UNIVERSITI TEKNOLOGI MARA

DEPARTMENT OF BUILDING SURVEYING

FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING

UNIVERSITI TEKNOLOGI MARA

TITLE

(VISUAL INSPECTION OF DILAPIDATION SURVEY: SRI TINGGI SDN BHD (PAKEJ D49- PEMBINAAN RANGKAIAN PAIP PEMBENTUNGAN DI KAJANG 1 DAN KAJANG 3, KAJANG, SELANGOR) & MMC-SUMITOMO CONSORTIUM (CADANGAN PEMBINAAN LANGAT CENTRALIZED SEWAGE TREATMENT PLANT DAN PENYAMBUNGAN RANGKAIAN PAIP PEMBENTUNGAN DI KAWASAN TADAHAN LEMBANGAN SUNGAI LANGAT SECARA REKA DAN BINA))

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DIPLOMA IN BUILDING SURVEYING

PRACTICAL TRAINING REPORT

JUNE 2015 – OCTOBER 2015

ACKNOWLEDGEMENT

Alhamdulillah with the blessing from the Almighty Allah, I have finished this practical training report on time. Thanks to Almighty Allah for his blessing. My appreciation to my lecturer Nor Amin B. Mohd Radzuan for this helps and fully supported. Besides, not forgetting my supervisor Sr Dr Mohd Fadzil B. Yasin that willing to help me to complete this final project and give me fully information. They put much effort and give me a lot of knowledge to complete this report. Without their guides and advices, I could barely finish it on time.

Furthermore, I would like to thanks to all Jasa Sendi's staff especially my supervisor, Cik Normawani Bt. Zainudin for their cooperation, effort and contribution. I am always asked them for in order to meet up with the criteria needed in my practical training report. Not forgetting my classmate, AAP1196A which are always give an opinion and keep in touch to give information about this practical training report.

Finally, we would like to thanks for who involve directly and indirectly in finishing this my practical training report. Thank a lot and may Allah bless all our days. There are many things that I have to study about at the chosen Jasa Sendi as the main subject being my case study. Alhamdulillah, I have done my best and this report for Practical Training (BSB 351) course.

ABSTRACT

CHAPTER 1: INTRODUCTION
This chapter describes about introduction of the practical training report and objectives. What is the importance of practical training. Here also attached a methodology of study.

CHAPTER 2: COMPANY PROFILE
This chapter describes about building detail, building view, location plan, building owner, company logo interpretation, surrounding area, adjacent building, building accommodation, the purpose of the building, and facilities provided in the building.

CHAPTER 3: DILAPIDATION SURVEY
This chapter describes about dilapidation survey, purpose of dilapidation survey, the dilapidation report and scope of the inspection. Also, through well about some elements and components of the building that regularly occur of defects.

CHAPTER 4:CASE STUDY OF SRI TINGGI SDN BHD (PAKEJ D49-PEMBINAAN RANGKAIAN PAIP PEMBENTUNGAN DI KAJANG 1 DAN KAJANG 3, KAJANG, SELANGOR) & MMC-SUMITOMO CONSORTIUM (CADANGAN PEMBINAAN LANGAT CENTRALIZED SEWAGE TREATMENT PLANT DAN PENYAMBUNGAN RANGKAIAN PAIP PEMBENTUNGAN DI KAWASAN TADAHAN LEMBANGAN SUNGAI LANGAT SECARA REKA DAN BINA))

The chapter describes about to analyses and record any existing defect in building premises involve and to record the current condition of the building.

CHAPTER 5: PROBLEM AND RECOMMENDATION
This chapter describes about the identification of each problem related to the case study, which is MMC-Sumitomo Consortium.

CHAPTER 6: CONCLUSION
This chapter describes on overall conclusion of condition survey aspects in building involve in construction area, a project under MMC-Sumitomo Consortium and etc.

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CHAPTER 1

INTRODUCTION

1.0 INTRODUCTION

Through practical student was done during the last of semester the sixth semester for diploma students and asked to do survey our buildings completed a report that has been done during the practical. During the practical training but it can teach students about the reality real word work site. In addition, this practical training also can teach and educate student work will done.

In addition, through the practical training also can be apply a sense of responsibility of work will be done. Therefore, through the student practical will learn how to deal with customer and also those related to the work done even before the students have been exposed to the search site and meet with people connected, but it is not the same as in the working world.

Overall, this practical training gives a lot of benefits to the students before the face of work when they must completed their studies. Through practical training students will use at work soon. At the addition, the practical training they can discipline themselves a students to manage time and schedule their daily work that has been set.

In conclusion, each conducted practical training must be done as soon as possible because it provides an opportunity for students to demonstrate the capabilities that are in themselves and can be entrusted.

1.1 OBJECTIVE OF PRACTICAL TRAINING

The specific objectives of the practical training are as follows:

- To develop the student's intellectual, powers and ability in analysis fact finding and investigation through relevant scientific and qualitative analysis.
- To develop a knowledge and understanding of the principles, concept and procedures with special emphasis in the field of material and construction, maintenance, legal and management and interrelated aspects of technologies in construction industry.
- To educate the student in dealing with the implication of developments and awareness of factors affecting the built environment and society.
- It enables the Department to develop an information technology system over the broad area of subjects, which can be used as a basis for future research.
- To produce graduates an opportunity to reinforce taught or learnt material and strengthens integration in fostering individual relationship between the student, staff and other members of the construction industry.

1.2 OBJECTIVE OF PRACTICAL TRAINING REPORT

Practical training report is evidence that exercise done by the students during the training period. This report is an assessment for practical training student. The objective of providing practical training report is as follows:

- To ensure that students really understand that they have learned during training.
- Documenting the activities of the practical training.
- To train students to prepare a comprehensive report in accordance with standards set by UiTM.
- Good quality report can be used in the future.

1.3 IMPORTANCE OF PRACTICAL TRAINING

The main interest is to provide practical exposure to the real working environment to be encountered when they graduated. Practical training is very important to students because this is where they can gain experience and knowledge of the area being studied. This will familiarize the students to overcome any pressures and challenges when you are in the actual work.

In addition, the exposure gained during the stay on construction sites can help students to gain more knowledge and depth as much technical work can be seen.

Other than that, the practical training is one of the prerequisites for each student before they are eligible to obtain a diploma. A total of three credit hours allocated for practical training, where the credit points system used to evaluate the performance and included in the overall GPA and CGPA as other subjects.

Experience during practical training will assist the students to apply for jobs as graduation soon. Exposure to a healthy interaction can also be exposed in team work and discussions to be made from time to time.

1.4 METHODOLOGY OF STUDY

Proposed A Title
Identify Case Study And Objectives
Literature Review
Primary Data: Interview Monitoring
Secondary Data: Internet, Journals & Data
Case Study
Finding Analysis
Problem & Recommendation
Conclusion

***Table 1.4.1**: Methodology of Study*

CHAPTER 2

COMPANY PROFILE

2.0 INTRODUCTION

Jasa Sendi (M) Sdn Bhd (JSSB) is a Chartered Building Surveying Consultancy Firm and generally provides professional services in

(i) Building Engineering Surveying: in the field of building inspection, dilapidation survey (building condition assessment – BCA), building audit, maintenance, restoration and refurbishment, performance assessment and project management,

(ii) Built Environment: in the field of sustainable & green architecture, environmental impact assessment, buildings and historic places conservation for tourism development, renewal and solar energy.

Photo 2.0.1.:*The building of Jasa Sendi (M) Sdn Bhd*

2.1 BACKGROUND OF THE COMPANY

Jasa Sendi (M) Sdn Bhd already established more than 20 years and still stands strong in the present building & construction industry in Malaysia. Following is the background of the company:

The Company	**: JASA SENDI (M) SDN BHD**
Business Type	**:** Building Consultant and Inspection Services
Registration No.	**:** 264854-H
Registration Date	**:** 24th May 1993
Registered Address	**:** No. 177, Jalan Jasa 14, Taman Jasa, 68100 Batu Caves, Selangor Darul Ehsan
Current Address	**:** No. 15A, Jalan SG 3/16, Pusat Bandar Sri Gombak, 68100 Batu Caves, Selangor Darul Ehsan(Own building)
Telephone No.	**:** +603-6188 7398
Facsimile No.	**:** +603-6186 7398
Email	**:** jasaconsult@yahoo.com
Website	**:** http://www.building-inspect.com.my
Board of Directors	**:** Prof. Sr Dr. Ahmad bin Ramly (Chairman) Hajah Zainab binti Mohd Tahir (Managing Director) Sr Nur Azfahani binti Ahmad (Director)
Paid-up Capital	**:** RM250,000.000
Authorized Capital	**:** RM500,000.00
Bank	**:** Malayan Banking Berhad, Jalan Raja Laut, Kuala Lumpur
No. Bank A/C	**:** 0141 5021 4479

2.2 JASA SENDI (M) SDN BHD (JSSB) PROFILE

JSSB was established in 1993 by Prof. Sr Dr. Ahmad Bin Ramly. He is a competent and qualified surveying practitioner by qualification and experience in the fields of building surveying, architecture and building engineering. He received Fellowship from the Royal Institution of Surveyors (Malaysia), Society of Professional Engineers (UK), and Chartered Association of Building Engineers (UK) besides Professional Member of the Royal Institution of Chartered Surveyors & Chartered Institute of Building (UK). He provides expert advice to a number of government departments, public and private agencies and higher learning institutions and also as academic assessor to the Malaysian Qualifications Agency (MQA). Before serving as Professor in the Faculty of Built Environment, Universiti Malaya, Dr. Ahmad was a senior managerial and technical officer in the Kuala Lumpur City Hall.

Photo 2.2.1:*Company Profile of Jasa Sendi (M) Sdn Bhd*

Jasa Sendi (M) Sdn Bhd provides best practice & services to comply the present building laws, regulations, guidelines and serves professionally with the concept of 'Value for Money' for clients. This to ensure clients will receive best surveying reports, better features of building performance/condition and predictable return of building asset investments. JSSB clients are the local authorities, government agencies, housing developers, property and building owners, property buyers, contractors, management corporation bodies, joint management boards and others, i.e. those who intend to provide good services in building care, maintenance, facilities management, preservation and restoration as well as to get safe and healthy buildings.

2.3 LOCATION PLAN

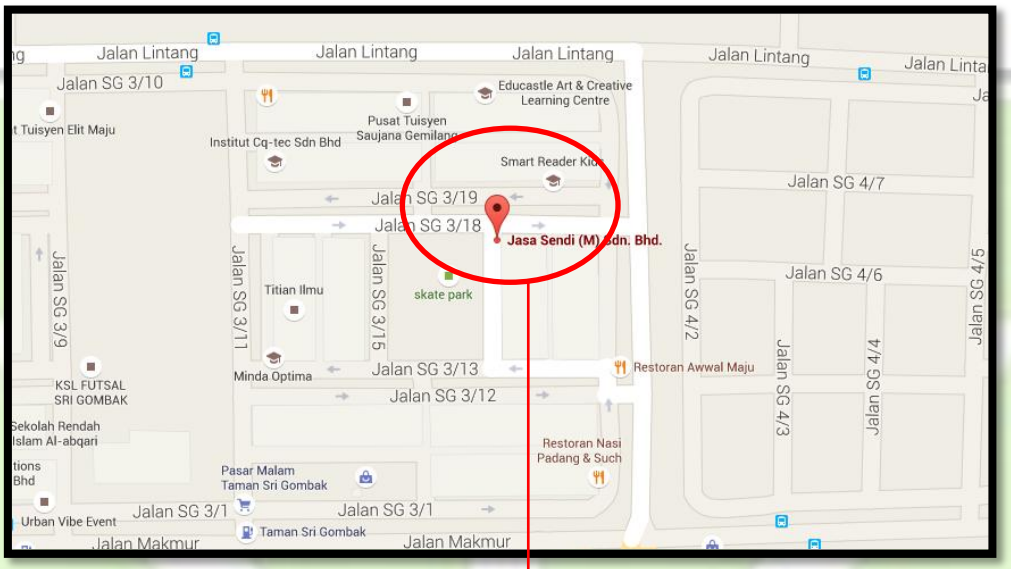


Figure 2.3.1 *Key Plan of Jasa Sendi (M) Sdn Bhd*

Photo2.3.1: *Building of Jasa Sendi (M) Sdn Bhd*

2.4 COMPANY OWNER

Founder / Expert / Chairman

Prof. Sr Dr. Ahmad bin Ramly

P.E. (UK)PhD, MPhil.Arch., B.Arch(Hons), BSc.Hons(HBP-Arch.), BSc.(Bldg Eng. & Maint.), ProfDipl.(Bldg Surv.), ProfDipl.(Civ. Eng.), FSPE, FCBEng, FRISM, FIBM, MIAS, M.ASCE, MCIOB, MRICS, M.ASNT, PMICC Royal Surveyor (M), Chartered Building Surveyor, Chartered Builder & Chartered Building Engineer (UK)

2.4.1 PERSONAL DATA

Full Name	:	PROF. Sr DR. AHMAD BIN RAMLY (Al-Haj)
House Address	:	177 Jalan Jasa 14, Taman Jasa, 68100 Batu Caves, Selangor, MALAYSIA
Academic Office Environment, (Retired 2013) Malaysia		Building Surveying Dept., Faculty of the Built University of Malaya (UM), 50603 Kuala Lumpur,
Current Practice Consultant &Inspection Services(Jasa Sendi)		JASA SENDI (M) SDN. BHD., (Building 15A Jalan SG 3/16, Pusat Bandar Seri Gombak, 68100 Batu Caves, Selangor D. Ehsan
Telephone	:	(h/phone) 6013-371 1098; 603-6188 7398 (JS); (hse) 603-61895258 Faxs : 603-6186 7398
E-mail	:	drabr@msn.com ; drahmadramly@gmail.com ; jasaconsult@yahoo.com

Photo2.4.1:*Details of Company Owner*

2.5 COMPANY CONSULTANT

Affiliate Experts

1. **Assoc. Prof. Dr. Ir Ismail Bin Othman**

BSc. Hons (Civ. Eng) (UK), MSc. (UK), PhD. (UK), P. Eng. (M)

Civil & Structural Engineer

2. **Ir. Suhaimi Bin Mohamed Khalis**

BSc. (Civ. Eng), P. Eng. (M), MIEM

Civil & Structural Engineer

Panel of Consultants

1. **Assoc. Prof. Sr Dr.Adi Irfan bin Che Ani**

PhD (Facility Management), ProfDipl.(Building Surveying), BSc.Hons (Building Surveying), Dipl.(Building Surveying), MCBEng, MRISM

2. **Prof. Sr Dr. Wan Maimun binti Wan Abdullah**

PhD (Facility Management), MBA, B.(QS), LJBM, FRISM, FRICS

3. **Assoc. Prof. Dr. Norngainy binti Mohd Tawil**

PhD (Facility Management), MSc.(Math.Mgt.), BSc.Hons

4. **Pn. Noraini binti Hamzah**

MSc.(Eng), B.Eng.(Civil), PhD

5. **En. Ahmad bin Ismail, PJK, PPK**

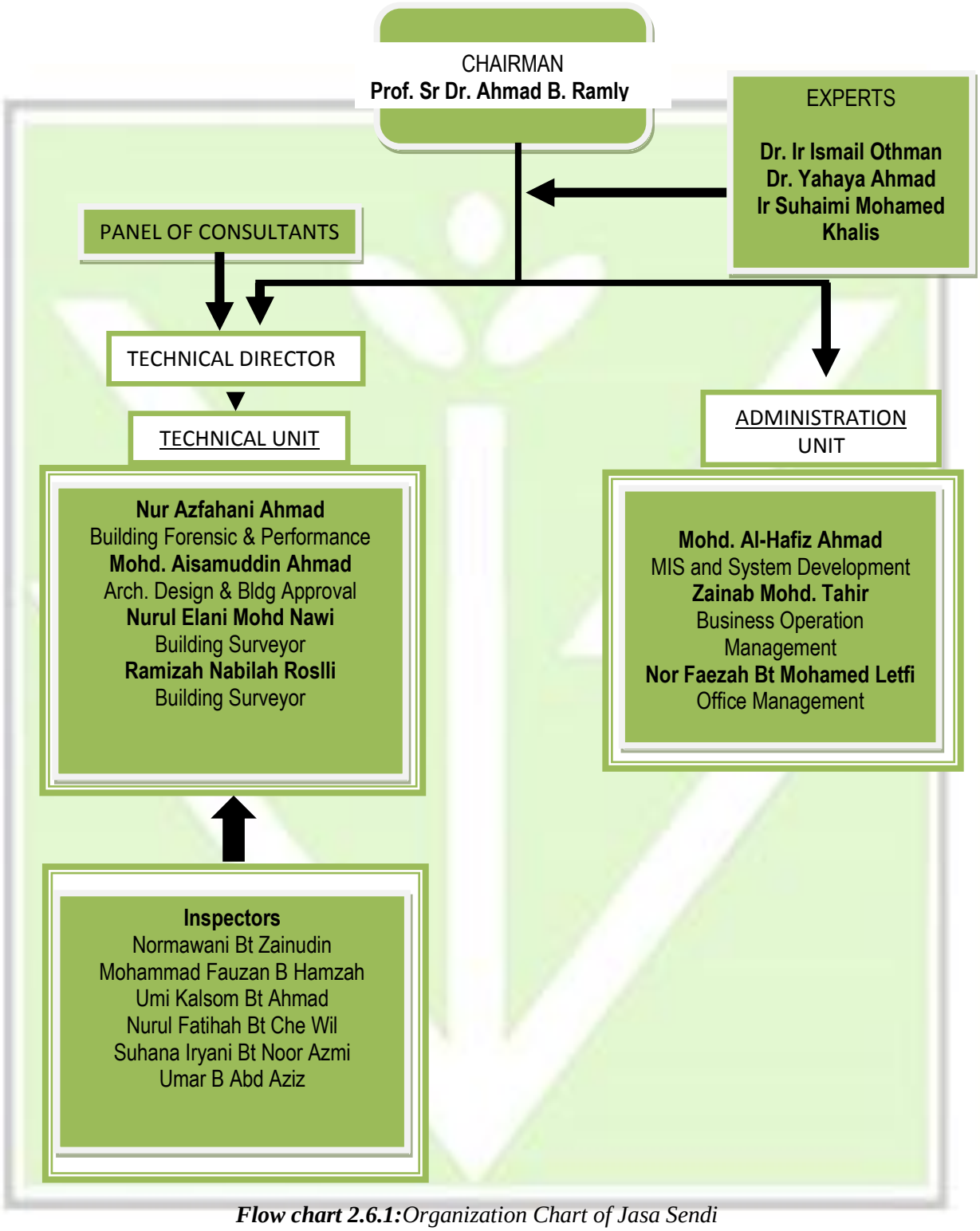
MSc.(Project Management), B.Eng.(Civil), Cert./Dipl.(Civil Engineering)

