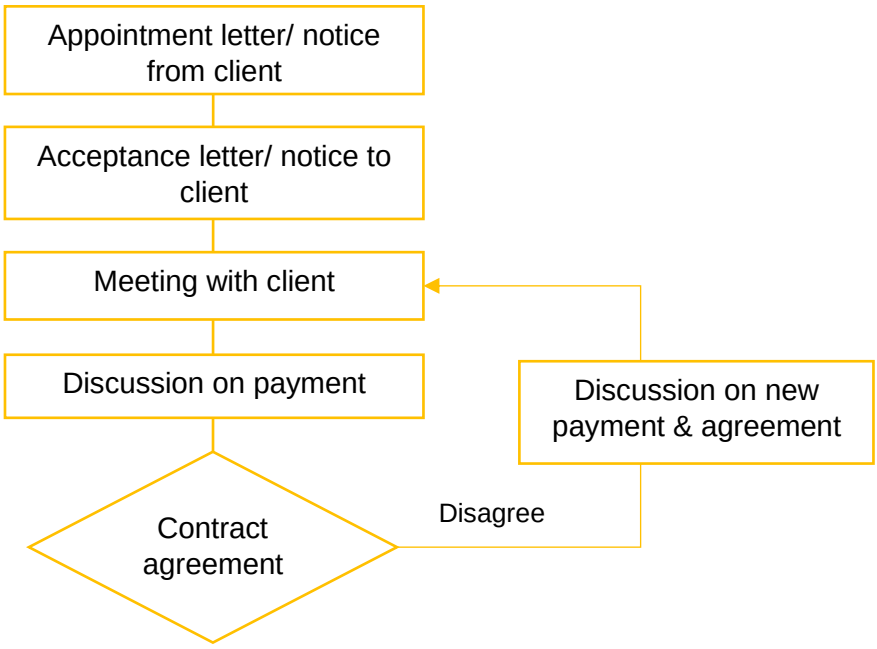


Chart 3.2 Workflow before inspection

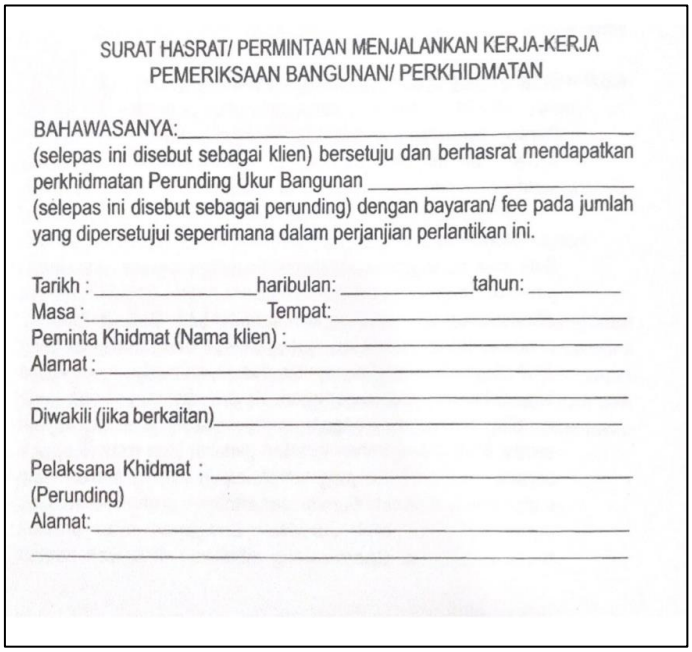
The chart above shows the process flow of pre survey phase which must be done before the visual inspection on unit TR31-01 Troika Residence. The detail explanations on step that shall be refer before inspection are discussed below:

1. Appointment letter/ notice from client

   The first step before starts the inspection, the appointment notice or letter must be obtained from the client. There are no specific formats

that must be followed to provide a work instruction form. Notice of this instruction can be used for various purposes.

First, a statement of intent from the customer to appoint a surveyor. The customer may express the intention in person or by telephone conversation or issue his own letter of intention or appointment. Second, during the working period, if the client issues any verbal instructions, then the instruction should also be followed in writing. All receiving instructions or notice must be answered immediately by the surveyor. Due to confidential matter, the instruction notices from client at Troika Residence, En Fadhli could not be attached in the report. The example that commonly refer by the surveyor is such following:



SURAT HASRAT/ PERMINTAAN MENJALANKAN KERJA-KERJA PEMERIKSAAN BANGUNAN/ PERKHIDMATAN

BAHAWASANYA:_____
(selepas ini disebut sebagai klien) bersetuju dan berhasrat mendapatkan perkhidmatan Perunding Ukur Bangunan _____
(selepas ini disebut sebagai perunding) dengan bayaran/ fee pada jumlah yang dipersetujui sepertimana dalam perjanjian perlantikan ini.

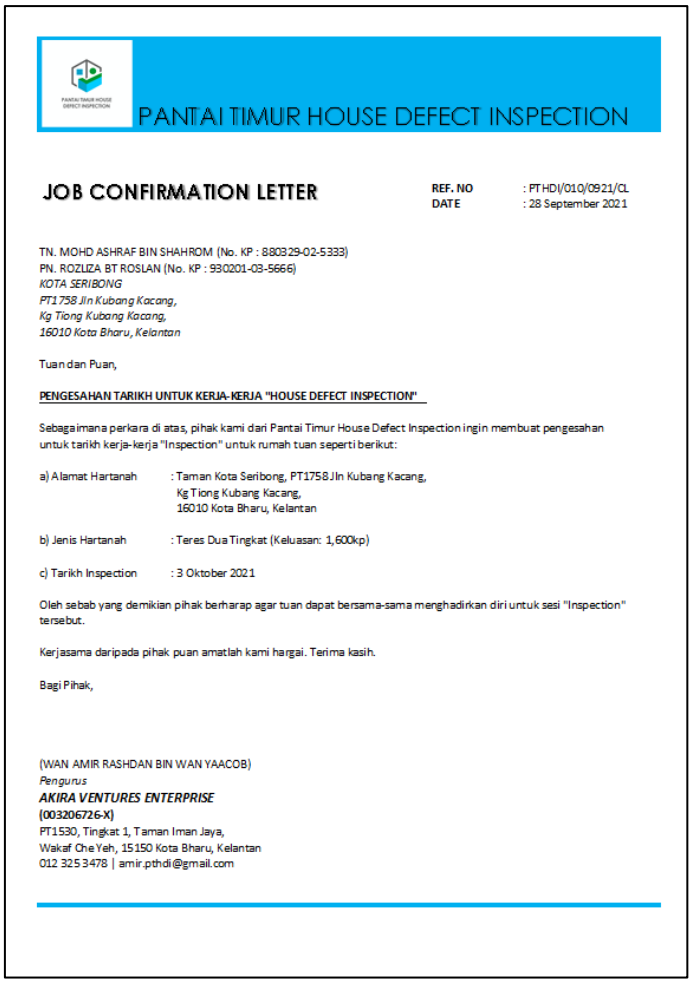
Tarikh : _____haribulan: _____tahun: _____
Masa :_____Tempat:_____
Peminta Khidmat (Nama klien) :_____
Alamat :_____
_____
Diwakili (jika berkaitan)_____

Pelaksana Khidmat : _____
(Perunding)
Alamat:_____
_____

Figure 3.4 Example of instruction notice

2. Acceptance letter/ notice to client

   This notice is the next step that shall be done by the surveyor/inspector. An immediate respond or notice must be given to the client whether they agreed or not to accept the client's instruction. The letter must contain certain facts explaining the contents of the works and conditions that need to be certified and fulfilled by both AKIRA VENTURES and En Fadhli. The example of acceptance letter by AKIRA VENTURES is shown below.



