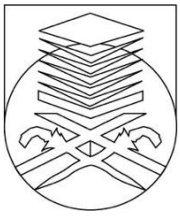

CENTER OF STUDIES IN BUILDING SURVEYING

FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING

UNIVERSITI TEKNOLOGI MARA

SERI ISKANDAR

PERIODICAL BUILDING INSPECTION UNDER ACT 133 AT SUMMIT SUBANG USJ

NURUL AIN AISYAH BINTI

ZULKIFLI

(2019660122)

BACHELOR OF BUILDING SURVEYING (HONS.)

PRACTICAL TRAINING REPORT

FEBRUARY 2021

CENTER OF STUDIES IN BUILDING SURVEYING
FACULTY OF ARCHITECTURE, PLANNING AND SURVEYING
UNIVERSITI TEKNOLOGI MARA
SERI ISKANDAR

PERIODICAL BUILDING INSPECTION UNDER ACT 133 AT SUMMIT SUBANG USJ

FEBRUARY 2021

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

PREPARED BY

NAME : NURUL AIN AISYAH BINTI ZULKIFLI

SIGNITURE : ……

SUPERVISING LECTURER

NAME : SR HASNAN BIN HASHIM

SIGNITURE : ……

DATE : 30 JANUARY 2022

ACKNOWLEDGEMENT

AlhamdullilIah, I wish to express my greatest gratitude to the Almighty God with those grace and blessing for giving me an opportunity in completing another chapter of my life. I would like to express my special thanks and gratitude to my supervisor Miss Syufa Syahidah Mohd Shukri and advisor Sr. Dr Hasnan Hashim for their continuous support on my report study and research as well as their patience, motivation and immense knowledge. In addition, thanks to my friends, classmates, housemates and person who directly involved for giving me a guidance and idea as well as provide suggestion in completing the task given. I also would like express my deepest appreciation to my family especially both my parents Zulkifli Awang Noh and Siti Zanariah Abu Bakar for their continuous support and spirit until this report can be complete within the period given. Last but not least, these project helps me to know so many things especially for the selected topic which is Periodical Building Inspection Within Act 133 at Summit Subang USJ. I also gain new knowledge and facts about the selected topic for this study.

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CHAPTER 1 – INTRODUCTION

1.1 ABOUT THE COMPANY

AMAS FM CONSULTANT SDN. BHD is generally founded on 9th August 2012. The company is registered under Royal Institution of Surveyors Malaysia (RISM) and perform as Building Survey consultant. The company mainly participated around 20-30 staffs. AMAS FM has the speciality in covering the works such as for Building Operation and Space Management Audit, Asset Inventory, Building Hand-over and Building Condition Assessment. The main objective of the company basically to provide an enhanced knowledge and experience in terms of Physical Asset Management in Malaysia. As well as introducing an experience, knowledge, services and co-operate with public and private sectors which parallel with current Built-Environment Industry.

1.2 COMPANY INFORMATION

Company Name	:	**AMAS FM CONSULTANT SDN.BHD.**
Registered Address	:	**No.55-A Jalan Udang Kara 31, Off Jalan Hassan, Sungai Udang,41250 Klang Selangor.**
Telephone No.	:	**03-38853230 (Office)**
Hand Phone/ WhatsApp/ SMS No	:	**019-2822820 (Sr. Ts. Dr. Abdul Mutalib)**
Email Address	:	**amasfm@gmail.com**
Website	:	**www.amasfm.my**

1.3 COMPANY SERVICES

1. Asset Management	• Asset Register • Asset Condition Assessment
2. Facility Management	• Operation and Maintenance Planning • O & M Costing
3. Project Management	• Refurbishment works
4. Space Management	• Inventory • Space Audit
5. Building Surveying & Building Audit	• Building Inspection • Building Condition Survey & Building Audit • Defect Listing • Building Dilapidation Schedule • Hand-over Building
6. FM Training	• Audit Space • Management Space • Asset Register • Inventory / Asset Listing • Assessment / Inspection of Building Conditions

1.4 TRAINEE SERVICES

Department Served	:	**AMAS FM CONSULTANT SDN.BHD.**
Training Duration	:	**11th October 2021 – 30th January 2022 (4-month)**
Scope of Given	:	• **Building Condition Assessment (BCA)** • **Space Inventory** • **Building Scanning Using FARO and Matterport Technology** • **Documenting**

1.5 COMPONY LOGO, VISIONS, AND MISSION

Logo

AFC
AMAS FM CONSULTANT

Vision

'To be a premier Professional Bumiputra Asset Management Consultancy in-line with our customer and national Vision.'

Mission

'To upgrade the Facilities Management and Optimizing Asset utilisation in a professional manner adopting industry's best practice, thus giving added value to our customer.'