6. **Ir. Hj. Harizan B. Che Mat Haris**

B. Elect. Eng. (Hons), P.Eng. (M), Competent Elect. Engr (132KV)

(Electrical Engineering)

2.6 ORGANIZATION CHART



Flow chart 2.6.1:*Organization Chart of Jasa Sendi*

2.7 METHOD OF INSPECTION AND REPORTING

CP BS101: Code of Practice for Building Inspection, produced by Royal Institution of Surveyors, Malaysia (BS – Division)
CSP1: Condition Survey Protocol 1
CSP2: Condition Survey Protocol 2
CSP3: Condition Survey Protocol 3

2.8 METHOD OF ASSESSMENT FOR BUILDING CONDITION

BARIS : Building Assessment Rating and Inspection System
DRABR: Defects Rating Assessment for Building Ranking

2.9 SPECIAL SERVICE

Expert Witness for Building Surveys & Building Condition
Building Audit
Building approval
Building Disputes Investigation for Consumers Tribunal Court

2.10 VALIDATION OF REPORT/DOCUMENT

Chartered Building Surveyor,
Professional Engineer, or Professional Architect

2.11 TYPE OF SERVICES PROVIDED

(i). BUILDING ENGINEERING SURVEYING

Building Surveys
Building Condition & Dilapidation Survey
Pre & Post Construction Survey
Building Defects Inspection & Rectification Services
Pre-Delivery / Vacant Possession Inspection of Properties or Buildings
Building Plans Submission & Approval Service
Building Insurance Survey & Risk Assessment
Building Control Services & Administration
Building & Space Audit

Facilities Management & Building Maintenance
Planned, Preventive & Predictive Maintenance
Building Services Assessment & Condition Monitoring
Management Corporation Services & Common Property Advice
Building Maintenance Management
Urban Facilities & Asset Maintenance Planning

Building Conservation
General Building Conservation Works
As Built & Measured Drawing Services
Building Refurbishment & Restoration Services
Heritage Buildings & Monuments Maintenance

(ii). BUILT ENVIRONMENT

Passive Design & Green Architecture
Buildings & Historic Places Conservation for Tourism Development
Environmental Impact assessment
Renewal and Solar Energy

(iii). OTHER SERVICES

Project Management, Coordination & Monitoring
Building Research Works, Seminar & Trainings
E-Plans Organising, Storing & Retrieving
Factories/ Industrial Buildings Inspection
Infra-red Inspection (IR-Thermal Imager)
Life Cycle Costing

2.12 BUILDING INSPECTION EQUIPMENT

Jasa Sendi (M) Sdn Bhd has own building inspection equipments and trained staff in manoeuvring all the equipments for competent practice. Among the equipments used to carry-out all building surveying and inspection works are as follows:

- Thermal Imaging Infrared Camera;
- Moisture Meter;
- Infrared Thermometer;
- Metal Detector;
- Concrete Rebound Hammer
- Vibration Measuring Meter
- Sound Measuring Meter
- Light Intensity Meter
- High Resolution vernaculars
- High Resolution Digital Cameras
- Borescope
- Computer software for analysis
- Other equipments for built environment & IEA

2.13 LOGO AND MOTTO OF COMPANY

LOGO MEANS:

Grow With Value for Money Concept and Excellent Service for Clients.

MOTTO:

"WE EXIST TO SERVE"

Figue 2.13.1:*Logo and Motto's Company*

CHAPTER 3

DILAPIDATION SURVEY

3.0 Dilapidation Survey

The dilapidation survey is a pre-construction condition survey in Malaysia. A dilapidation survey must be done by a Professional Building Surveyor and the scope of work will involve in the inspection of the existing structural condition base on the surrounding building external and internal structure before the commencement development, construction and demolition.

The defect will be identified based on the rough seeing on the site and the identification via analysis, such as cracks, movement, water seepage, settlement, distortion, subsidence and other building defects. The data will be collected in the form of survey forms, photographs and plans. A post-construction condition survey will highlight on any building defect that occurred or cause by the construction works.

A dilapidation survey or pre-construction survey must be conducted by a Professional Building Survey. They need to do the existing condition based on the adjoining buildings, including the infrastructure before the commencement of excavation, piling, demolition, construction or before take over a superstructure works.

3.1 Purpose of Dilapidation Survey

A dilapidation survey is important before doing any demolition, pilling, excavation for basement, construction, renovation or before take over the superstructure works. A dilapidation survey is required on all adjoining structures, including houses or commercial/ industrial properties and the public infrastructures.

The main purpose of dilapidation surveys is to record and provide an accurate record for pre-construction and post construction works. At the same time, Local Authority as Kuala Lumpur City Hall has compelled the developers to submit the dilapidation survey report together with earthwork plan for the purpose of their inspection, monitoring and record the data.

The survey report must be provided by a Professional Building Surveyor will assist the building owner, contractors and developers for the event a claim for damages, as the dilapidation survey report provides written documentation on the pre-construction condition of the property.

3.2 The Dilapidation Survey Report

The condition survey report is based on current building condition. Condition survey will identify any major problem with the condition of the building or house. While major or not major defect, the inspection will collect the data on the building condition. The inspection will highlight any hidden areas of possible concern that need further investigation. The inspection also will give a simple 1, 2 or 3 condition rating of all key aspects of the property. For the condition survey report will inform building condition and defect, any structural movement, dampness, electrical services, drains and environment issues.

Building and demolition work normally required the use of a lot of heavy machinery and equipment, and sometimes will involve some serious change to the site it's being carried out on. This can include the removal of a lot of soil. Existing slabs or footings and possibly trees. Sometimes it also involves knocking down parts of an existing structure.

Dilapidation reports is a report on the condition of a property at a given point in time. It records any existing damage, and the state of any particular aspects of the property that are likely to be affected by construction work, excavation or demolition. These reports are normally carried out on nearby properties both before work begins, and after it's finished. Comparing the two reports offers a clear picture of any damage that might have occurred as a result of building, excavation or demolition work.

Demolition reports are normally carried out by experienced building consultants, who have a good understanding of the aspect of a house or property that are likely to be affected by nearby works. Dilapidation report typically include things like given notice, measurements. Tagging plan, photographs and diagrams which give an accurate picture of the state of the building being inspected, and give sign consents form to owner or tenant building.

Items required in dilapidation survey report

- Introduction about report
- Measured Plan / Tagging Number
- Survey form
- Analysis of defect

3.3 Scope of Building Inspection

Inspection may choose to report only on an 'expectations bases, i.e., listing only defects, rather than also reporting items that are in acceptable condition.

To provide relevance and value for the reader, the following information shows (but does not limit) aspects of the property that may be examined. Inspection of the building (Property Inspection – Residential building) must be considered as the inspection reviews each room or area. Comment on a particular area will only be provided in the event of an adverse finding worthy of mention.

No	Element	Component
1.	Awning/Canopy	○ Cable ○ Cover sheet ○ Frame ○ Frame controller
2.	Balcony	○ Floor ○ Handrail ○ Iron grill ○ Curb ○ Roof ○ Wall/shed
3.	Basement/Foundation	○ Areaway/light well ○ Backfill ○ Beam ○ Car-park ○ Ceiling slab ○ Floor slab ○ Retaining wall ○ Water sump

4.	Beam	○ Adjoining beam ○ Corner ○ Finishes ○ Plaster
5.	Cantilever	○ Finishes ○ Plaster ○ Side ○ Surface layer
6.	Ceiling Construction	○ Board ○ Concrete ○ Cornice ○ Frame ○ Hanger ○ Girder ○ Plaster
7.	Column/Post	○ Corner ○ Finishes ○ Footing ○ Head ○ Material ○ Paint ○ Plaster ○ Tiles
8.	Door	○ Board ○ Frame ○ Knob ○ Lintel / door head ○ Lock ○ Louvers ○ Sealant ○ Sill

		○ Trims
9.	Drain	○ Connector ○ Cover ○ Corner/curve ○ Inspection cover ○ Joint ○ Tiles ○ Walls
10.	Façade	○ Finishes ○ Surface layer ○ Material ○ Plaster
11.	Fence	○ Brick/concrete wall ○ Iron grill ○ Lock ○ Main gate
12.	Floor	○ Apron ○ Beam ○ Cement render ○ Floor cover finishes ○ Floor boards ○ Girder ○ Joist ○ Mosaic ○ Post ○ Tiles
13.	Parapet	○ Corner ○ Wall ○ Wall head
14.	Porches	○ Concrete floor

		○ Floor ○ Floor finishes ○ Floor tiles ○ Roof cover ○ Overhang/roof frame ○ Post
15.	Roof	○ Collar beam ○ Fascia board ○ Flashing ○ Gable ○ Gutter ○ Gutter bracket ○ Rafters ○ Ridge board ○ Roofing/material
16.	Staircase	○ Handrail ○ Riser ○ Stair nail ○ Stair stringer ○ Tread ○ Wall
17.	Wall	○ Adjoining wall ○ Block ○ Building paper / water proofing sheet ○ Corner bracing ○ Finishes ○ Glass panel ○ Paint ○ Partition ○ Plaster

		○ Sill ○ Skirting ○ Stone ○ Studs ○ Tiles ○ Timber boards
18.	Window	○ Casing/trim ○ Frame ○ Glass Louvre ○ Glass panel ○ Hinges ○ Louvre ○ Sill ○ Pulley

Table 3.3.1: *Table of element and component*

3.4 Techniques used in Building Inspection

A Standard Building Inspection report is generally a visual inspection only and may not identify major structural defects or other hidden problems. Must be concerns about such problem, and must be consider obtaining an additional assessment of the property from a suitably accredited specialist, e.g. Pest inspector, structural engineer, geotechnical engineer, surveyor, solicitor, electricity supply authority or water supply authority.

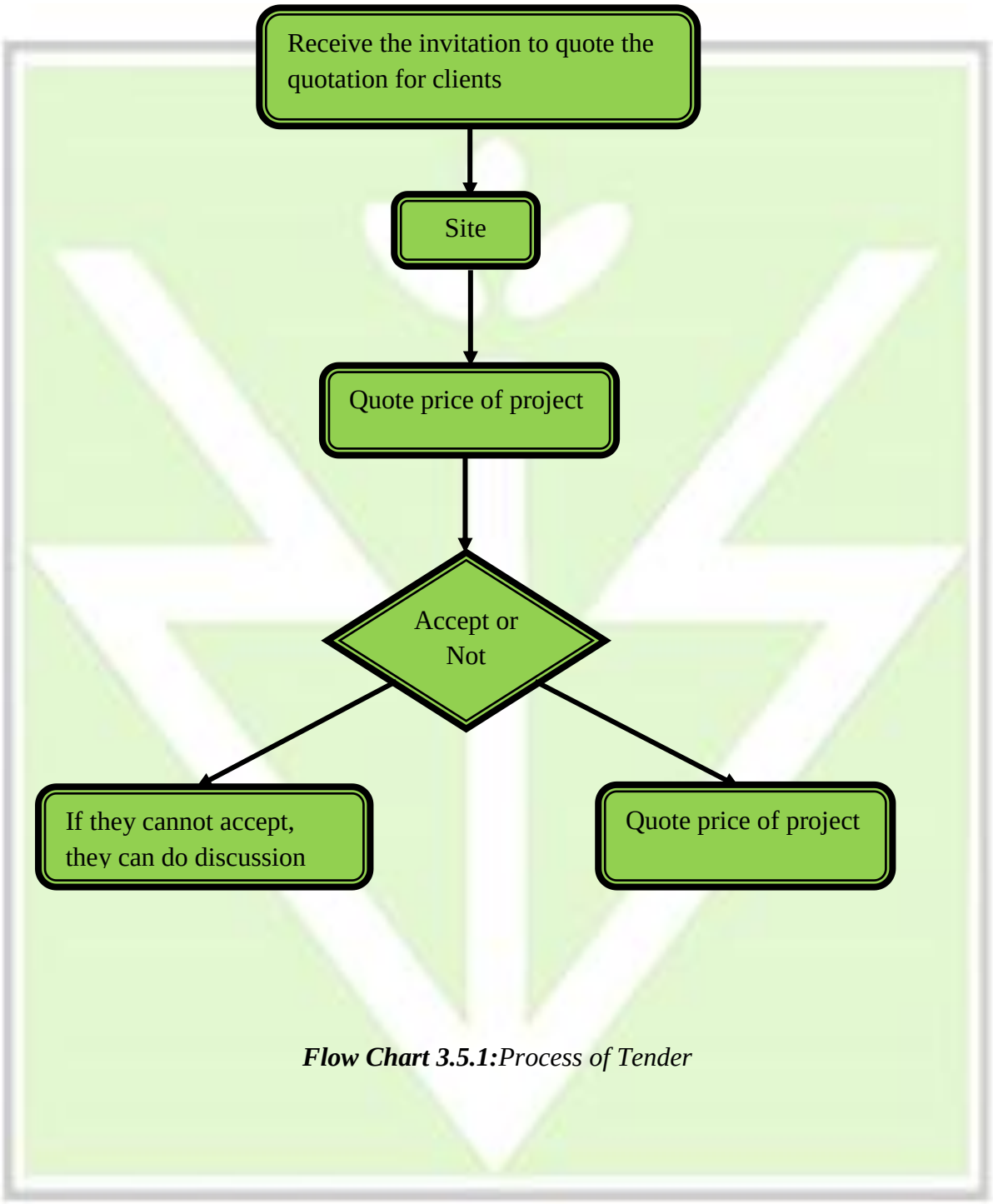
3.5.1 The consultant must should inspect all accessible parts of the property. These include the following areas:

- Interior of the building
- Exterior of the building
- Roof space
- Under-floor space
- Roof exterior site

3.5.2 The part of the property, or certain items, also be inspected, such as:

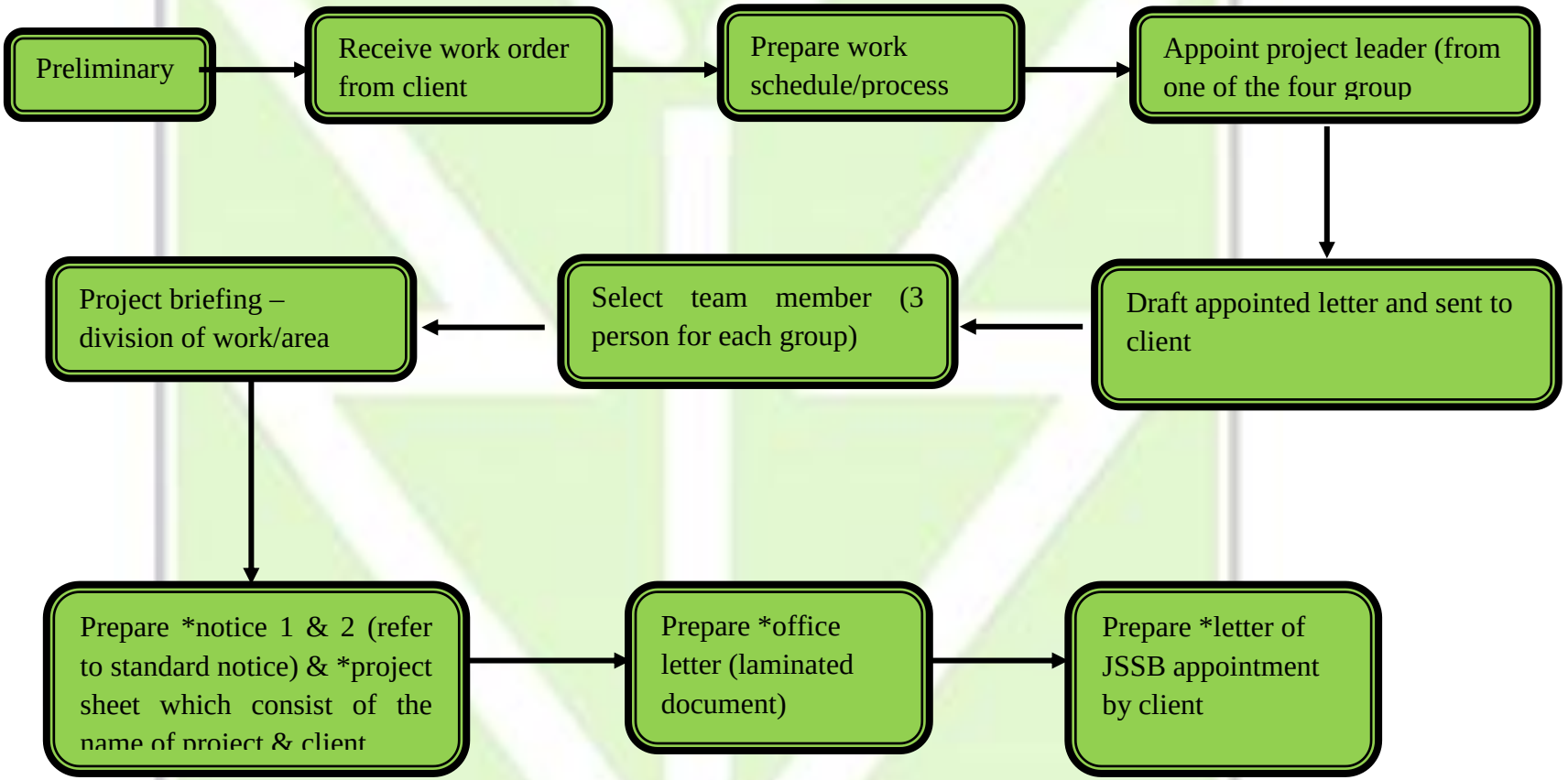
- Visible signs of asbestos problem
- Existence of an operable electrical safety switch
- Operable smoke alarms

3.5 Tender



Flow Chart 3.5.1:*Process of Tender*

3.6 Standard operation procedure (SOP)



Flow Chart 3.6.1: *Standard Operation Procedure*

3.6.1 Preliminary

In this part, before both parties (client and JSSB) agree to bond in contract, submission of quotation (REFER APPENDIX A), pricing, area of inspection and others take places.