PANTAI TIMUR HOUSE DEFECT INSPECTION

JOB CONFIRMATION LETTER

REF. NO : PTHDI/010/0921/CL
DATE : 28 September 2021

TN. MOHD ASHRAF BIN SHAHROM (No. KP : 880329-02-5333)
PN. ROZLIZA BT ROSLAN (No. KP : 930201-03-5666)
KOTA SERIBONG
PT1758 Jln Kubang Kacang,
Kg Tiong Kubang Kacang,
16010 Kota Bharu, Kelantan

Tuan dan Puan,

PENGESAHAN TARIKH UNTUK KERJA-KERJA "HOUSE DEFECT INSPECTION"

Sebagaimana perkara di atas, pihak kami dari Pantai Timur House Defect Inspection ingin membuat pengesahan untuk tarikh kerja-kerja "Inspection" untuk rumah tuan seperti berikut:

a) Alamat Hartanah : Taman Kota Seribong, PT1758 Jln Kubang Kacang, Kg Tiong Kubang Kacang, 16010 Kota Bharu, Kelantan

b) Jenis Hartanah : Teres Dua Tingkat (Keluasan: 1,600kp)

c) Tarikh Inspection : 3 Oktober 2021

Oleh sebab yang demikian pihak berharap agar tuan dapat bersama-sama menghadirkan diri untuk sesi "Inspection" tersebut.

Kerjasama daripada pihak puan amatlah kami hargai. Terima kasih.

Bagi Pihak,

(WAN AMIR RASHDAN BIN WAN YAACOB)
Pengurus
AKIRA VENTURES ENTERPRISE
(003206726-X)
PT1530, Tingkat 1, Taman Iman Jaya,
Wakaf Che Yeh, 15150 Kota Bharu, Kelantan
012 325 3478 | amir.pthdi@gmail.com

Figure 3.5 Example of acceptance letter

3. Meeting with client

   The meeting session can be either orally or online meeting. The person in charge from AKIRA VENTURES went for the meeting with the client, En Fadhli for discussing the agreement which includes the packages, payment, inspection item and scope.

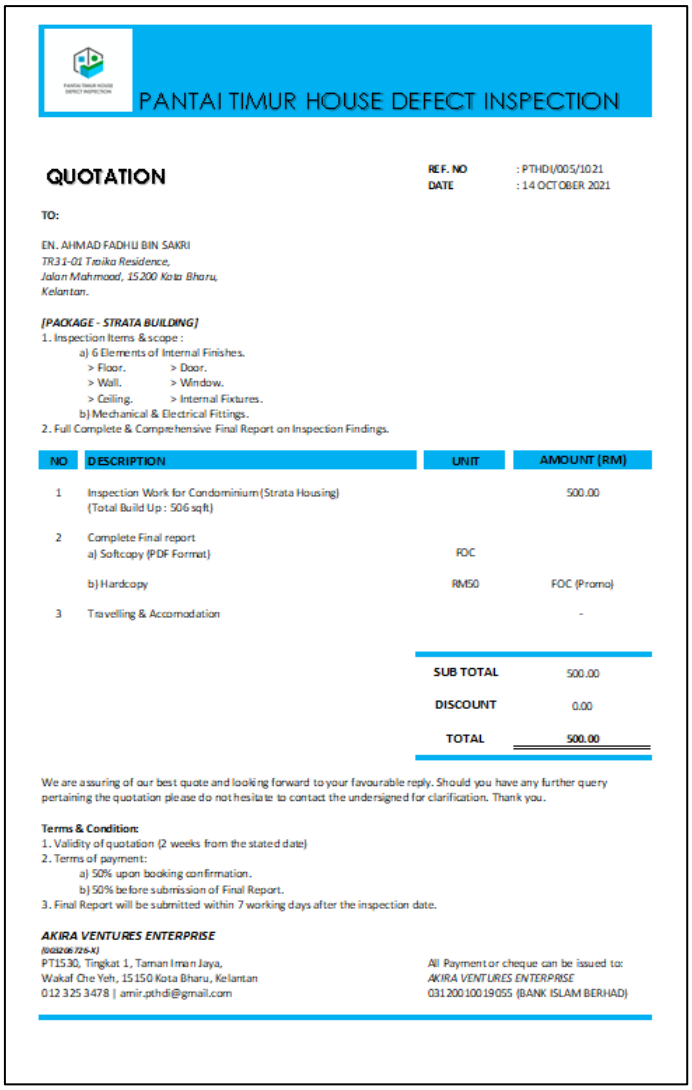
4. Discussion on payment

   The payment is one of the vital things to start the inspection work. The payment usually done before the inspection and complete payment usually after sending the client their hard copy report. AKIRA VENTURES offers a various package for clients which are:

Table 3.3 Package offered by AKIRA VENTURES

PACKAGE	PRICE (Per sqft)
BASIC 1. Inspection Items & scope: a) 7 Elements of Internal Finishes and M&E Fittings. b) 5 Elements of External Finishes. 2. Full Complete & Comprehensive Final Report on Inspection Findings.	RM0.60
MEDIUM 1. Inspection Items & scope: a) 7 Elements of Internal Finishes and M&E Fittings. b) 5 Elements of External Finishes. c) Internal Roofing & Water Tank Checking. 2. Full Complete & Comprehensive Final Report on Inspection Findings.	RM0.80
ADVANCE 1. Inspection Items & scope: a) 7 Elements of Internal Finishes and M&E Fittings. b) 5 Elements of External Finishes. c) Internal Roofing & Water Tank Checking. d) Water Ponding Test for water proofing testing (Upper Floor Bathroom). 2. Full Complete & Comprehensive Final Report on Inspection Findings.	RM0.80

For the case study, which has 506sqft total build up, usually the company will offer the lump sum price which is RM500 for house that has about 500sqft total area. The example of detail of inspection package and payment for client at Troika Residence is such as below.