3.6.2 Received work order from client

Once client agree with the quotation provide by JSSB, client will give the work order for JSSB to proceed building inspection for dilapidation survey. (Refer Appendix B)

3.6.3 Prepare work schedule/ pro

For the schedule preparation work, JSSB will need the reference provided by the client as to ensure the work being programed as following the client time schedule. Before the inspection start, the company building surveyors will need to prepare all the required items such as.

3.6.4 Appoint project leader (from one of the four group leaders)

Once the team leader has been selected, they are responsible to give a brief on the project scope of works especially during on-site visit.

3.6.5 Draft appointed letter and sent to client

Project leader will prepare formal letter to the client. The letter will be the reference for client to change into a proper inform letter (with the company letter head) to all tenants. Once done, the letter will be distributed to all tenants or building owner that involved with the projects.

3.6.6 Select team member

Team leader will select building inspector who available for the project. The building inspector must know what he do on site and carried the responsibility to finish the work on time.

3.6.7 Project briefing

The team leader will brief and will inform to all group membersthe work scopes that need to be done.

3.6.8 Prepare office letter

Once the appointed letter from client being received, company need to procedure their own official company letter as a back up to the clients official letter on the work being done.

3.8 Scope of Work

When first visiting the site, start with infrastructure inspection. After that, Sketch infrastructure plan with building/house together with their respective house number and that same time List down all address of building/house also send handout notice first to buildingowner/tenant.

On the second week, surveyor will inspect buildings or houses to inspect the condition totally houses. If they allow, the surveyor will inspect and if they do not allow, surveyor will give second notice to remind/inform building owner that surveyor will coming to inspect their house condition. At the same time, the owner or tenant can make an appointment with project leader regarding this project.

On the third week, the surveyor will come again to inspect the building which not allowed for inspection. If they do not allow, surveyor will record number of building or houses number which did not allowed to inspect to send the AR Letter.

If the owner gives permission, the surveyor will give the consent form and give first copy to building owner or tenant. If the owner does not allow for inspection, but they agree to sign the consent form as stated in consent form which building owner do not give permission for inspection.

For the last visit inspection, after they did not give feedback from the notice we sent, we will send AR Letter to remind them about building inspection.

- Inspection of the building (based on register letter)
- Fill in the consent form and given first copy to building owner/tenant

- For Example:

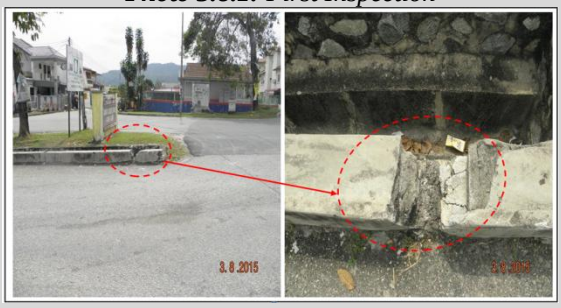
Task	Photo
1st Visit (Infrastructure) First visit, surveyor will inspect infrastructure like a road, drainage, apron, and others. After that, surveyor will sketch infrastructure plan with building or house near with 30 meter radius include. Surveyor will send the first notice to remained owner about the inspection building/house.	 ***Photo 3.8.1:*** *First Inspection*  ***Photo 3.8.2:*** *Infrastructure's Defect*
2nd and 3rd visit Surveyor will inspect building or house to inspect the condition totally house based on notice and plan house include near project.	 ***Photo 3.8.3:*** *Second Inspect Give Notice*
AR Letter AR Letter for the owner did not give feedback from notice we sent.	 ***Photo 3.8.4:*** *AR letter*

Table 3.8.1: *Scope of Work*

3.9 Plan Tagging/Measured Plan

3.10 Example of Survey Form

General Information					
Building name	**(1)**				
Owner/tenant	**(2)**		**Phone**	**(3)**	
Date	**(4)**	**Time**	**(5)**	**Weather**	**(6)**
Constr.type	**(7)**		**Structure Type**	**(8)**	
Inspection information					
Inspectors	**(9)**				
Building level	**(10)**		**Supervisor**	**(11)**	
Element	**(12)**		**Components**	**(13)**	
Defect location	**(14)**				
Description of defect					
Type of defect	**(15)**		**Size of defect**	**(17)**	
Cause of defect	**(16)**		**Length**	**(18)**	
B.A.R.I.S(19)					
Condition	**Priority**	**Matrix**	**Score**	**Colour**	
Remedy	**(20)**				
Remarks	**(21)**				
Cost	**(22)**		**Plan tagging**	**(23)**	
Photo(24)					
Photo 1 (Zoom out photo)			Photo 2 (Zoom in photo)		

Table 3.10.1: *Survey Form*

3.10.1 Elaboration for Survey Form

Content	Purpose
Building Name	Address building company or house to easy surveyor collect data and record data building inspect.
Owner/tenant	Name of owner/tenant for building
Phone Number	Phone number owner/tenant for building
Date	Easy to record the date inspection of building. To make sure the date prove surveyor inspect the building
Time	Time of the inspection
Weather	Weather at site inspection (e.g sunny, cloudy, rainy)
Construction type	For external or internal building
Structure type	Permanent or non-permanent for building or house
Inspector	Name of inspect building
Building Level	Which level inspect
Supervisor	Name of supervisor is (e.g. Dr. Ahmad bin Ramly)
Element	Element of defect e.g. wall
Component	Component for element e.g. plaster
Defect location	Easy to identify defect location
Type of defect	Type of defect e.g. broken, or crack
Cause of defect	Causing of defect e.g. external force or construction
Size	Size of defect can identify unit (mm)
Length	Length of defect unit (m)
B.A.R.I.S	Using for show the colour
Remedy	To solve the problem of defect
Remarks	If any statement do write
Cost	Cost of repair the defect
Plan tagging	Plan tagging at plan
Photo	Photo zoom of defect

Table 3.10.2: *Explaination of Survey Form*

3.11 List of Defect

3.11.1 Infrastructure

Bldg. Element	Bldg. Component	Bldg. Defect	Picture	Defect causes	Remedy
Drain	Concrete drain wall	Broken concrete drain		Exposed to natural environment	Dig and clear the affected area. Reconstruct the drain at the affected area with new one. Re-render the surface properly.
Road	Tarmac	Uneven surface tarmac		Poor workmanship	Compact the ground. Re-layer the surface with new tarmac mixture.
Road	Tarmac	Damaged road surface		External Forces from vehicle	Remove materials and clean the affected area. Re-surface the road properly with road bitumen.
Road Side	Concrete	Damaged road side		External Forces from vehicle	Clean-up the affected area. Touch up with cement mixture& re-render properly.
Road divider	Concrete	Damaged road divider		Overgrown tree root	Cut the affected tree roots. Clean the area. Reform the planter box/road divider with concrete mixture reshape accordingly.

Curb	Concrete	Ground settlement		External Forces / poor workmanship	Dig and refill with coarse aggregate/hard grain materials. Rebuild the damaged parts. Re-layer with tarmac properly.
Curb	Concrete	Broken curb		External Forces	Remove the broken curb and make minimum hacking along the affected area. Reconstruct the curb and re-render the surface.
Curb	Concrete	Broken curb		External Forces & poor maintenance	Scrape and make minimum hacking along the affected area. Touch up with cement grout and re-render the surface properly. Ensure proper maintenance always carry out by the authority.
Pedestrian walkway	Tiles	External Forces		External Forces	Remove and clean the broken tiles in the area. Make proper installation of new tiles.
Pathway	Pathway brick	Broken & missing interlocking tiles		External Forces	Dig and clean along the affected area. Replace the broken/missing tiles and reconstruct the pathway properly.

Road	Tarmac	Crazing Crack		External Forces/Possibly also by tree root	Dig and open along the crack, if caused by root, cut it. Re-layer the road with new tarmac mixture.
Road	Road Tarmac	Broken road		External Forces	Dig and refill with coarse aggregate/hard grain materials. Re-layer with tarmac properly.
Drain	Drain cover	Rubbish and missing drain cover		Lack of Maintenance	Clean and clear the area from all rubbish. Reinstall new drain covers.
Road	Tarmac	Damaged road		External forces	Clean and re-layer with tarmac properly.
Drain	Drain cover	Rubbish / Broken drain cover		Possibly due to human causes	Clean and reinstall new drain cover.
Pathway	Cement render	Crazing crack		Contraction & expansion of surface layer	Scrape and make deep hacking along the crack. Touch up with cement grout and re-render the affected surface.
Retaining wall	Concrete wall	Combination of Horizontal & Vertical Crack		External Forces such vibration or external load	Scrape and make a deep hacking along the crack. Touch-up with cement grout and re-plaster the surface

Road	Tarmac	Crack line on road		Poor workmanship and normal compression and expansion	Hack the affected area. Put more hard materials. Re-surfacing the road properly
Retaining wall	Steel wall/sheet piles	Settlement		Erosion	Refill and re-strengthen the embankment. Re-align the metal wall/sheet piles.
Drain	Concrete drain	Ground settlement along drain		Poor Workmanship / erosion	Dig and refill with coarse aggregate, hardgrain materials. Rebuild the top and damaged parts &cover with concrete mixture and render properly.
Road	Cement render, curb, and pavement	Broken at pathway		Poor workmanship. External Forces	Clean-up the affected area. Touch up with cement mixture and replace with the new pavement.
Pathway	Pavement	Broken and missing of pavement		Settlement of Soil	Remove the broken pavement in the area. Consolidate/compact the ground with hard materials and make proper installation of new pavements.
Column	Steel column	Broken at lower part of 1 bus stop shelter post		External Forces/ Lack of maintenance	Replace with new column and repaint with quality paint or build footing as the same as the

					other three posts. Replace the broken tiles as well.
Road	Road apron	Settlement		Poor workmanship	Dig, remove the broken parts and refill with coarse grain/aggregate materials. Rebuild the top with concrete. Rerender.
Road	Telephone pole	Corrode		Rusted due to expose to weather. Post wrongly place.	Replace with new telephone pole, relocate to other suitable location and paint with anti rust.
Drain	Concrete drain	Damaged drain concrete		Erosion	Clear the clogging and remove the water from the drain. Repair the damaged parts
Road	Road border	Earth Settlement on old, abandon and buried drains		Poor Workmanship / Lack of maintenance	Dig and refill with coarse hard grain materials. Rebuild the top and cover with concrete mixture.
Road	Sewerage manhole	Leaks		Sewerage Overflow/ Leakage & lack of maintenance	Do total maintenance works and service the sewerage pipes to determine and rectify the problems.

Road	Road border	Outburst border concrete		Poor Workmanship	Dig along the perimeter to reform/construct with new concrete border.
Road	Road Border	Leftover broken concrete drain covers		Human error / Lack of maintenance	Clean-up left over damaged drain covers to avoid overweight to the existing drain cover that might damage it overtime.
Drain	Drain Cover	Missing of drain covers		Human error / Lack of maintenance	Put a new drain covers with the same specification as the old one.
Road	Curb	Broken of curb		External Forces	Touch up with cement mixture and re-render the surface properly. @ Rebuild the curb with the same specification as the old one.
Drain	Concrete drains	Ground settlement along drain		Poor Workmanship / erosion	Dig and refill with coarse aggregate, hard grain materials. Rebuild the top and damaged parts &cover with concrete mixture and render properly.

Table 3.11.1: *Infrastructure's Defects*

3.11.2 Building

Bldg. Element	Bldg. Component	Bldg. Defect	Picture	Defect causes	Remedy
Ceiling	Ceiling board	Sign of dampness		Possibly due water from above	Determine and rectify the sources of dampness. Repaint the affected surface.
Ceiling	Ceiling board	Sign of Dampness		Possibly due water from above ceiling board	Determine and rectify the source of leakages. Replace with new ceiling board and repaint the affected surface. Monitor condition.
Ceiling	Ceiling board	1) Sign of Dampness 2) Broken ceiling board		Possibly due to water leakage from above ceiling board	1) Determine and rectify the sources of leakages. 2) Replace new ceiling board. Make proper

					installation
Ceiling	Plaster	Sign of Dampness / Blistering		Possibly due water from above / Possibly due water from above ceiling slab	Determine and rectify the sources of leakage/inject water proofing. Repaint the affected surface with quality paint.
Ceiling	Ceiling board	Sign of Dampness / missing ceiling board		Possibly due water leaking from pipe above	Determine and rectify the source of leakages. Reinstall new ceiling board and repaint the affected surface. Monitor condition.
Ceiling	Ceiling plaster	Exposed steel bar		Poor workmanship	The affected surface needs to be re-plaster with concrete grouting

					sufficiently. Repaint with quality paint.
Ceiling	Ceiling plaster	Exposed stirrup		Contraction and expansion surface layer / Poor workmanship	Rusty stirrup should be cleaned properly. The affected surface needs to be re-plastered with concrete grouting sufficiently cover at 20mm
Ceiling	Ceiling slab	Bird nest		Lack of Maintenance	Remove the bird nest. Clean and repaint the affected surface.
Ceiling	Ceiling slab	Plant growth		Exposed to natural environment / Poor Maintenance	Remove and clean the affected area. Repaint with quality paint.

Drain	Drain cover	Broken drain cover		External forces	Remove and replace with new concrete drain cover.
Drain	Drain cover	Missing drain cover		Uninstalled drain cover	Install new drain cover.
Door	Flush door	Broken door		Vandalism	Remove and replace the flush door with new one. Make proper installation.
Fence	Chain-linked	Damaged fence		Vandalism	Repair the fence to original state.
Fence wall	Cement plaster	Combination of horizontal crack and vertical crack		Contraction & expansion of surface layer	Scrape and make minimum hacking along the crack. Touch up with cement grout and repaint the affected surface

Fence wall	Cement plaster	Diagonal crack		Contraction & Expansion Surface Layer	Scrape and make deep hacking along the crack. Touch up with appropriate filler and repaint the affected surface..
Fence wall / apron	Adjoining	Gap between fence wall and apron		Ground settlement	Scrape and make deep hacking along the gap. Fill with solid materials and cement grout. Touch up and finish them with cement render / repaint the affected surface
Fence wall	Cement plaster	Tilted to the front		Ground Settlement / Poor Concrete Base	Strengthen the ground and re-align the wall.

Fence wall	Cement plaster	Vertical Crack		Contraction & Expansion Surface Layer	Scrape and make deep hacking along the crack. Touch up with cement grout and repaint the affected surface.
Fence wall	Cement plaster	Unwanted plant growth on structure		Exposed to natural environment	Remove the plant.
Floor	Cement render	Crack line		Contraction & Expansion of Surface Layer	Scrape and make minimum hacking along the crack. Touch up with cement grout and re-render the affected surface.
Floor	Cement render	Crazing crack		Contraction & Expansion Surface Layer	Scrape and make deep hacking along the crack. Touch up with cement grout and re-render the affected

					surface.
Floor	Cement render	Water ponding		Rain penetration / Due to rainwater from outside	Clean and dry the floor. Make a proper screeding for water to flow.
Floor	Exterior cut stone tiles	Missing tiles		Poor workmanship	Replace the missing tiles with new one. Make a proper installation.
Floor	Tiles	Broken tiles		External forces / Wear & Tear	Replace the broken tiles with new one. Make proper installation with the same spec.
Floor	Tiles	Broken Tiles		External Forces/Overloads	Replace all the broken tiles with new one. Make proper installation.

Floor	Tiles	Water Ponding		Possibly due rainwater from outside	Clean and dry the floor. Make proper water run-off to the outlet.
Floor	Pebble Tile	Crack Line		Ground Sunken	Scrape and make deep hacking along the crack. Touch up with cement grout.
Door	Door frame	Gap between wall & door frame		Poor Workmanship	Scrape and fill the gap with appropriate filler. Repaint the affected area.
Floor Skirting	Tiles	Detached tiles		External forces	Replace the broken skirting tile with new one and make proper installation.
Wall	Plaster	Algae on wall		Lack of maintenance	Remove the algae and clean the affected surface. Repaint the affected surface with quality paint.

Wall	Plaster	Sign of Dampness / Blistering		Exposed to weather	Scrape and repaint the affected surface with quality paint.
Wall	Plaster	Peeling off paint		Wear & Tear	Scrape and repaint the affected surface with quality of paint.
Wall	Plaster	Sign of Dampness / Blistering		Probably due to water from other side of the wall	Determine and rectify the sources of leakage. Repaint the affected surface with quality paint.
Wall	Plaster	Sign of Dampness		Possibly due to water from neighbour unit	Determine and rectify the sources of leakage / inject waterproofing. Repaint the affected surface with quality paint. Monitor condition.

Wall	Plaster	Vertical Crack		Contraction & Expansion Surface Layer	Scrape and make minimum hacking along the crack. Touch up with appropriate filler and repaint the affected surface
Wall	Plaster	Combination of Horizontal and diagonal crack		Construction nearby	Scrape and make deep hacking along the crack. Touch up with appropriate filler and repaint the affected surface.
Wall	Plaster	Gap at adjoining wall		Construction nearby	Scrape and make deep hacking along the gap. Touch up with appropriate filler and repaint the affected surface.

Wall	Plaster	Gap between two adjoining wall		Construction of Shaft Pit	Scrape and make deep hacking along the gap. Touch up with hard filler and repaint the affected surface.
Wall	Plaster	Water stain		Lack of Maintenance	Clean and repaint the affected surface with quality paint.
Wall	Plaster	Plant Growth / Ficus & Peeling off Paint		Exposed to natural environment / weather	Remove the overgrown plant / ficus. Clean and repaint the affected surface
Wall	Plaster	Water stain and seepage / Uneven surface		Exposed to Weather / Poor Workmanship	Make minimum hacking along the crack, touch up with cement grout and re-layer the wall. Clean and repaint the affected area with quality

					paint.
Floor skirting	Timber panel	Gap between wall & skirting		Lack of Maintenance	Apply proper sealant or appropriate filler to close the gap. Smooth the surface properly.
Wall	Tiles	Crack line		External forces	Remove and install with new and same specification of old wall tiles. Make proper installation.
End Wall Corner	Drain Water Down Pipe	Disconnected Of Rain Water Down Pipe		Lack Of Maintenance	Make proper installation of down pipe. Make good the area between pipe and the concrete. Repaint the affected surface with quality paint

Parapet wall	Plaster	Random Crack			Scrape and make minimum hacking along the crack. Touch up with cement grout and re-plaster the affected surface. Re-paint the whole wall surface with weather shield paint.
Wall And Extended Floor/Sill	Plaster	Small Plant Growth on wall		Exposed To Natural Environment / Poor Maintenance	Remove & clean the growth and make a proper cover to the sill. Repair the pipe. Regular maintenance needed.
Wall	Plaster	Sign of dampness		Possibly due water leakage from the above	Determine and rectify the source of leakage/inject water proofing. Scrape the affected area. Touch up with cement grout

					and repaint the surface properly. Monitor condition regularly. If problem re-appear affected wall need to be examined by builder/mason @ If problem re-appear call builder/mason to make good the wall.
Undergr ound cable	Wire	Wiring is not organized/ tied-up properly in the hole		Poor workmanship	Clean and vacuum all the dust and dirt. Organize and tie-up the wires properly. Clean and vacuum all the dust and dirt. Organize and tie-up the wires properly.

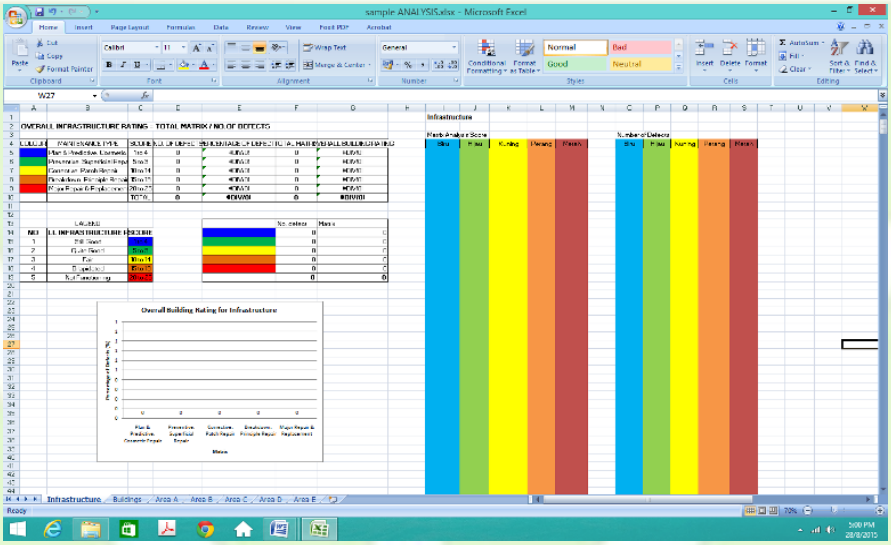
Door	Door frame	Misalignment of the door, difficult to open & close.		Poor installation/ Ground Movement	Make good to the defect (re-open and make proper installation).
Wall	Window Frame	Gap between wall & window frame		Poor workmanship	Apply proper sealant or cement filler to close the gap. Smooth the surface properly.
Cornice/ Crown Moulding	Plaster	Crack Line		Contraction & Expansion of Surface Layer/External Forces	Scrape and make minimum hacking along the crack. Touch up with appropriate filler and repaint the affected area.
Ceiling	Plaster board	Crack Line		Contraction & Expansion of Surface Layer/External Forces	Scrape and touch up with appropriate filler and repaint the affected area.

Table 3.11.2: *Building's Defects*

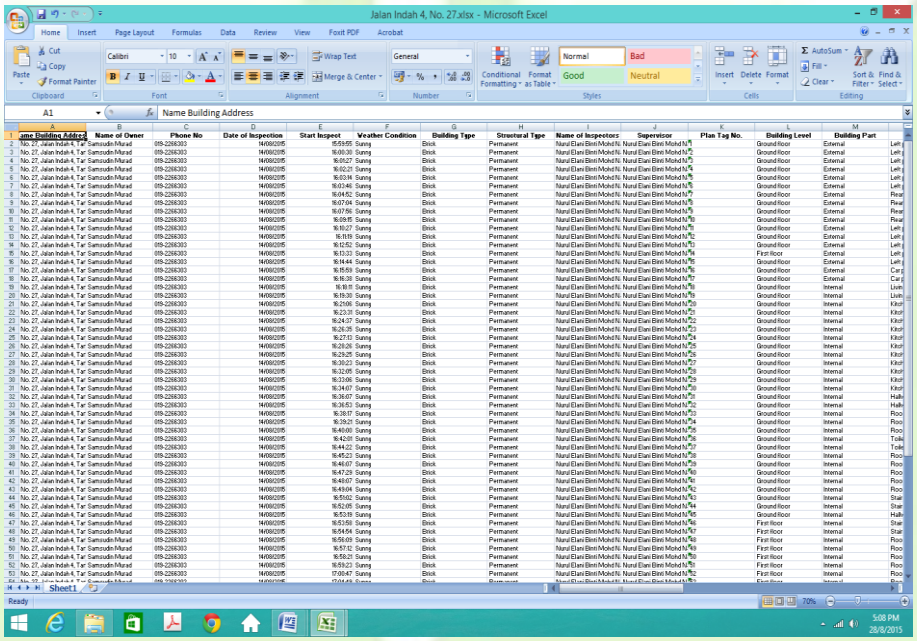
3.12 Analysis

Method of calculation of analysis for Condition of Building. First, divide or categorize analysis based on building or area.

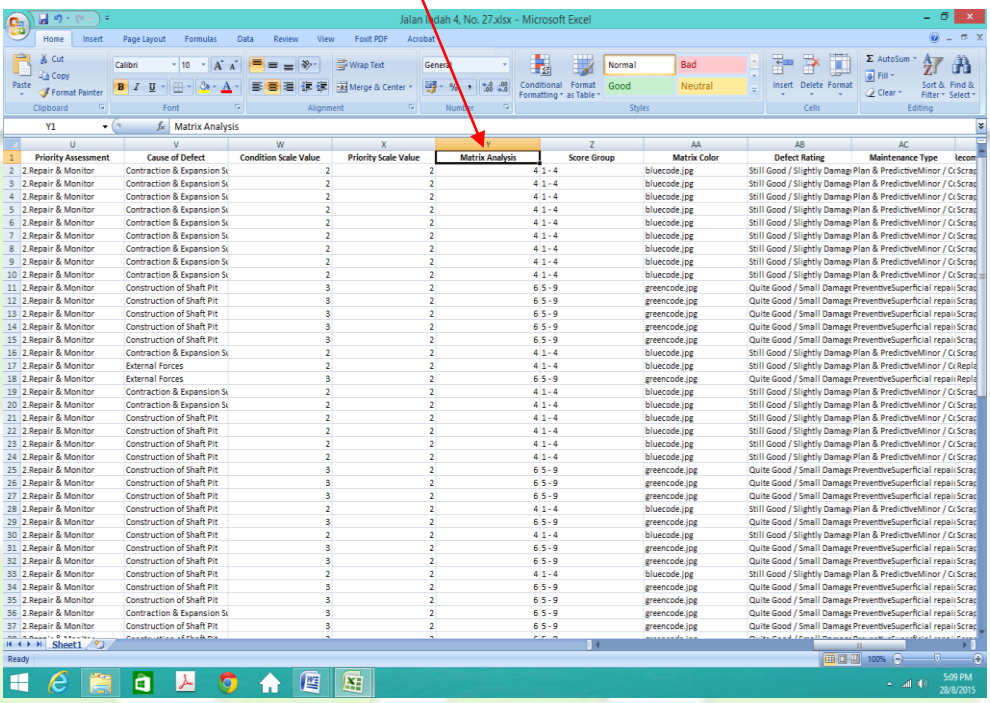
1. Open sample of analysis



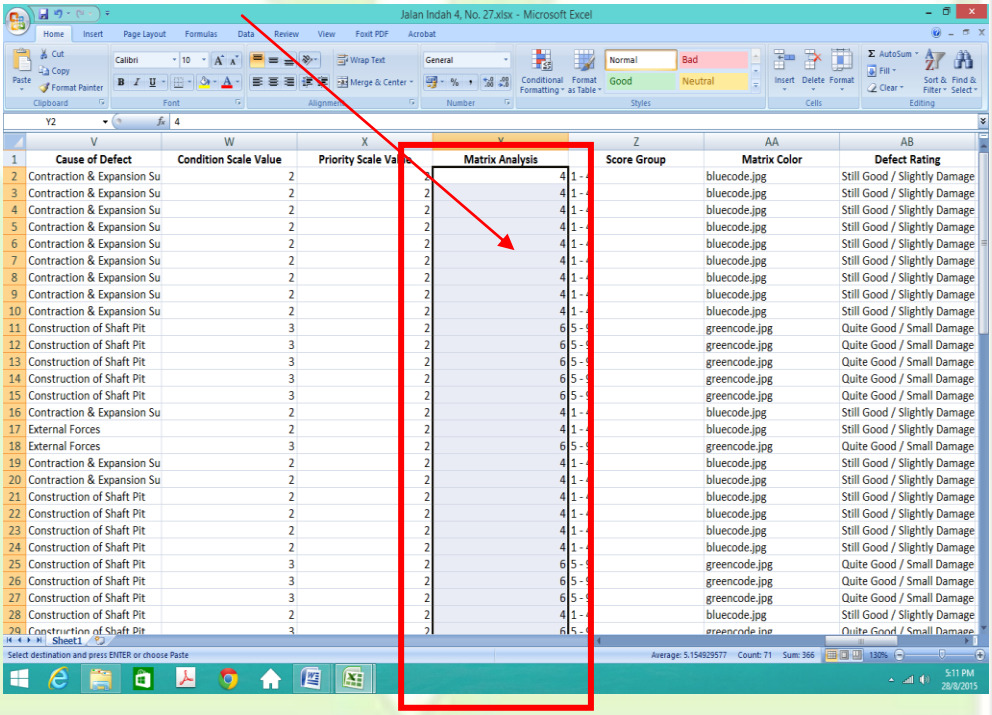
2. Then, open excel doc of related survey form; infrastructure/ related buildings.



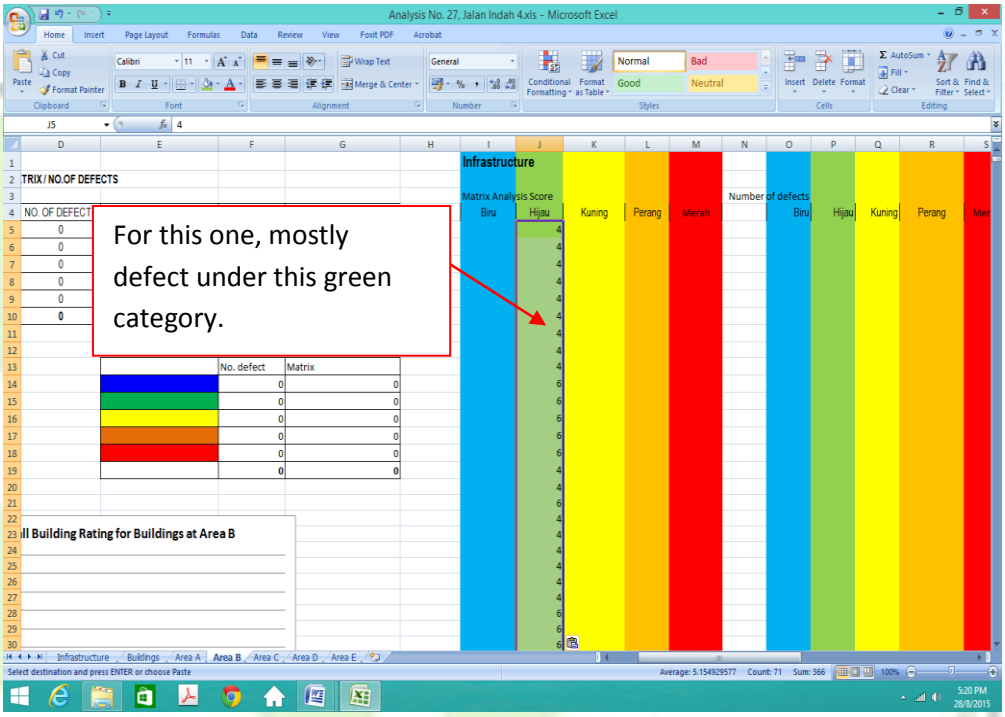
3. Scroll to the right, look for column Matrix Analysis



4. Copy the data (number)



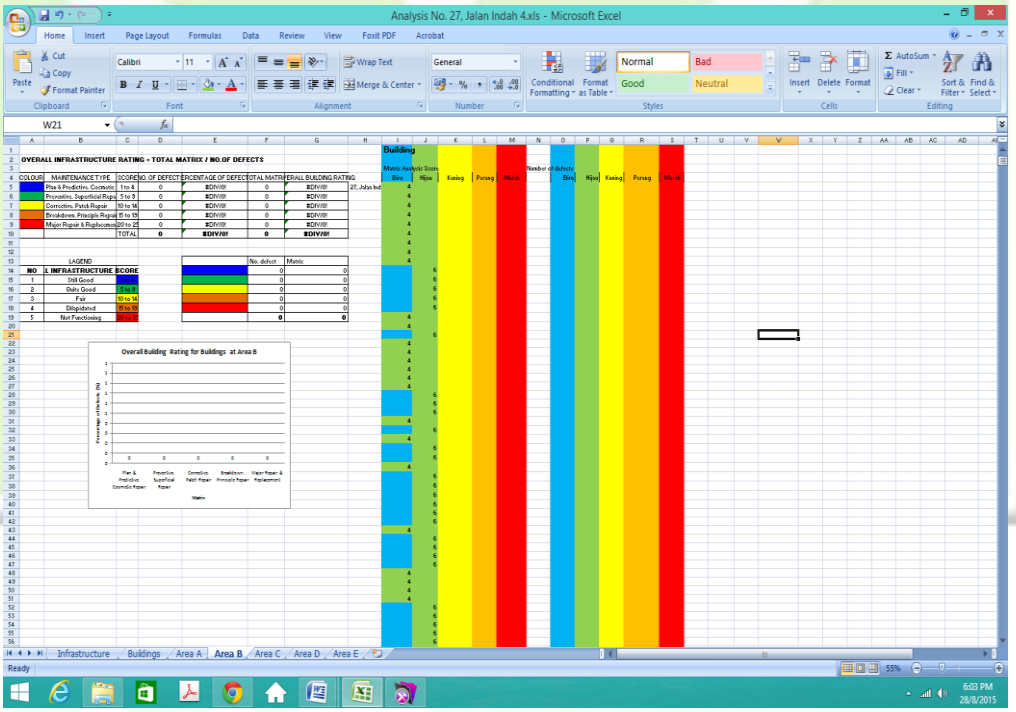
5. And paste on any coloured column under Matrix Analysis Score (better choose column most defect under which colour, just estimate)