PANTAI TIMUR HOUSE DEFECT INSPECTION

QUOTATION

REF. NO : PTHDI/005/1021
DATE : 14 OCTOBER 2021

TO:

EN. AHMAD FADHLI BIN SAKRI
TR31-01 Troika Residence,
Jalan Mahmood, 15200 Kota Bharu,
Kelantan.

[PACKAGE - STRATA BUILDING]
1. Inspection Items & scope :
   a) 6 Elements of Internal Finishes.
      > Floor. > Door.
      > Wall. > Window.
      > Ceiling. > Internal Fixtures.
   b) Mechanical & Electrical Fittings.
2. Full Complete & Comprehensive Final Report on Inspection Findings.

NO	DESCRIPTION	UNIT	AMOUNT (RM)
1	Inspection Work for Condominium (Strata Housing) (Total Build Up : 506 sqft)		500.00
2	Complete Final report a) Softcopy (PDF Format)	FOC	
	b) Hardcopy	RM50	FOC (Promo)
3	Travelling & Accomodation		-

SUB TOTAL	500.00
DISCOUNT	0.00
TOTAL	500.00

We are assuring of our best quote and looking forward to your favourable reply. Should you have any further query pertaining the quotation please do not hesitate to contact the undersigned for clarification. Thank you.

Terms & Condition:
1. Validity of quotation (2 weeks from the stated date)
2. Terms of payment:
   a) 50% upon booking confirmation.
   b) 50% before submission of Final Report.
3. Final Report will be submitted within 7 working days after the inspection date.

AKIRA VENTURES ENTERPRISE
([redacted]-X)
PT1530, Tingkat 1, Taman Iman Jaya,
Wakaf Che Yeh, 15150 Kota Bharu, Kelantan
012 325 3478 | amir.pthdi@gmail.com

All Payment or cheque can be issued to:
AKIRA VENTURES ENTERPRISE
03120010019055 (BANK ISLAM BERHAD)

Figure 3.6 Example of payment for client at Troika Residence

5. Contract agreement

   The appointment agreement form will be followed when the surveyor receives an invitation or offer, letter of intent or instruction to carry out building inspection work. The contract was sign when both client and AKIRA VENTURES agreed on the terms and condition. Due to confidential matter, the example contract could not be provided since it involves both parties' privacy.

3.4.2 During Survey/ Inspection

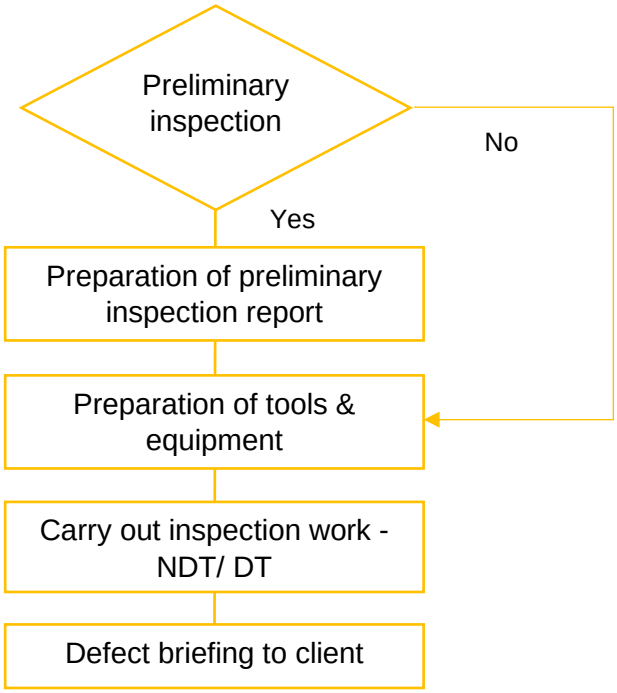


Chart 3.3 Workflow during inspection

The second phase of inspection is during survey phase. The detail explanations on step that were done at the case study, Unit TR31-01 Troika Residence are such following:

1. Preliminary inspection

   Usually, preliminary inspection is required if it is necessary to check on details of preliminary information of the inspection site. The preliminary inspection usually done before the visual inspection. AKIRA VENTURES typically obtain all the preliminary and important information of site during the meeting with client, not through the site visit. Thus, AKIRA VENTURES also will skip the preliminary inspection reporting task

2. Preparation of tools

   Most of the tools and equipment are sensitive, perishable, complicated and expensive. It must be taken care precisely by person in charge. All

the equipment must be gathered in the toolbox before went to inspection. Those are the list of tools and equipment that always used during the inspection.

Table 3.4 List of tools and equipment

NO	TOOLS & EQUIPMENT	DESCRIPTION
1	Tapping rod	To check and detect the hollowness sound at wall and floor tiles Also used to check for lippage between two tiles on the floor or wall.
2	Ladder	To access the higher places such as ceiling and roof area
3	Torch light	To assist surveyor/inspector check on the closed area that have no additional lighting source
4	Measuring tape	To measure any length of defect and its related matter
5	Spirit level	To measure evenness of wall surface or floor surface (tolerance in CIS 7: <3mm/1.2m) To check the variance in lengths of steps and risers for staircase must not exceeding 5mm from dimensions specified in the approved drawings.
6	Angle mirror	To check the paintwork on top and bottom of door leaf.
7	Steel rule gauge	To measure gap between door leaf & door frame (tolerance in CIS 7: size of gap <5mm).

8	L-square	To check the squareness of wall to meet at right angle (tolerance in CIS 7: <4mm over 300mm)
9	Steel wedge	To measure the gaps between door leaf and floor finishes. The allowable tolerance is <5mm
10	Camera	To photograph the defect found at inspection site

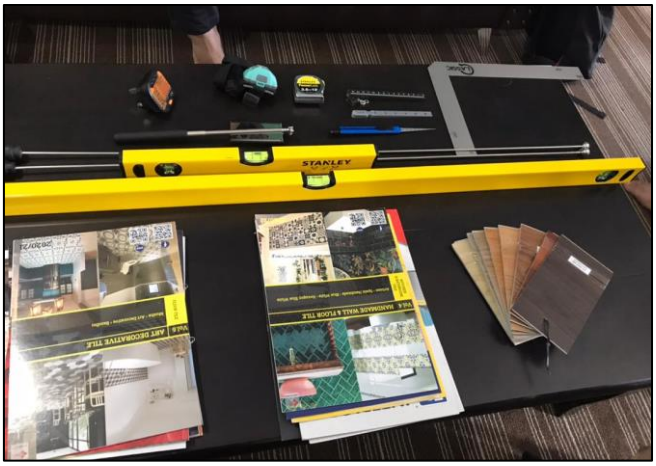


Figure 3.7 Inspection tools and equipment

Besides preparing the tools, it is important to prepare the defect check list and inspection area and item for the purpose of recording and collecting data. The example of those list can be referred at the Appendices.