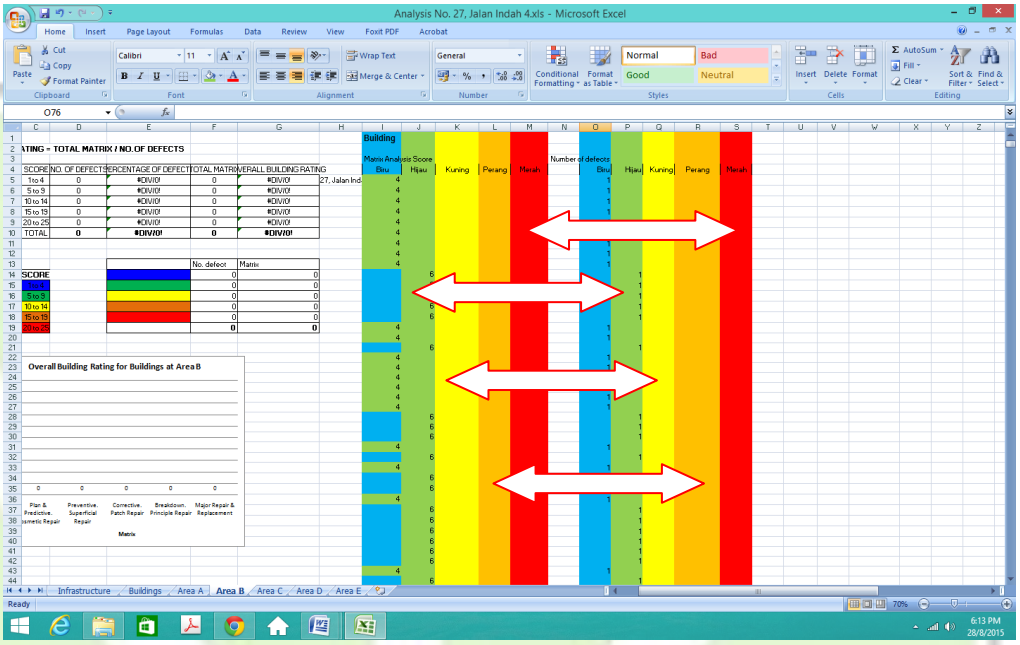
6. Now, MUST remember, each category under which colour

1-4: Blue	5-9: Green	10-14: Yellow	15-19: Orange	21-25: Red

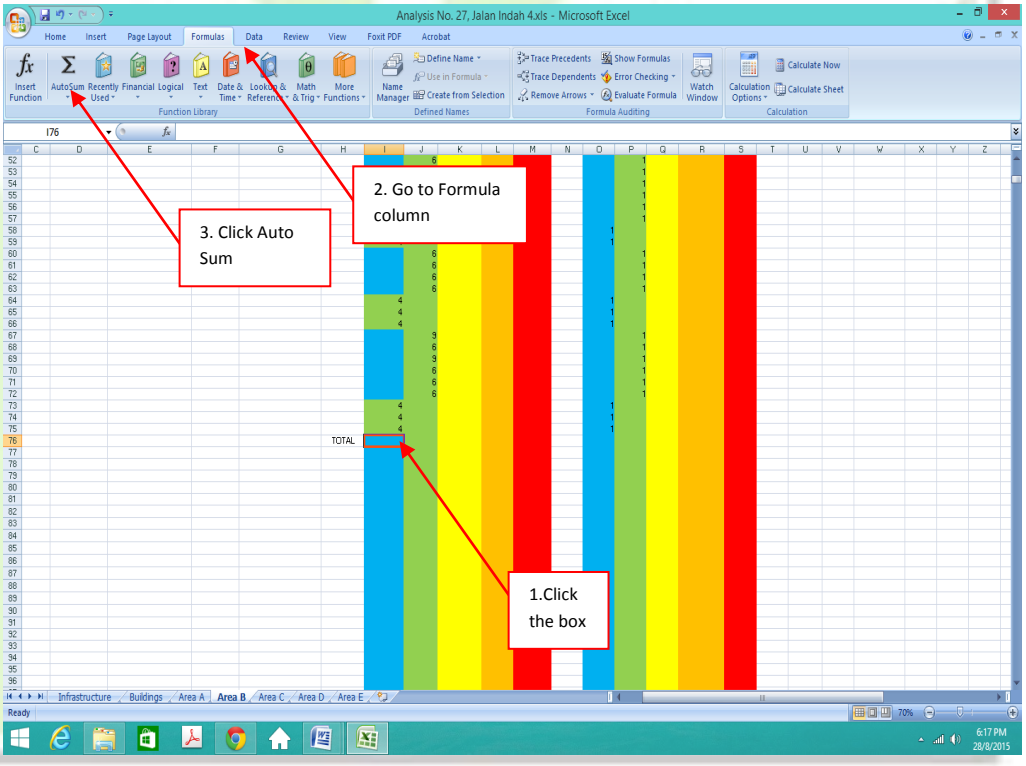
7. Then, categorize the number into the right column. Just copy and paste.



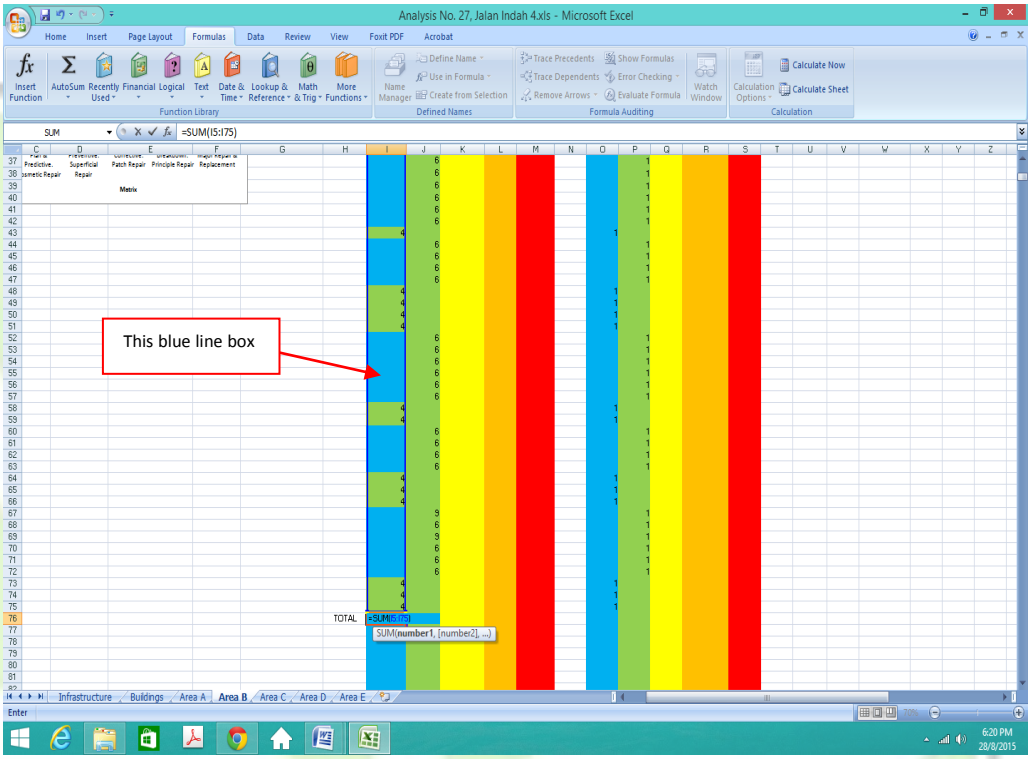
8. Next, for column Number of Defects, fill the column based on the colour from matrix colour, with number 1.



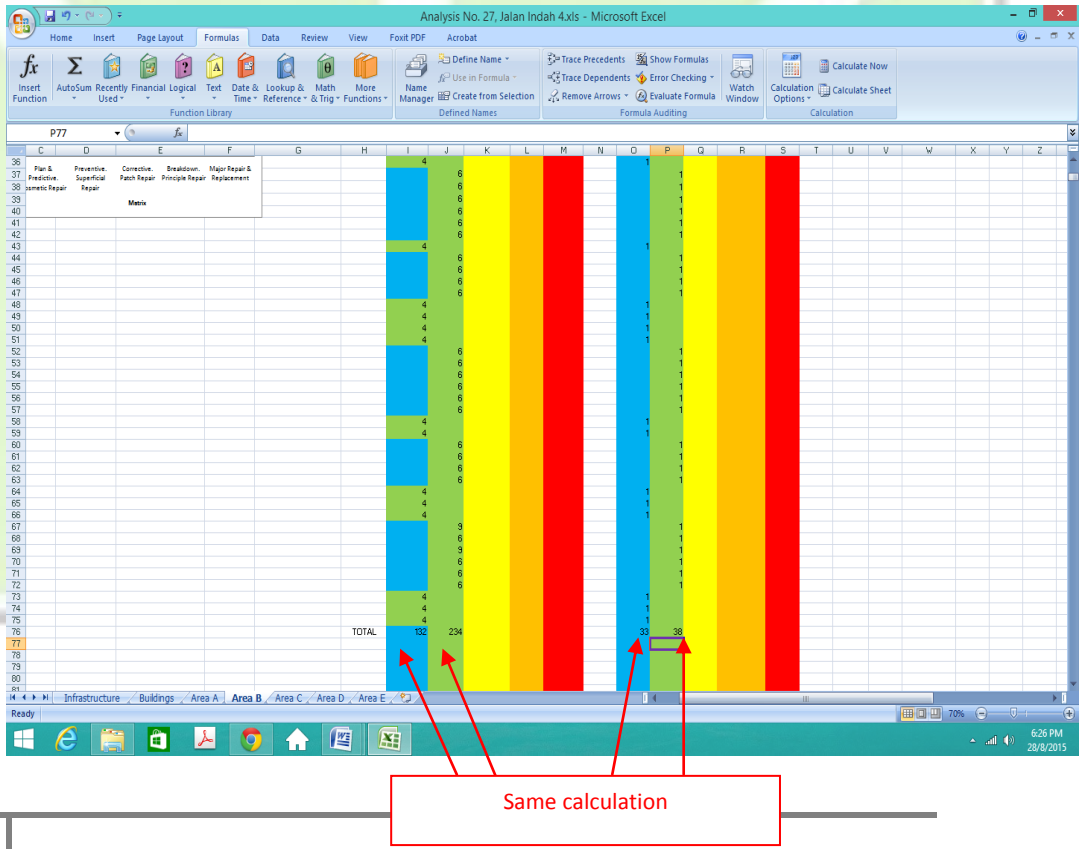
9. After key in everything, calculate Total



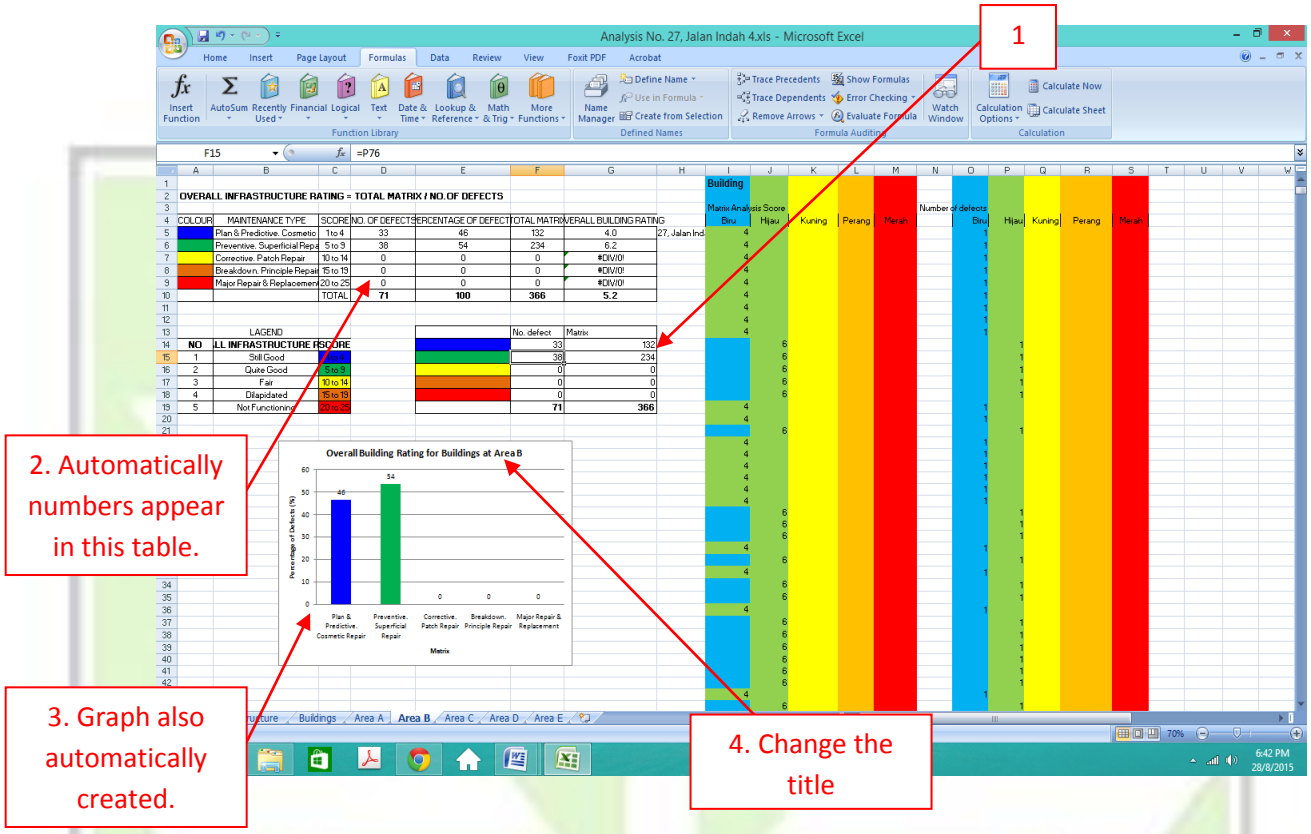
10. Drag the blue line box until all number under that column selected and calculated. Then pess enter. The amount will appear.



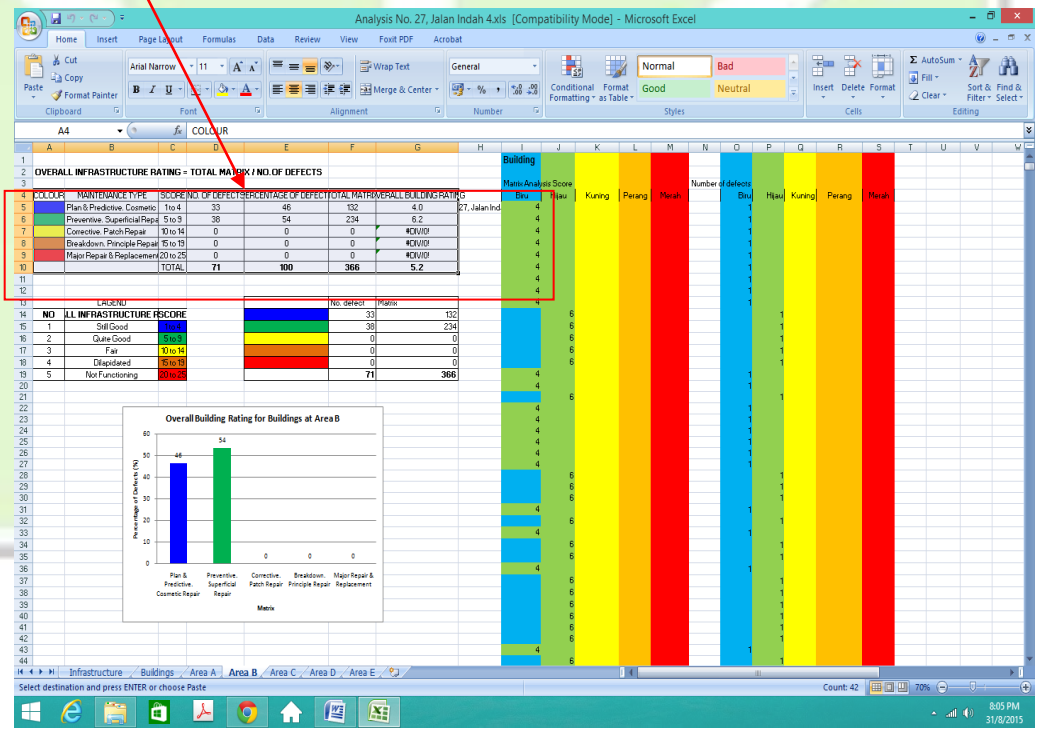
11. Do the same procedure for next column.