3. Carry out inspection work

   Inspection work shall be done once the surveyor/inspector obtain the permission and key to enter the building according to the contract. The inspection usually done using the step shown below.

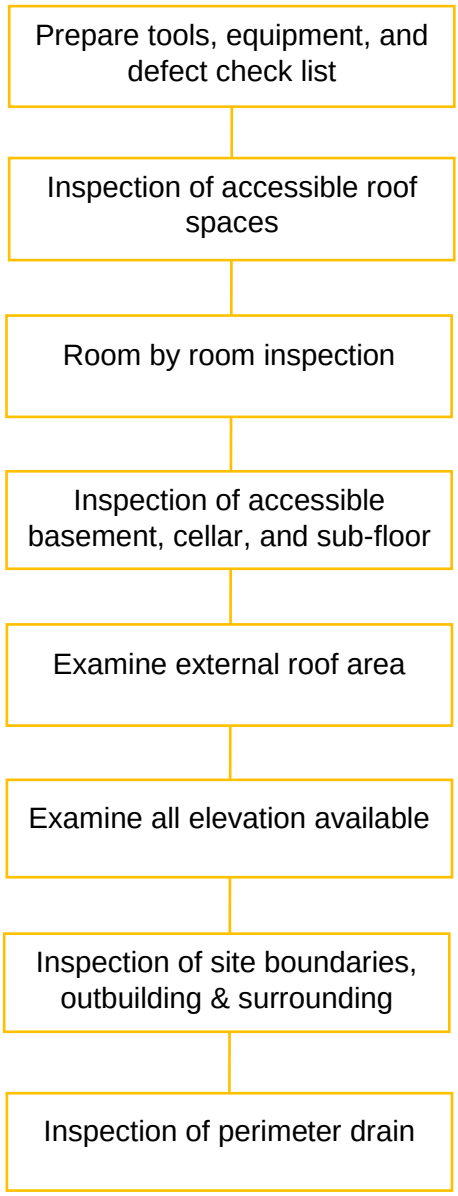


Chart 3.4 Process flow during visual inspection

For this case study, the inspection does not include roof area, elevations, site area, perimeter drain and ponding test. This is due to its type of building which is strata building and it is non-accessible for those mentioned area.

Figure 3.8 Inspection work done at Troika Residence

4. Defect briefing to client

   The defect briefing normally done when the owner is present at the time of inspection. The inspector will explain on the defect found and its possible causes at every accessible area. Due to unavailability of client, En Fadhli at the inspection site, the defect briefing step were skipped.

3.4.3 Post Survey/ Inspection

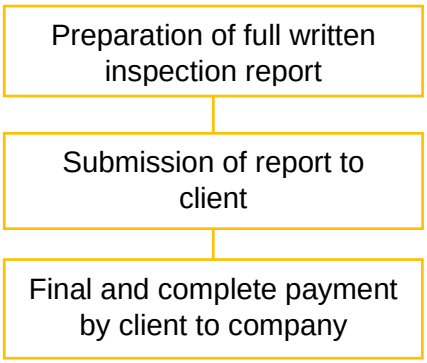


Chart 3.5 Workflow after inspection

The third phase of inspection is post survey phase. The detail explanations on step that were done at the case study, unit TR31-01 Troika Residence are such following:

1. Preparation of full written inspection report

   Following the completion of the building inspection, the next step is to prepare a written report. All of the information gathered during the inspection will be used to produce a report. The surveyor will normally prepare the written report within the 7 days of working days. The submitted report is a valid instrument. As a result, it must disclose accurate information that is fair and unbiased or without involving any conflict of interest. The example of report content for client from Troika Residence were attached at the Appendices.

HOUSE DEFECT INSPECTION REPORT

PANTAI TIMUR HOUSE DEFECT INSPECTION

CLIENT:

DR. AHMAD FADHLI BIN SAKRI

PROPERTY ADDRESS:

TR31-01 Troika Residence,

Jalan Mahmood, 15200 Kota Bharu,

Kelantan.

DATE:

18 October 2021

PANTAI TIMUR HOUSE DEFECT INSPECTION (PTHDI)

Figure 3.9 Cover page of inspection report by AKIRA VENTURES

2. Submission of report to client

   The submission of report normally done in two ways which are softcopy and hardcopy report. The softcopy report will be sent by e-mail along with the hardcopy report will be sent by post directly to the client. The report shall be submitted within 7 days of working days.

3. Final and complete payment by client to company

   After the report were send to the client, the full payment must be made by the client to the company as the final step of the service offered. The client must pay the complete payment within the agreement date indicated in the contract.

3.5 SUMMARY

This chapter is a major part of the report which discussed on the case study, the process of house defect inspection at Unit TR31-01 Troika Residence. The detail process of pre-survey, during survey and post survey were detailed out and supported by a few related documents along with information obtained.

CHAPTER 4:

PROBLEM AND RECOMMENDATION

4.0 PROBLEM AND RECOMMENDATION

Various problem and issue have been found at the case study for defect inspection. The first problem is unavailable and lack of use of advance and specific tools. It founds that the company only use basic equipment such as spirit level, tapping rod, angle mirror, steel gauge and more. In order to solve this problem, it is suggested for the company to provide the advance tools and equipment such as moisture meter, digital angle meter, 4 in 1-meter, digital calliper, hygrometer, boroscope, DSLR camera and drone. For example, DSLR camera and drone can be used to get a better quality of defect picture compared to the general use of smartphone. The use of drone could also be beneficial for the surveyor/inspector where they do not have to climb ladder to access the external roof area.

Next is building rating not provided. During the reporting process, it was discovered that the company has yet to offer a building rating. It is quite difficult if the client is unaware of the condition of their property, particularly if it is a residential building. It is advisable to refer to any building rating provided with the standard by CIDB, RISM or JKR to overcome the problem. For example, the surveyor shall use the QLASSIC score system by filling the assessment form which includes all the weightage for every element and component.

CHAPTER 5:

CONCLUSION

5.0 CONCLUSION

As a conclusion, the Standard Operating Procedure (SOP) is important for an organization to perform any work at the first place. A good planning and procedure need to be produced by the company or organization to prepare any related works and services offered. The SOP of House Defect Inspection (HDI) has been formed to ease the organization, AKIRA VENTURES and their competent person to do the inspection work. The related work and list of preparation also has been established alongside with the procedure to ease them.

To overcome the problem that might occur in future, the company shall continuously update the procedure according to the suitability and improvement to offer the excellent service to clients. A lot of improvement shall be made in terms of services, use of tools, preparation of report and more in order to attract more client.