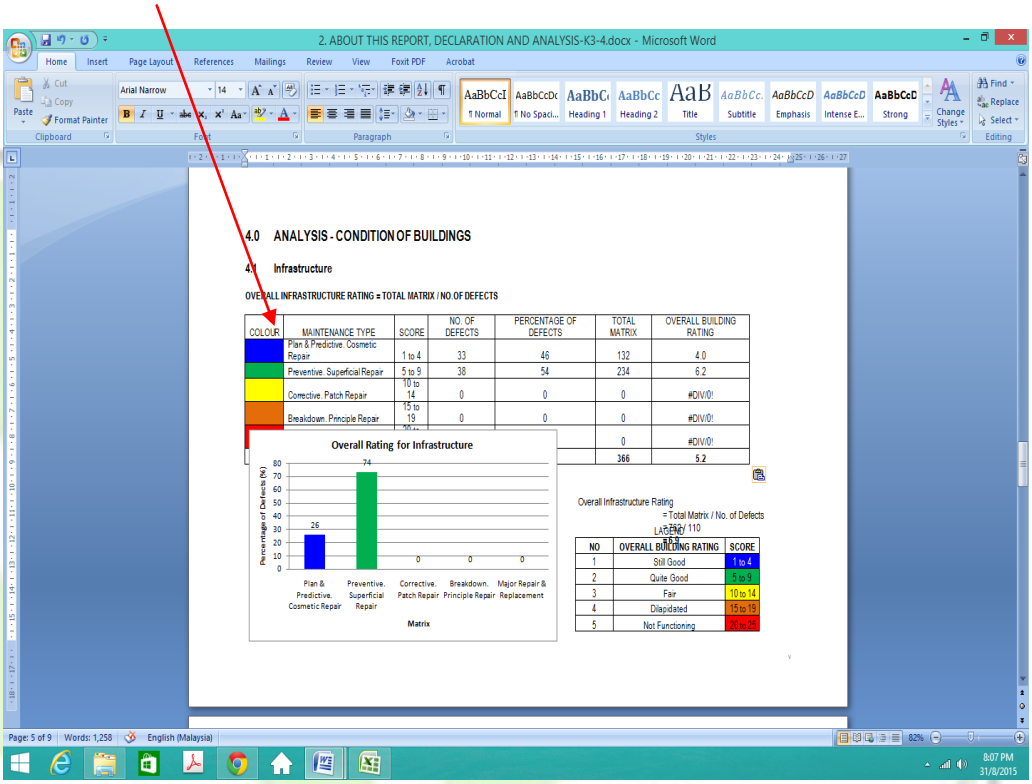
12. Finally key in the number to the table. (Do manually or fill in this box)



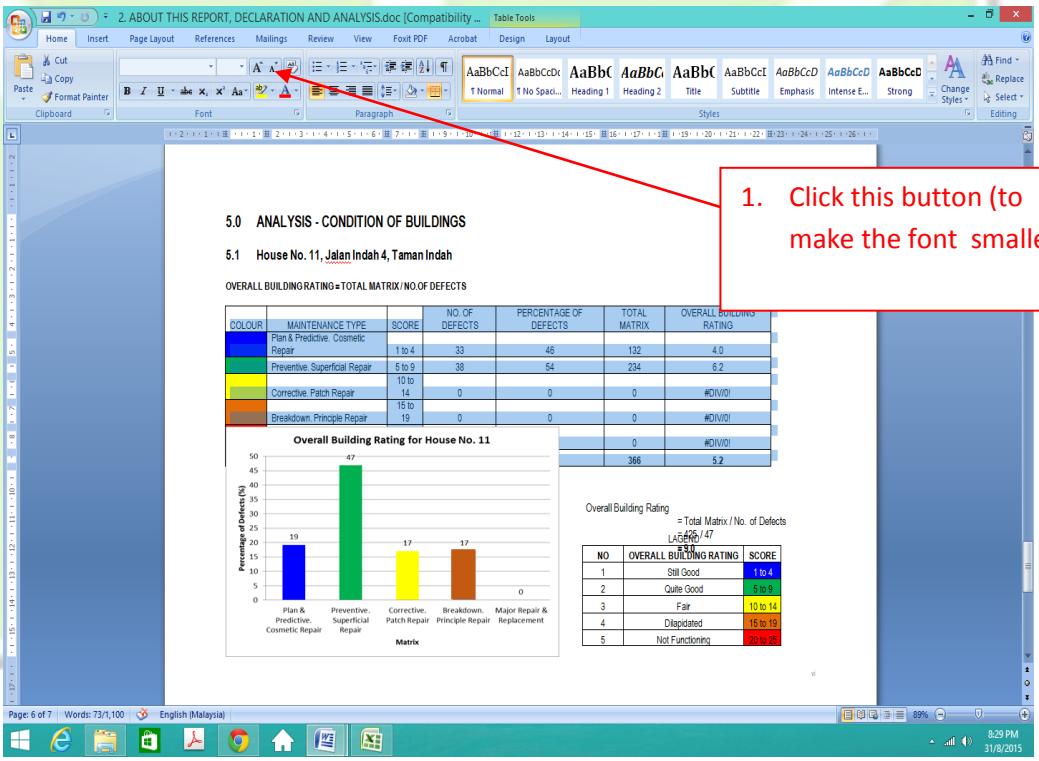
13. Then copy the table and open file<u>ABOUT THIS REPORT, DECLARATION AND ANALYSIS</u>.



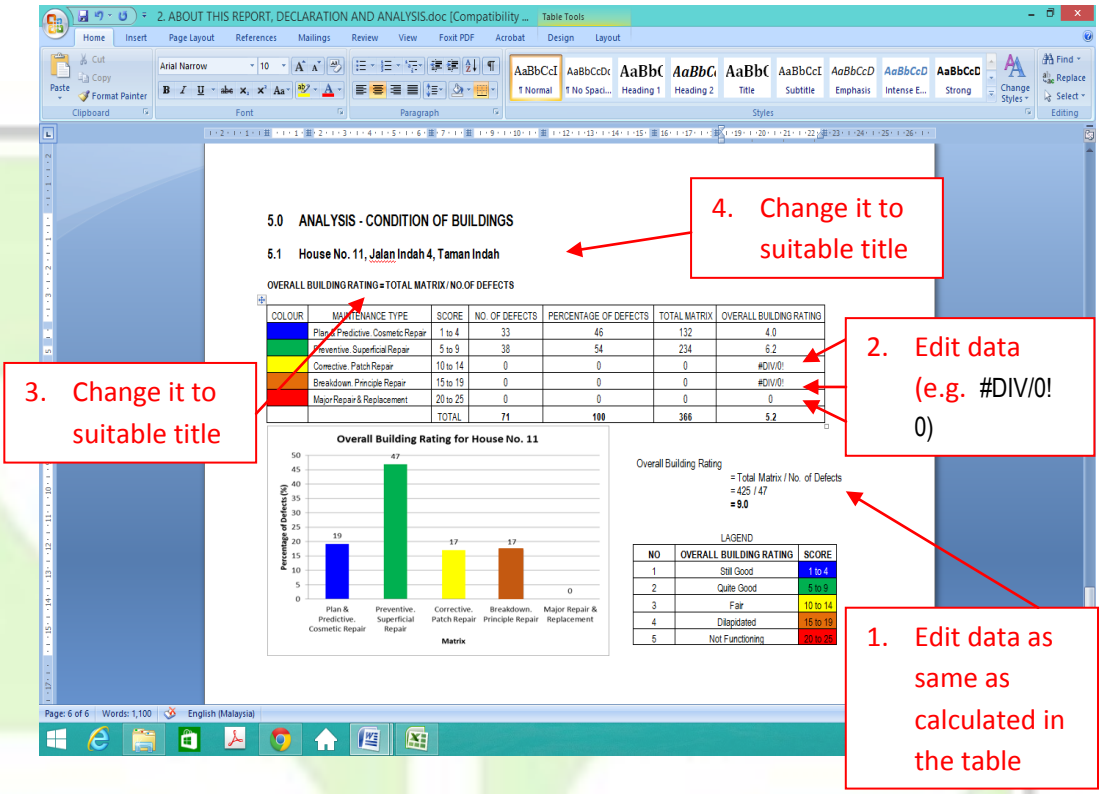
14. Then paste here



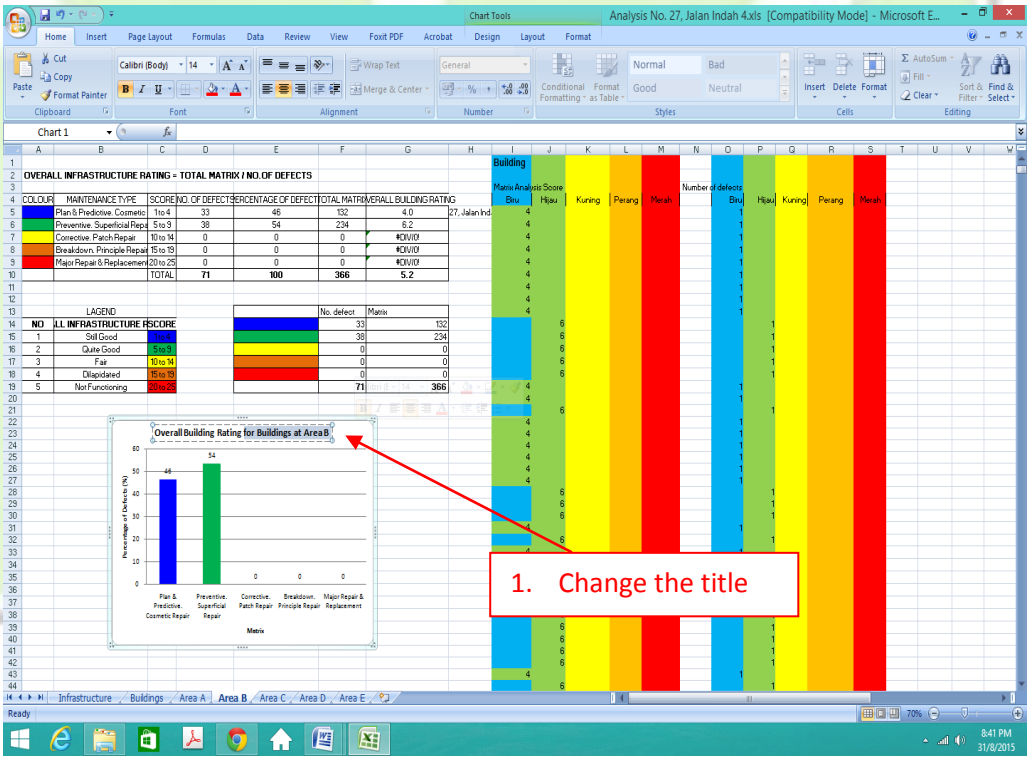
15. Then, select the table.



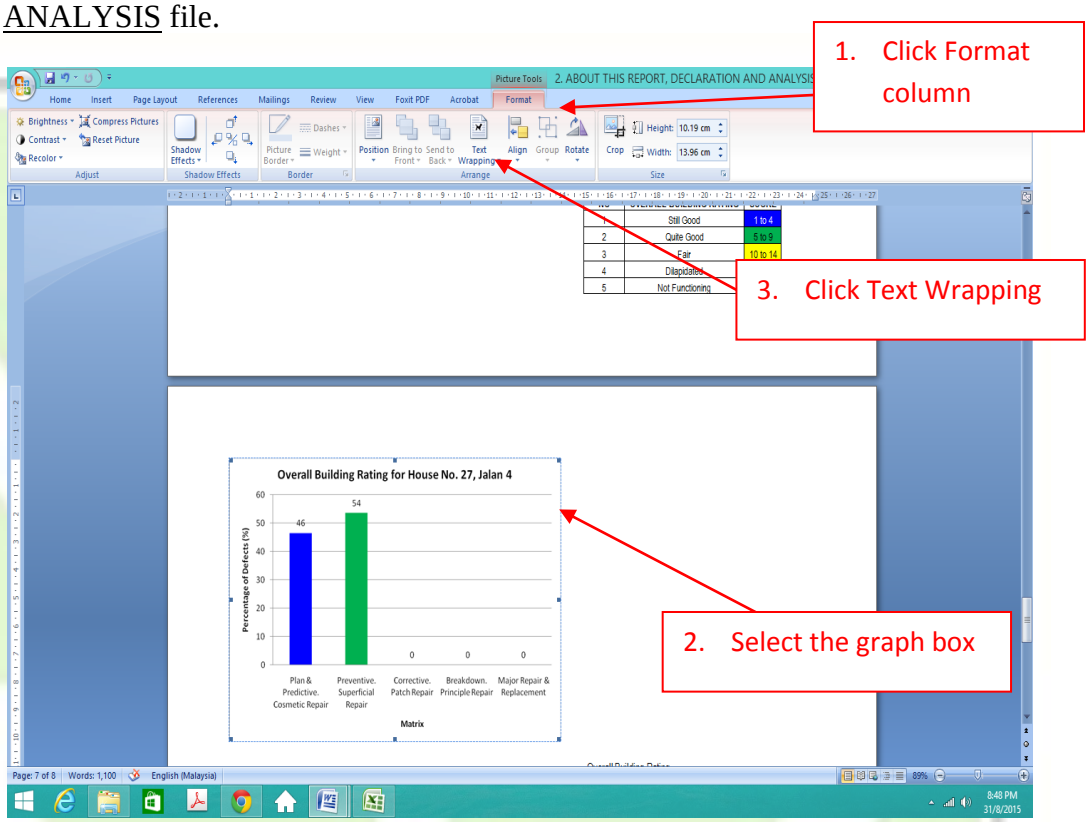
16. Next,



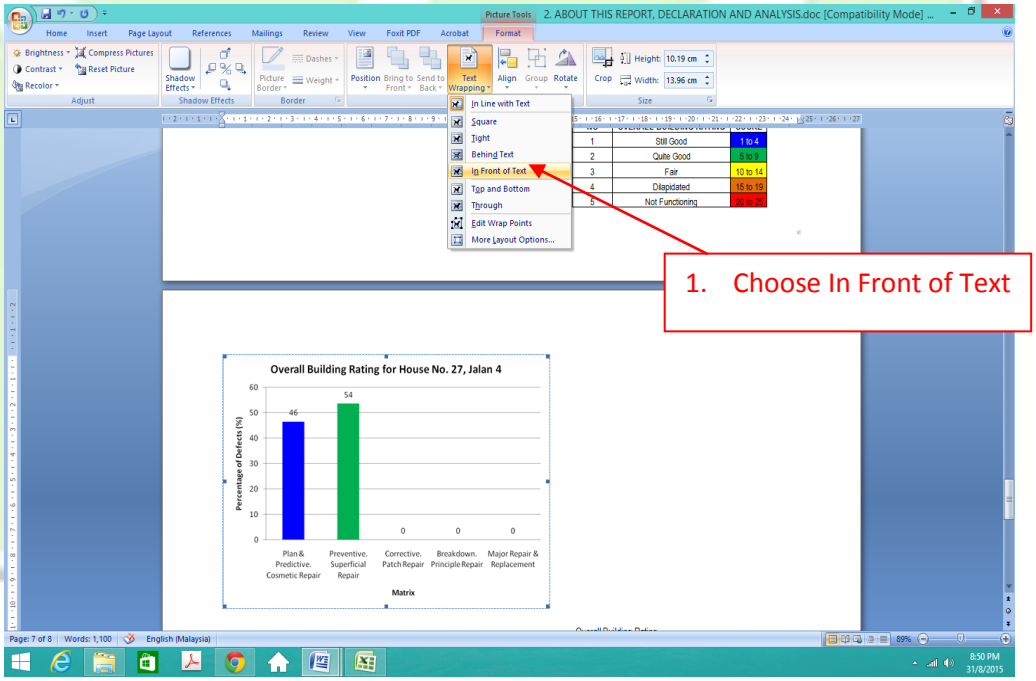
17. Lastly, method to copy and paste the graph. Go back to the analysis excel file. First, change the title according to the right one.



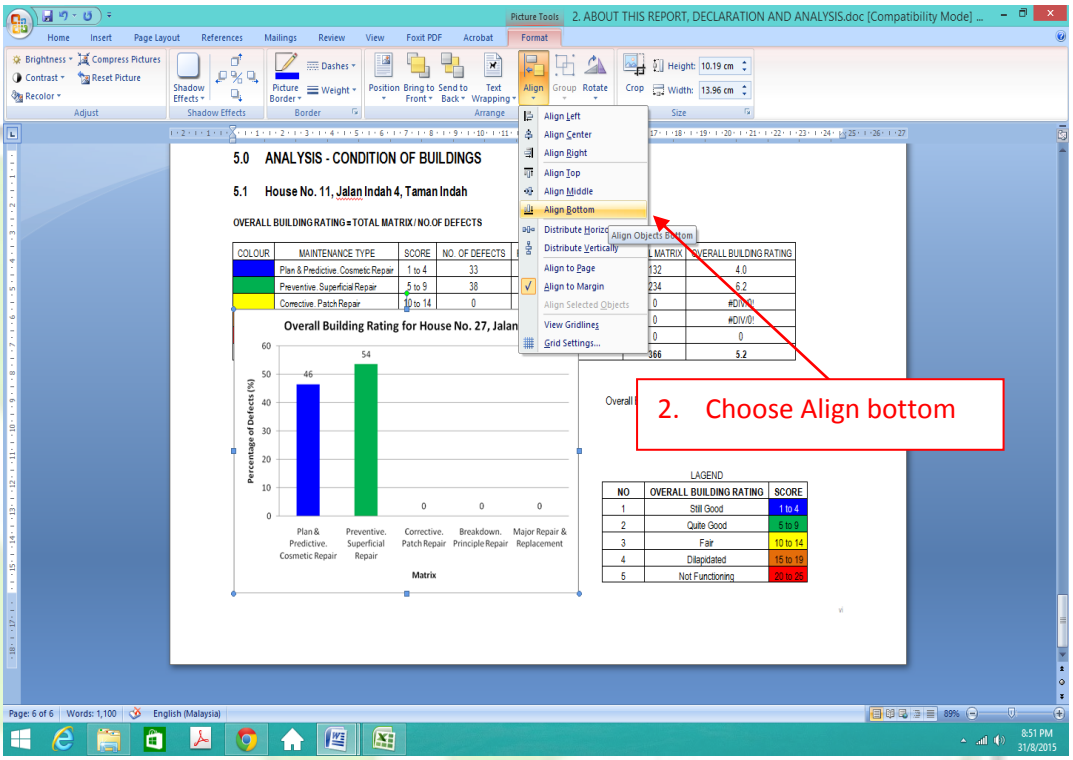
18. Paste the graph to <u>ABOUT THIS REPORT, DECLARATION AND ANALYSIS</u> file.