REFERENCES

Glover, P. (2006). *Buiilding Survey: 6th Edition.* Oxford: Elsevier.

Hall, J. R. (2000). *High-rise building fires*. The Association.

Nurul Nadia Omar Bakri, M. A. (2013). General Building Defects: Causes, Symptoms and Remedial Work. 4-5.

Ramly, A. B. (2004). *Panduan Kerja-Kerja pemeriksaan Kecacatan Bangunan.* Selangor: Building & Urban Development Institute.

RICS. (2012). *Building Survey Practice Note 1st Edition.* UK: Royal Institution of Chartered Surveyor (RICS).

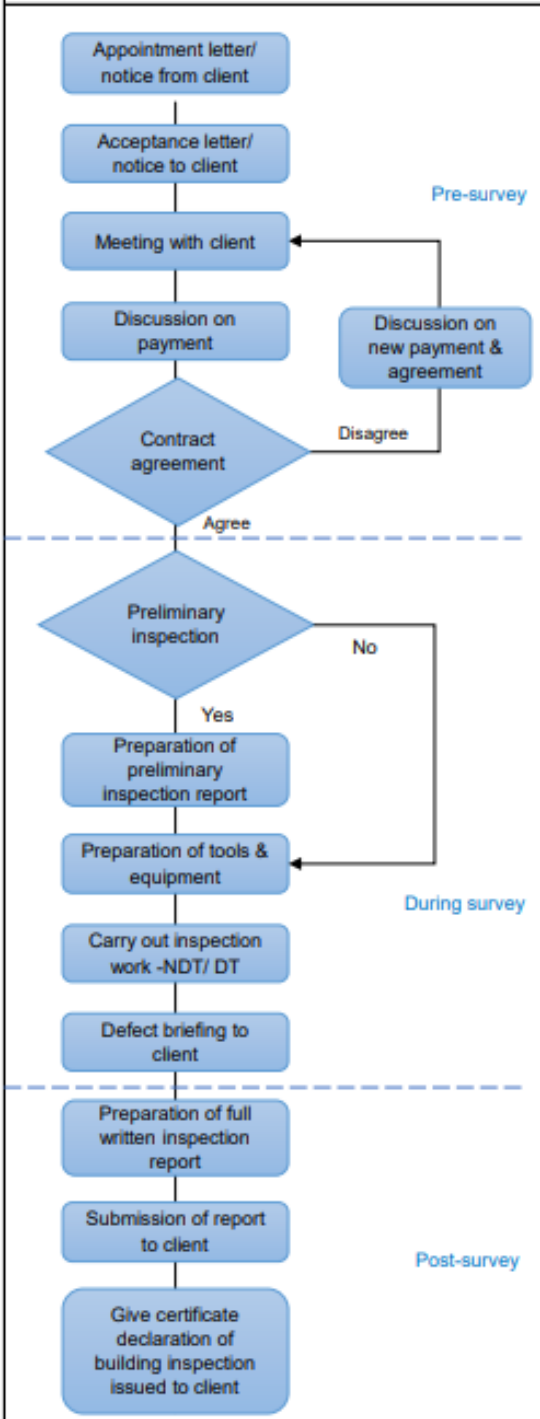
APPENDICES

PANTAI TIMUR HOUSE
DEFECT INSPECTION

Doc. No:	0	PROCEDURE OF HOUSE DEFECT INSPECTION (HDI)
Rev. No:	0	

Start Date:	Prepared by: NURUL AQEESYA	Certified by:

Step of work in sequence:

Work Flow	Work Description	PIC	Reference
	1) Client appoint a building inspector (company)		
	2) Acceptance notice from company		
	3) First meeting & discussionn with client		
	4) Discuss on package & payment		Refer Appendix
	5) Sign the contract agreement if agree		
	6) Discuss on new package & payment if disagree		
	7) Perform the preliminary inspection at site		Refer Appendix
	8) Directly prepare the tools & equipment if preliminary inspection is not required		
	9) Person in-charge required to prepare tools, equipment & defect checklist		Refer Appendix
	10) Carry out inspection for all elements & components		Refer Appendix
	11) Brief to client after completion of inspection		
	12) Prepare the report within 7 working days		Refer Appendix
	13) Submit report to client when payment is completed		
	14) Prepare the certification to client along with the report		

Report to:

PANTAI TIMUR HOUSE
DEFECT INSPECTION

Doc. No:	0	PROCESS OF PRELIMINARY INSPECTION
Rev. No:	0	

Start Date:	Prepared by: NURUL AQEESYA	Certified by:

Step of work in sequence:

Work Flow	Work Description	PIC	Reference
Obtain information of building through site visit/ online	1) Include the general information such: location, detail plan, owner's detail, service & maintenance record		
Went to inspection site	2) Must have permission from client and refer to contract		
Identify the accessible area	3) Analyse accesible area accoridng to the plan if provided		
Get information on surrounding & amenities	4) Analyse the surrounding area of site		
Prepare the preliminary inspection report	5) Prepare a written report of finding that contain necessary information		

Report to:

PANTAI TIMUR HOUSE
DEFECT INSPECTION

Doc. No:	0	PROCESS OF VISUAL INSPECTION
Rev. No:	0	

Start Date:	Prepared by: NURUL AQEESYA	Certified by:

Step of work in sequence:

Work Flow	Work Description	PIC	Reference
Prepare tools, equipment and defect check list	1) Tools with various and specific function		
Inspection of accessible roof spaces	2) Internal roof space inspection using the ladder		
Room by room inspection	3) Start with the topmost floor and element - from ceiling to floor		
Inspection of accessible basement, cellar and sub-floor area	4) Inspect all related area mentioned		
Examine external roof area	5) External roof inspection using the ladder and other tools		
Examine all elevation available	6) Includes front, rear, left and right elevation		
Inspection of site boundaries, outbuilding & surrounding	7) Inspect and observe the surrounding condition within boundaries		
Inspection of perimeter drain	8) Inspect the drain using lightweight material such as ping pong ball to check the flow		

Report to:

PANTAI TIMUR HOUSE DEFECT INSPECTION

HOUSE DEFECT INSPECTION (HDI)

Package

1. Basic - RM 0.60 per sqft
2. Medium - RM0.80 per sqft
3. Advance - RM0.80 per sqft

* Refer Package detail for inspection item & scope

Tools & Equipment

1. Tapping rod
2. Ladder
3. Torch light
4. Measuring tape
5. Spirit level
6. Angle mirror
7. Steel rule gauge
8. L-square
9. Steel wedge
10. Camera
11. Pen
12. Paper & board

Element & Component

Interior

1. Ceiling
2. Wall
3. Door
4. Window
5. Floor
6. Internal fixtures
7. M&E fittings

Exterior

1. Roof
2. External wall
3. Apron & Perimeter drain
4. Car park/ porch
5. Gate & Fencing

Preliminary Report Content

1. Owner/client information
2. Building details
3. Building plan
4. Location
5. Service & maintennace record
6. Amenities & surrounding