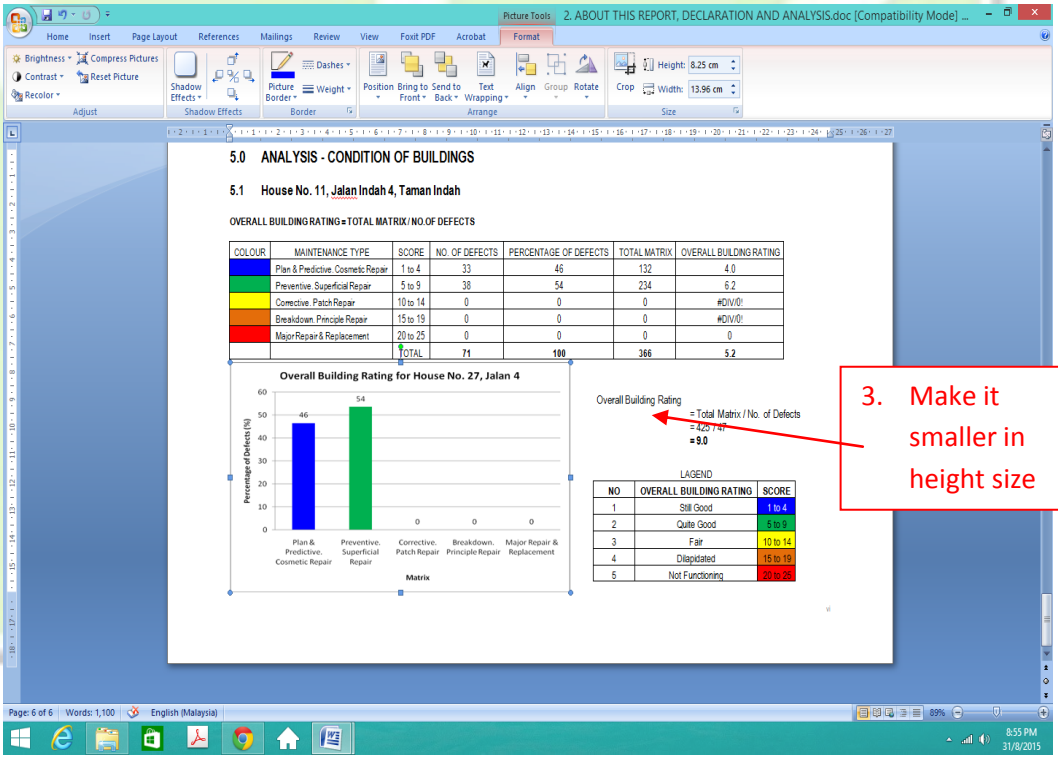
19.



20. Next, click on Align box.



21. Resize it and it's DONE.



3.13 Norms For Leader Role

- ✓ Understand about the project such name of project, duration, type of construction, date/schedule of work, and other related information;
- ✓ Prepare work schedules and grouping;
- ✓ Brief surveyors about the project;
- ✓ Prepare related documents : notices/letter, con-consent, project infra/building plan;
- ✓ Make sure all groups have a complete set of equipments;
- ✓ Remind surveyors dateline ;
- ✓ Remind each group photographer to do backup photos in PC;
- ✓ Check, compiled and prepare other document for submission.

3.14 Surveyor Role

- ✓ Improve Communication skill
- ✓ Improve teamwork skill
- ✓ Improve interpersonal skills
- ✓ Be responsible
- ✓ Be independent
- ✓ Be friendly
- ✓ Be dependability
- ✓ Be conscientious or diligent
- ✓ Be punctual
- ✓ Be honest and moderate
- ✓ Be more confident
- ✓ Be good or better person

3.15 Distribution Of Work

Surveyform maker	Drawer/Planner	Photographer
Before inspection		
✓ Make sure Tab/Ipad fully charged. ✓ Latest survey form installed.	✓ Make sure document such letters, etc provided. ✓ Prepare recycle papers.	✓ Make sure camera and all batteries fully charged. ✓ Test camera and date printed.
During inspection		
✓ Key in data in survey form	✓ Draw plan ✓ Take note/mark accessible or inaccessible buildings	✓ Take photo of defects ✓ Take photo of front building ✓ Take photo of working surveyor ✓ Help owner fill in consent form
After site visit/Office work		
✓ Completing survey form ✓ Convert *fmp* file to Excel for analysis	✓ Re-draw the plan using *Microsoft Words* ✓ Mark status of inspection ✓ Give to survey form maker the finished plans together with front picture	✓ Arrange photo and make a folder for each house ✓ Transfer photos into flash drive and give a copy to Survey form maker and Planner ✓ Keep a copy to desktop

		✓ Arrange front picture with address to all inaccessible buildings (Notice 1, 2 and 3)
When only 2 person in-charge	When only 2 person in-charge	
Together help each other		

CHAPTER 4

CASE STUDY:

(i) SRI TINGGI SDN BHD

(ii) MMC-SUMITOMO CONSORTIUM

SRI TINGGI SDN BHD

PAKEJ D49- PEMBINAAN RANGKAIAN PAIP PEMBENTUNGAN DI KAJANG 1 & KAJANG 3, KAJANG, SELANGOR. (REKA & BINA)

MMC-SUMITOMO CONSORTIUM

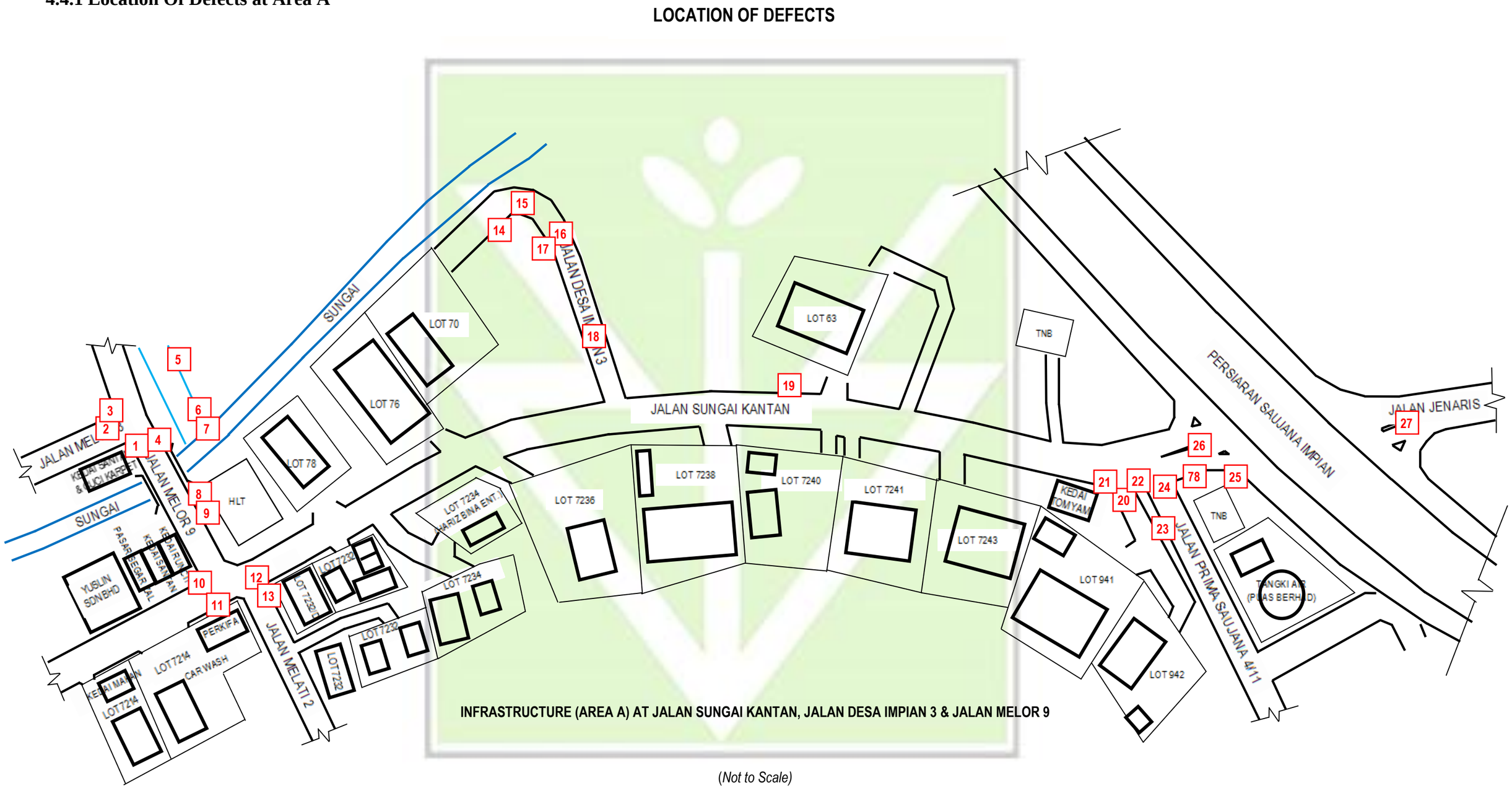
CADANGAN PEMBINAAN LANGAT CENTRALIZED SEWAGE TREATMENT PLANT & PENYAMBUNGAN RANGKAIAN PAIP PEMBENTUNGAN DI KAWASAN TADAHAN LEMBANGAN SUNGAI LANGAT SECARA REKA & BINA

4.4 INFRASTRUCTURE AREA A

JALAN SUNGAI KANTAN & JALAN JENARIS, 43000 KAJANG,

SELANGOR DARUL EHSAN

4.4.1 Location Of Defects at Area A



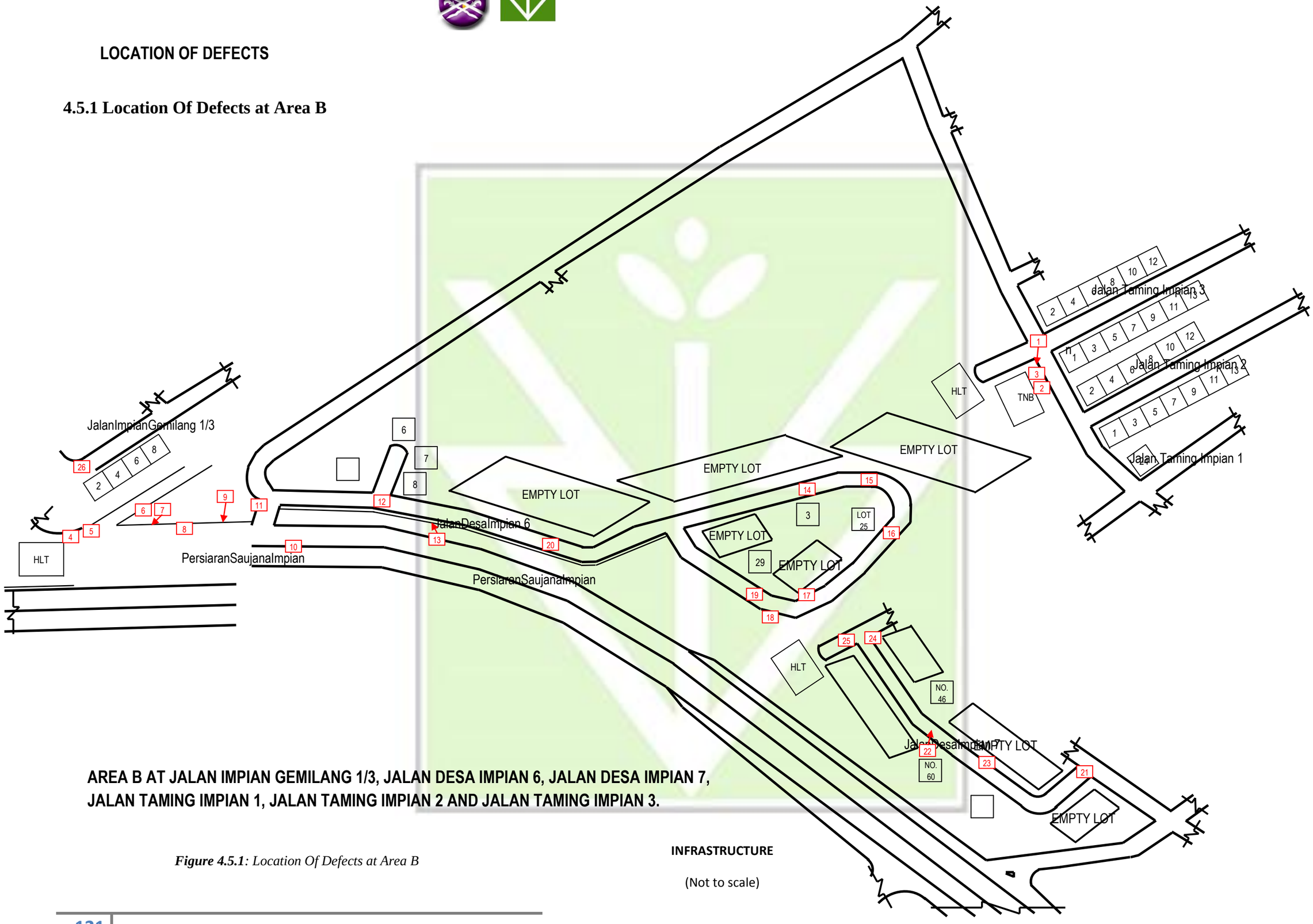
(Not to Scale)

***Figure 4.4.1**: Location Of Defects at Area A*

4.5 INFRASTRUCTURE AREA B AT JALAN IMPIAN GEMILANG 1/2, JALAN DESA IMPIAN 6, JALAN DESA IMPIAN 7 AND JALAN TAMING IMPIAN 1, JALAN TAMING IMPIAN 2 AND JALAN TAMING IMPIAN 3

LOCATION OF DEFECTS

4.5.1 Location Of Defects at Area B



AREA B AT JALAN IMPIAN GEMILANG 1/3, JALAN DESA IMPIAN 6, JALAN DESA IMPIAN 7, JALAN TAMING IMPIAN 1, JALAN TAMING IMPIAN 2 AND JALAN TAMING IMPIAN 3.

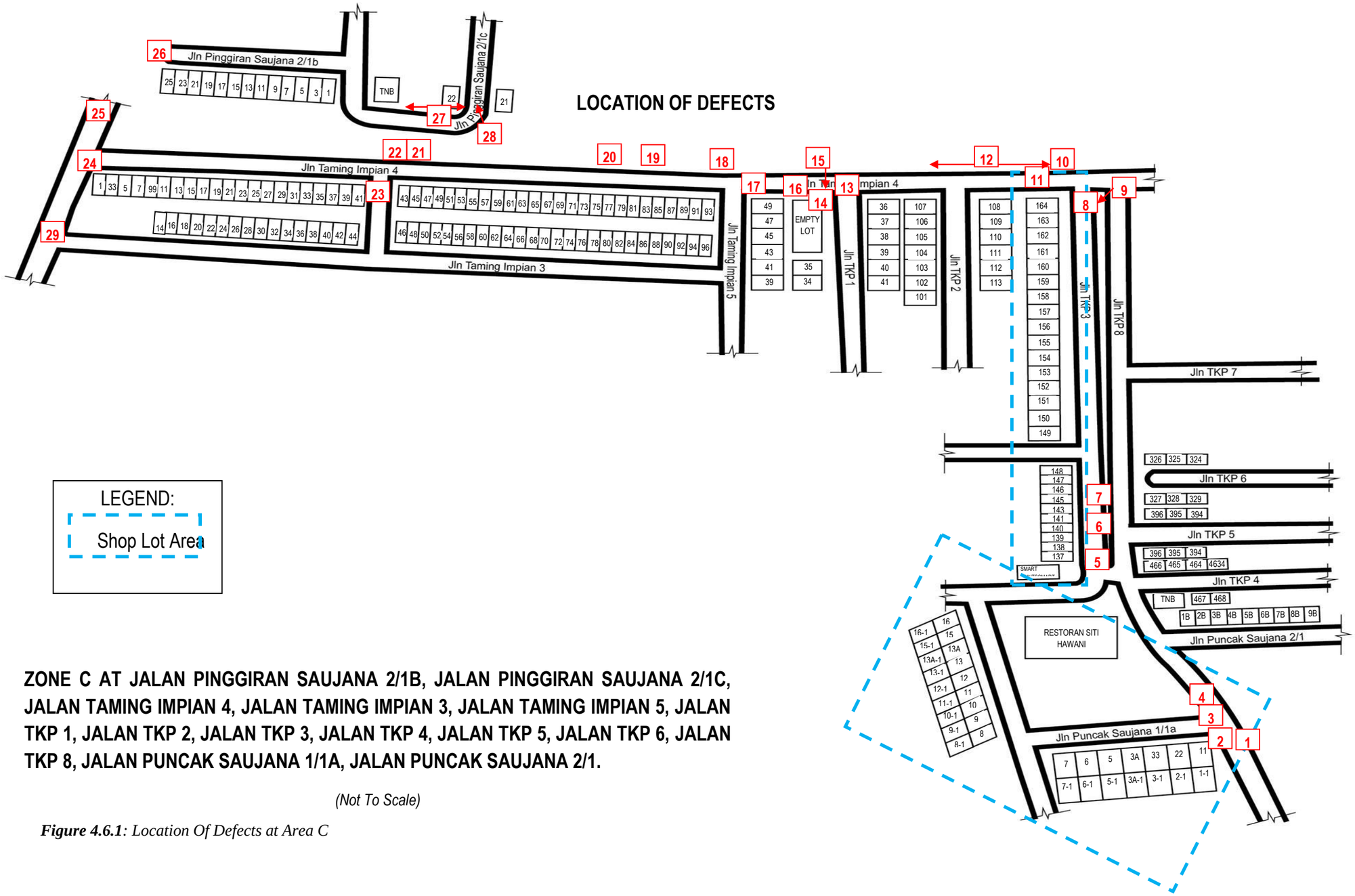
***Figure 4.5.1**: Location Of Defects at Area B*

INFRASTRUCTURE

(Not to scale)

4.6 AREA C AT JALAN PINGGIRAN SAUJANA 2/1B, JALAN PINGGIRAN SAUJANA 2/1C, JALAN TAMING IMPIAN 4, JALAN TAMING IMPIAN 3, JALAN TAMING IMPIAN 5, JALAN TKP 1, JALAN TKP 2, JALAN TKP 3, JALAN TKP 4, JALAN TKP 5, JALAN TKP 6, JALAN TKP 8, JALAN PUNCAK SAUJANA 1/1A, JALAN PUNCAK SAUJANA 2/1.