Visual Inspection Report Content

1. Information from preliminary inspection
2. Date & time of inspection
3. Weather during inspection
4. Summary of defect
5. Defect analysis
6. Building rating/scoring
7. Defect list - with figures
8. Defect indication plan/ tagging *if required

PANTAI TIMUR HOUSE DEFECT INSPECTION

HOUSE DEFECT INSPECTION (HDI) - PACKAGE

PACKAGE	PRICE (per sqft)
BASIC	RM0.60
1. Inspection Items & scope : a) 7 Elements of Internal Finishes and M&E Fittings. b) 5 Elements of External Finishes. 2. Full Complete & Comprehensive Final Report on Inspection Findings.	
MEDIUM	RM0.80
1. Inspection Items & scope : a) 7 Elements of Internal Finishes and M&E Fittings. b) 5 Elements of External Finishes. c) Internal Roofing & Water Tank Checking. 2. Full Complete & Comprehensive Final Report on Inspection Findings.	
ADVANCE	RM0.80
1. Inspection Items & scope : a) 7 Elements of Internal Finishes and M&E Fittings. b) 5 Elements of External Finishes. c) Internal Roofing & Water Tank Checking. d) Water Ponding Test for water proofing testing (Upper Floor Bathroom). 2. Full Complete & Comprehensive Final Report on Inspection Findings.	

PANTAI TIMUR HOUSE DEFECT INSPECTION (SOP & CHECK LIST)

HOUSE OWNER	: EN. MUHAMAD AFFAN BIN ISMAIL	**BUILD-UP**	: 850 SQFT
TYPE OF HOUSE	: 1 STORY TERRACE	**DATE**	: 3 NOV 2021
LOCATION	: KOK LANAS	**PAGE**	: 1 OF 2

INSPECTION AREA & ITEM

INTERIOR (INTERNAL FINISHES & BASIC M&E FITTINGS):

NO	INSPECTION AREA	INSPECTION ITEM	NOTE
1	FLOOR	A) Finishing B) Alignment & Evenness C) Crack & Damages D) Hollowness E) Jointing	
2	WALL	A) Finishing B) Alignment & Evenness C) Crack & Damages D) Hollowness E) Jointing	
3	CEILING	A) Finishing B) Alignment & Evenness C) Crack & Damages D) Roughness E) Jointing	
4	DOOR	A) Joints & Gap B) Alignment & Evenness C) Material & Damages D) Functionality E) Accessories Defects	
5	WINDOW	A) Joints & Gap B) Alignment & Evenness C) Material & Damages D) Functionality E) Accessories Defects	
6	INTERNAL FIXTURES	A) Joints & Gap B) Alignment & Evenness C) Material & Damages D) Functionality E) Accessories Defects	> Kitchen Cabinet > Wardrobe > Vanity Top / Mirror > Bathtub/WC/Shower etc. > Railing / Grill Door etc.
7	BASIC M&E FITTINGS	A) Joints & Gap B) Alignment & Evenness C) Material & Damages D) Functionality E) Accessories Defects	> Electrical Switches > Electrical Plugs > Plumbing Fittings (Floor Traps/Pipes Fittings)

PANTAI TIMUR HOUSE DEFECT INSPECTION (SOP & CHECK LIST)

INSPECTION AREA & ITEM

EXTERIOR (EXTERNAL ARCHITECTURAL FINISHES):

NO	INSPECTION AREA	INSPECTION ITEM	NOTE
1	ROOF	A) Finishing B) Rough/Uneven/Falls C) Crack & Damages D) Joint/Sealant/Alignment E) Chokage/Ponding F) Construction	>Pitched Roof (Gutter & RWDP) > Flat Roof
2	EXTERNAL WALL	A) Finishing B) Alignment & Evenness C) Crack & Damages D) Jointing	
3	APRON & PERIMETER DRAIN	A) Finishing B) Alignment & Evenness C) Crack & Damages D) Fall/Gradient E) Joints & Gaps	
4	CAR PARK / CAR PORCH	A) Joints & Gap B) Alignment & Evenness C) Material & Damages D) Functionality E) Joints Gaps	
5	FENCING	A) Finishing B) Crack & Damages C) Construction	

INSP. SIGNITURE : _____

INSPECTOR : _____

DATE : _____

PANTAI TIMUR HOUSE DEFECT INSPECTION

PANTAI TIMUR HOUSE DEFECT INSPECTION (SOP & CHECK LIST)

DEFECT LIST

NO	AREA	DEFECT DESCRIPTION	DEFECT CATEGORY

PANTAI TIMUR HOUSE DEFECT INSPECTION

QUOTATION

REF. NO : PTHDI/005/1021
DATE : 14 OCTOBER 2021

TO:

EN. AHMAD FADHLI BIN SAKRI
TR31-01 Troika Residence,
Jalan Mahmood, 15200 Kota Bharu,
Kelantan.

[PACKAGE - STRATA BUILDING]

1. Inspection Items & scope :
    a) 6 Elements of Internal Finishes.
    > Floor. > Door.
    > Wall. > Window.
    > Ceiling. > Internal Fixtures.
    b) Mechanical & Electrical Fittings.
2. Full Complete & Comprehensive Final Report on Inspection Findings.

NO	DESCRIPTION	UNIT	AMOUNT (RM)
1	Inspection Work for Condominium (Strata Housing) (Total Build Up : 506 sqft)		500.00
2	Complete Final report a) Softcopy (PDF Format)	FOC	
	b) Hardcopy	RM50	FOC (Promo)
3	Travelling & Accomodation		-

SUB TOTAL	500.00
DISCOUNT	0.00
TOTAL	**500.00**

We are assuring of our best quote and looking forward to your favourable reply. Should you have any further query pertaining the quotation please do not hesitate to contact the undersigned for clarification. Thank you.

Terms & Condition:

1. Validity of quotation (2 weeks from the stated date)
2. Terms of payment:
    a) 50% upon booking confirmation.
    b) 50% before submission of Final Report.
3. Final Report will be submitted within 7 working days after the inspection date.

AKIRA VENTURES ENTERPRISE
(003206726-X)
PT1530, Tingkat 1, Taman Iman Jaya,
Wakaf Che Yeh, 15150 Kota Bharu, Kelantan
012 325 3478 | amir.pthdi@gmail.com

All Payment or cheque can be issued to:
AKIRA VENTURES ENTERPRISE
03120010019055 (BANK ISLAM BERHAD)

HOUSE DEFECT INSPECTION REPORT

PANTAI TIMUR HOUSE
DEFECT INSPECTION

CLIENT:

DR. AHMAD FADHLI BIN SAKRI

PROPERTY ADDRESS:

TR31-01 Troika Residence,

Jalan Mahmood, 15200 Kota Bharu,

Kelantan.

DATE:

18 October 2021

PANTAI TIMUR HOUSE DEFECT INSPECTION (PTHDI)

1: INSPECTION DETAILS

Information

Inspection Date	18 October 2021
Type of Building	1 Bedroom Condo
In Attendance	House Inspectors
Occupancy	Newly House

General Disclaimer

Disclaimer

The House Defect Inspection Report is prepared by Pantai Timur House Defect Inspection for the specific purposed of assessing the general condition of the property and identifying defects that are readily apparent at the time of inspection based on the limited visual, non-invasive inspection. Contained in this report are general information items and defect details.

This report is our professional opinion but not a guarantee or a warranty. The inspection is intended to add to your knowledge of the building and help you understand the defects and risk in it.

The report is complete and thorough, but it is a general overview, not technically exhaustive. Specialists in each field could provide a more detailed analysis of the building systems, but at considerably more cost and time. Our visual and limited operational inspection provides the broadest overview of the property with less costs and time.

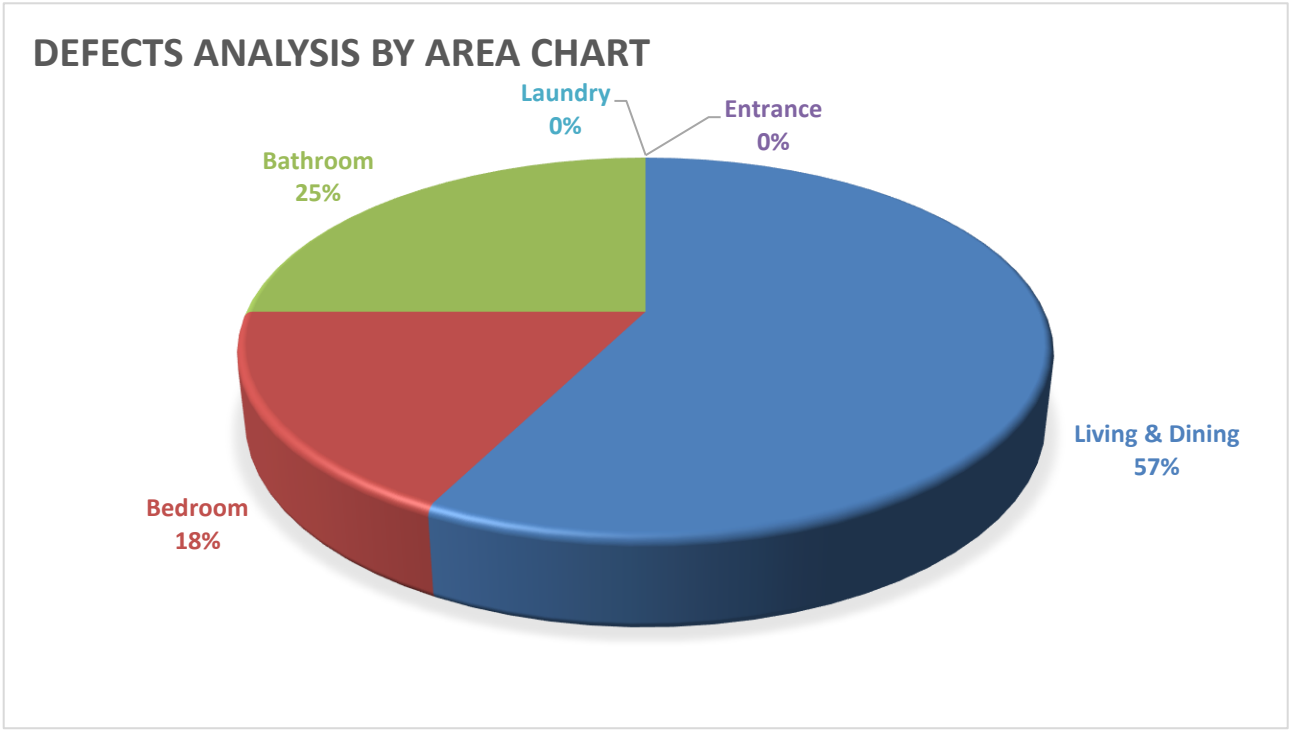
This inspection report is limited to deficiencies present at the time of the inspection. Roof, mechanical equipment, plumbing and electrical systems often fail without warning. New deficiencies can develop in buildings at any time, especially in buildings which may lie vacant.

No responsibility is accepted in the event that the Report is used for any other purpose.

2: REPORT SUMMARY & ANALYSIS

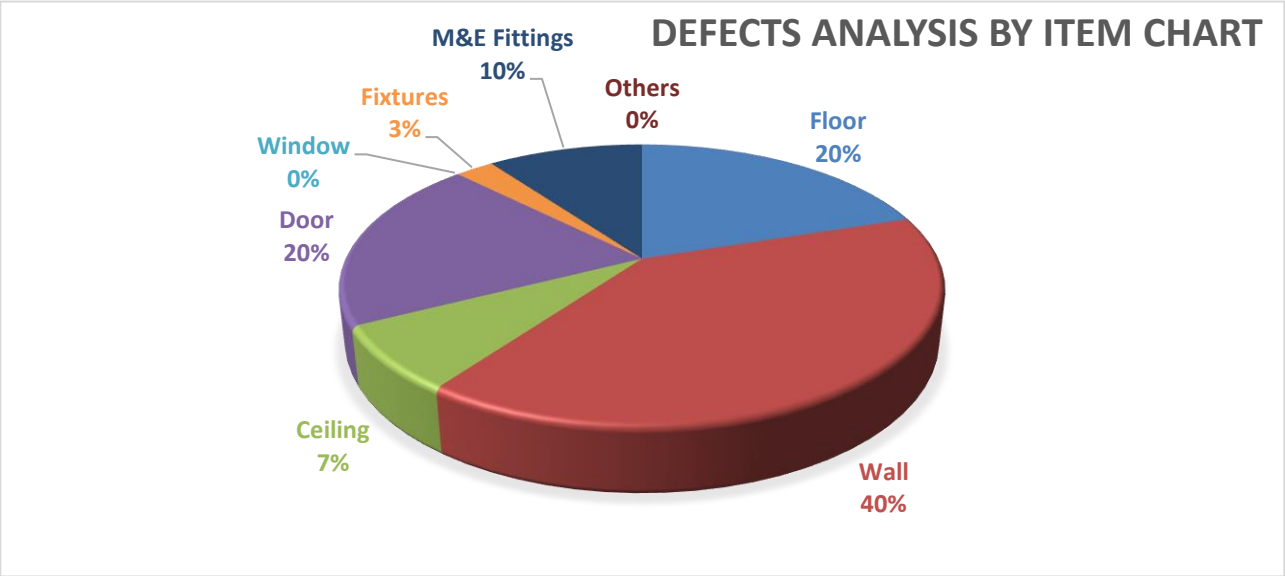
2.1 Defects Analysis by Area Table

NO	AREA	NO. TYPE OF DEFECTS
1	Living & Dining	23
2	Bedroom	7
3	Bathroom	10
4	Entrance	-
5	Laundry	-
	TOTAL	40