4.6.1 Location Of Defects at Area C



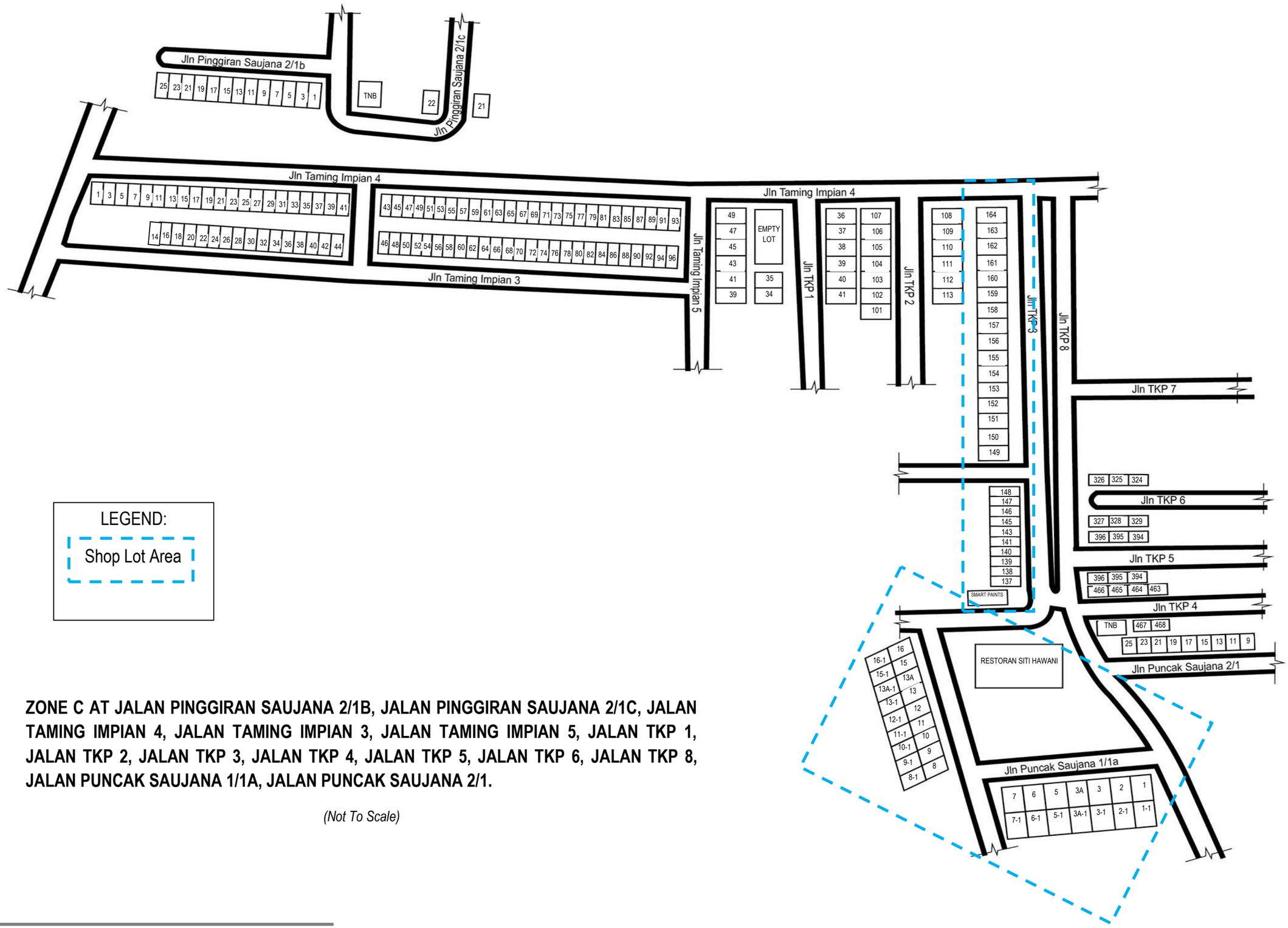
LEGEND:

Shop Lot Area

ZONE C AT JALAN PINGGIRAN SAUJANA 2/1B, JALAN PINGGIRAN SAUJANA 2/1C, JALAN TAMING IMPIAN 4, JALAN TAMING IMPIAN 3, JALAN TAMING IMPIAN 5, JALAN TKP 1, JALAN TKP 2, JALAN TKP 3, JALAN TKP 4, JALAN TKP 5, JALAN TKP 6, JALAN TKP 8, JALAN PUNCAK SAUJANA 1/1A, JALAN PUNCAK SAUJANA 2/1.

(Not To Scale)

***Figure 4.6.1**: Location Of Defects at Area C*



LEGEND:

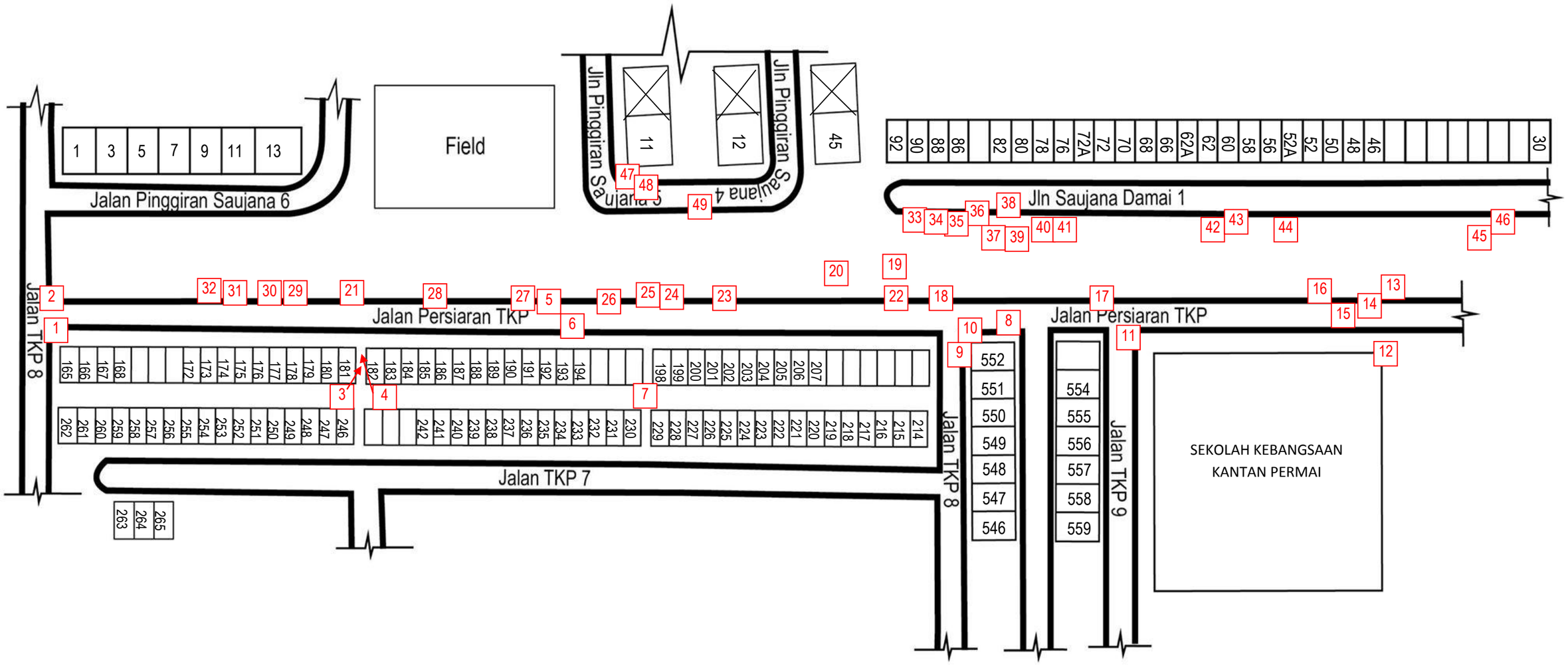
Shop Lot Area

ZONE C AT JALAN PINGGIRAN SAUJANA 2/1B, JALAN PINGGIRAN SAUJANA 2/1C, JALAN TAMING IMPIAN 4, JALAN TAMING IMPIAN 3, JALAN TAMING IMPIAN 5, JALAN TKP 1, JALAN TKP 2, JALAN TKP 3, JALAN TKP 4, JALAN TKP 5, JALAN TKP 6, JALAN TKP 8, JALAN PUNCAK SAUJANA 1/1A, JALAN PUNCAK SAUJANA 2/1.

(Not To Scale)

4.7 AREA D AT JALAN PINGGIRAN SAUJANA , JALAN PINGGIRAN SAUJANA 5, JALAN PINGGIRAN SAUAJNA 6, JALAN SAUJANA DAMAI 1, JALAN PERSIARAN TKP, JALAN TKP 7, JALAN TKP 8, JALAN TKP 9

LOCATION OF DEFECTS



ZONE D AT JALAN PINGGIRAN SAUJANA , JALAN PINGGIRAN SAUJANA 5, JALAN PINGGIRAN SAUAJNA 6, JALAN SAUJANA DAMAI 1, JALAN PERSIARAN TKP, JALAN TKP 7, JALAN TKP 8, JALAN TKP 9.

(Not To Scale)

***Figure 4.7.1**: Location Of Defects at Area D*

INFRASTRUCTURE AREA E

LOCATION OF DEFECTS

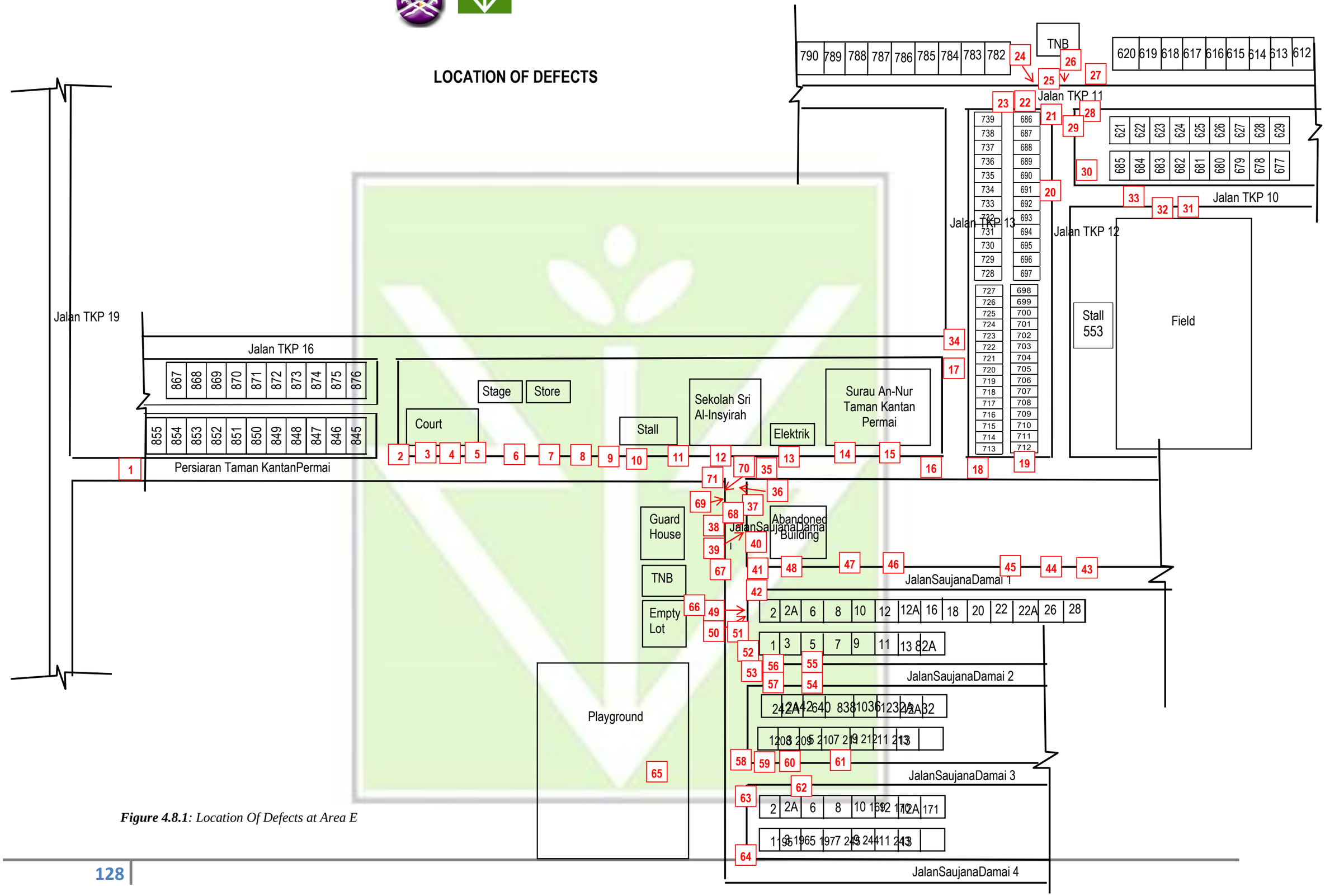
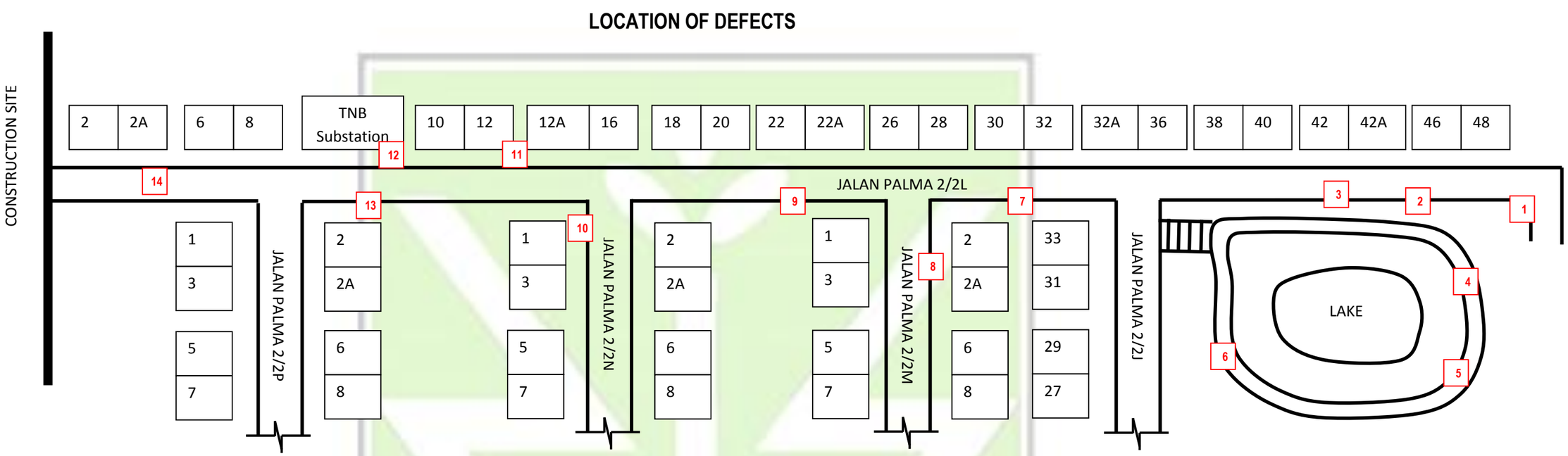


***Figure 4.8.1**: Location Of Defects at Area E*

INFRASTRUCTURE AREA F



INFRASTRUCTURE TWIN PALMS, KAJANG

(*Not to Scale)*

***Figure 4.9.1**: Location Of Defects at Area F*

CHAPTER 5

Comment & Recommendation

5.0 Comment

First of all, when the surveyor wants to do the inspection, many building owner or tenant does not give any feedback. If anything happened to their building during the construction, those houses that not inspected cannot claim from the main contractor, MMC-Sumitomo.

In a different situation, the building owner or tenant also did not give respond even though inspectors explain about the upgrading of sewerage system. Another building owner or tenant, after surveyors inspect their building, they refuse to sign the consent form. They asked for a copy of the report. But we could not give since our contract with main contractor, not the building owner. If wanted to, they have their own procedure to get it.

In addition, the problem that I faced during the site visit for building inspection, which are the problem with the camera and tablet, when surveyor using the equipment's.

Notices or letter for building owner/tenant telling about the project are not enough to distribute in the surrounding area.

5.1 Recommendation

Based on the observation and inspection work, I figure a few suggestions for the inspection works such as:

- ✓ Must make sure the battery is fully charged for the camera before go to the site inspection.
- ✓ Bring an extra battery or equipment for unforeseen cases. Such as a packet of battery.
- ✓ Provides more notices or letter for building owner/tenant telling about the project also should be enough or extras.
- ✓ They asked for a copy of the report, if they want it there have their own procedure to get it. Besides, they can call the contractor by themselves to prove it. Because we also attached an information about the contractor.

CHAPTER 6

Conclusion

6.0 Conclusion

I am proudly representing the Jasa Sendi (M) Sdn. Bhd as Building Consultant and Inspection Services of as my case study for Practical Training (BSB 351). There are tons of information that I must find and collect through a few ways regarding to the several chapters such as company background, building background, and how building consultant goes through their project according to the desired of contractor (MMC-Sumitomo). The method to get the information is by general research, observation, interview session and from lecturer notes.

Besides that, Jasa Sendi (M) Sdn. Bhd is responsible to manage smoothly their project with a staff of Jasa Sendi according to the family members are involved. The schedule of the project, which is ongoing work is done properly by dividing for each team for site visit's schedule and area involved that stated by contractor. It is to ensure the entire site visits are run smoothly without any unforeseen circumstances. By the great project manager plan, the strategy is created to suit the site visit desired and can avoid the future problem.

Finally, the case study for this practical report consists of building such apartment, shop houses and terrace houses. About four months in practical training have been giving me a lot of knowledge and much experience about the construction.