2.2 Defects Analysis by Item Table

NO	ITEM	NO. TYPE OF DEFECTS
1	Floor	8
2	Wall	16
3	Ceiling	3
4	Door	8
5	Window	-
6	Fixtures	1
7	M&E Fittings	4
8	Others	-
	TOTAL	40



Report Summary:

The pie charts compare the analysis of the defect area and item. It can be clearly seen that most of the defects are at the **Living & Dining** and the most defect items are for **Wall.**

In defect analysis by area, the **Living & Dining** contributes the most at **57%** and for most defect by items will be for **Wall** with **40%** of overall contribution. Clearly we can see the Walling issue will be the most concern defect in the house.

In conclusion, we can see the **Living & Dining** and **Wall** in the house must be taken extra attention for verification & rectification.

3: INTERIOR (LIVING & DINING AREA)

Observations

3.1.1 Floors

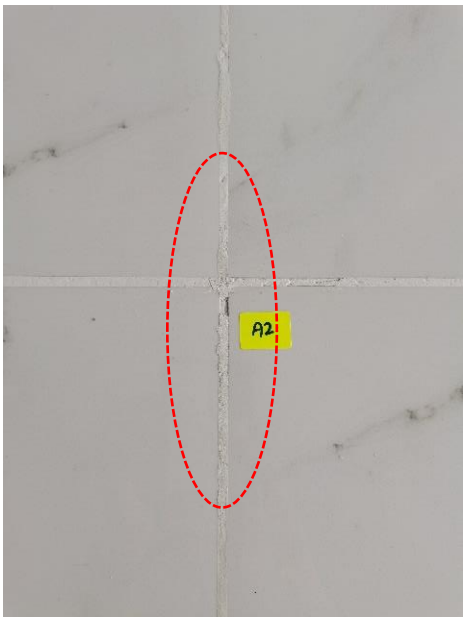
FINISHING

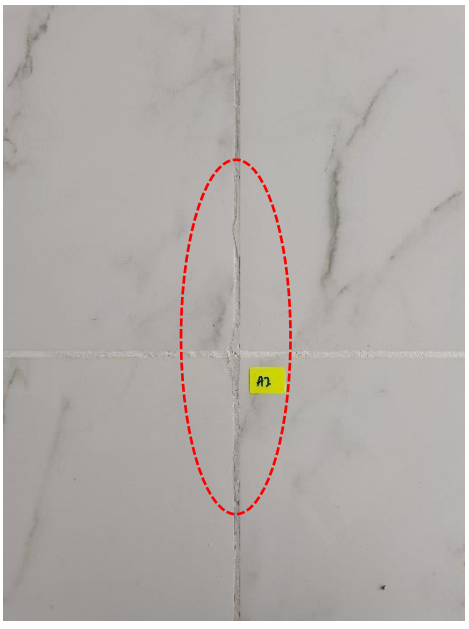
a) Paint Stain.

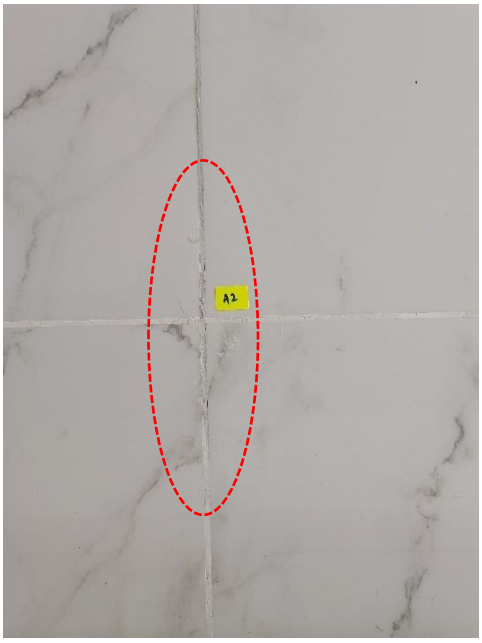
- Reference No : A1 (2 Locations)

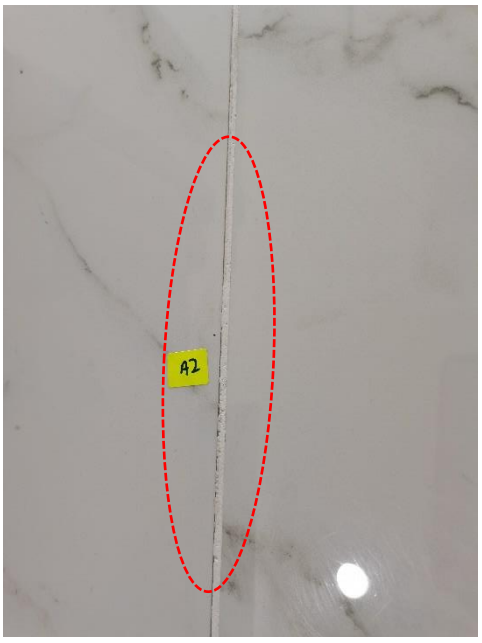
b) Poor grouting.

- Reference No : A2 (5 Locations)



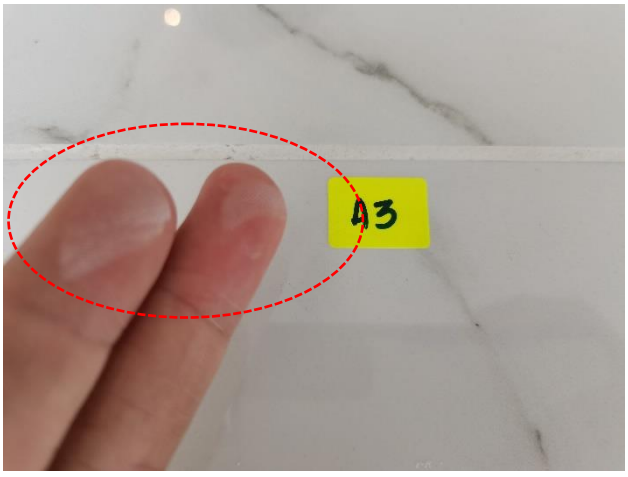






c) Chalky Grouting.

- Reference No : A3



3.1.2 Floors

HOLLOWNESS

a) Hollow sound detected at floor tiles skirting.

- Reference No : A4 (5 Locations)