1.6 COMPANY ORGANIZATION CHART

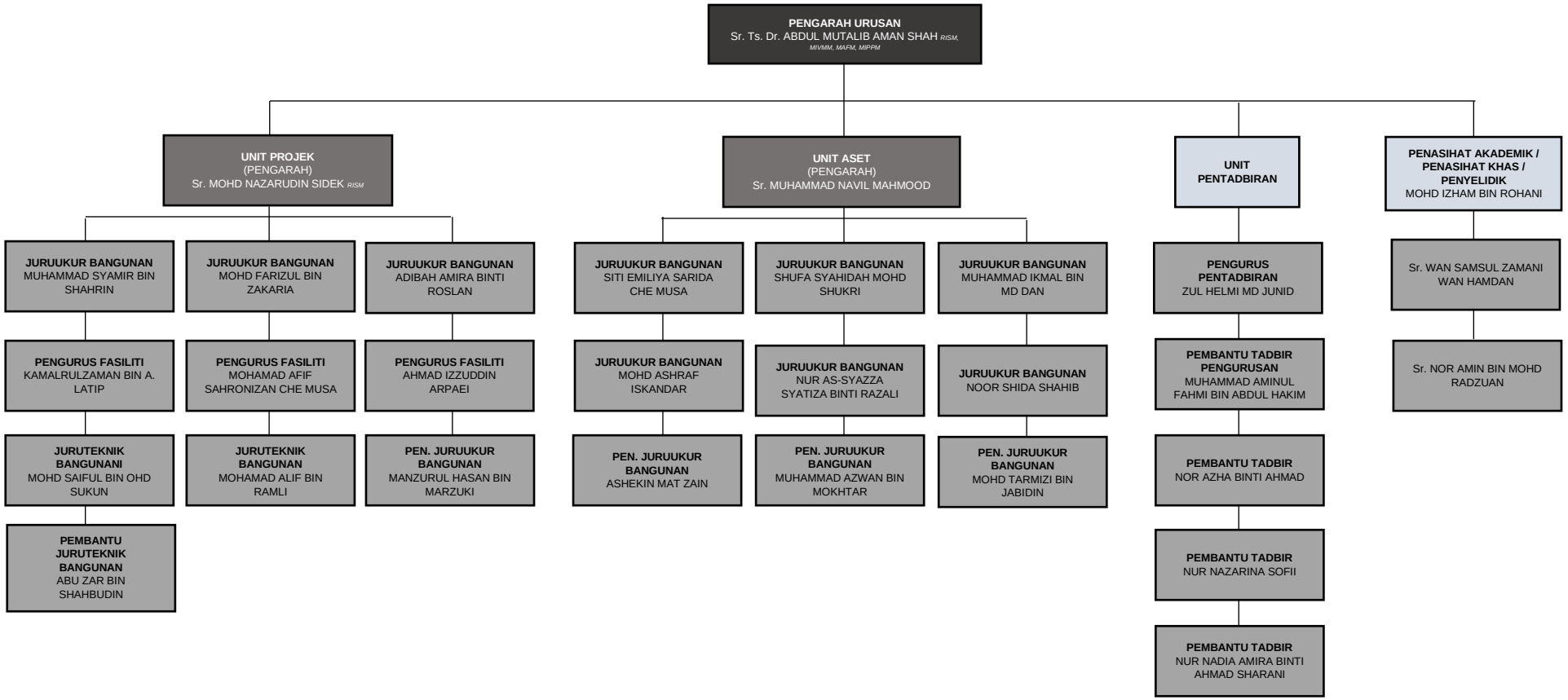


Figure 1.1: *AMAS FM Organization Chart*

1.7 LOCATION AND SITE PLAN

Location Plan

Figure 1.2*: AMAS FM Consultant Location*

Site Plan

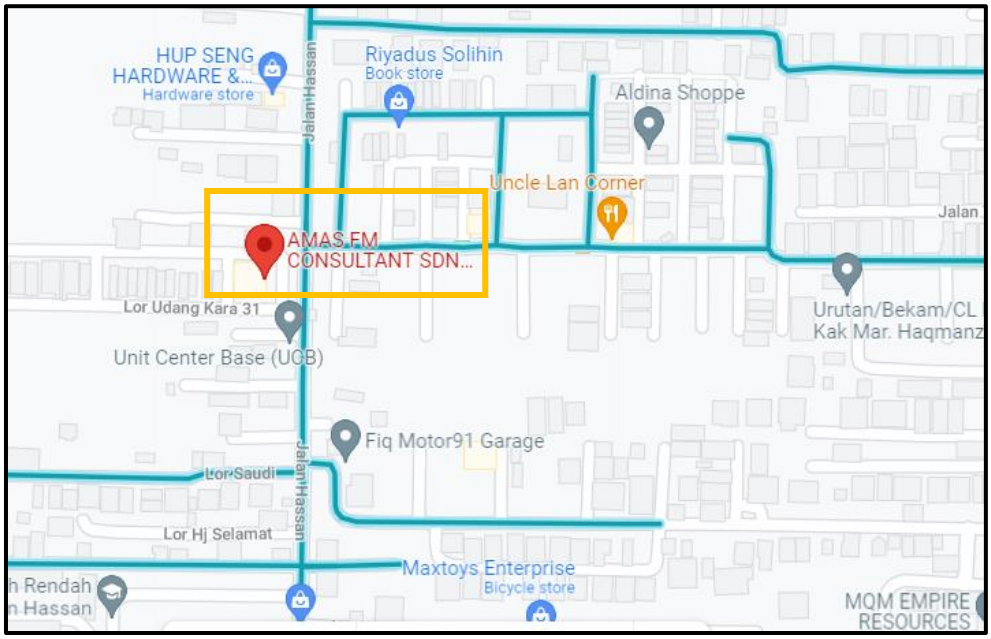


Figure 1.3*: AMAS FM Consultant Site Plan*

1.8 BUILDING VIEW

Figure 1.4*: AMAS FM Consultant Building View*

1.9 COMPANY PREVIOUS PROJECT

1. Periodic Building Inspection at Summit Subang USJ 2021
2. Building Inspection for Defect Liability Period at Setia Eco Glades Cyberjaya 2021
3. Building Condition Assessments at 'Institut Tadbiran Awam Negara Wilayah Timur (INTIM) 2020.
4. Building Condition Assessment at Archaeology Museum, Lembah Bujang 2020.
5. Dilapidation Survey Report at Kampong Bharu, Kuala Lumpur 2020.

1.10 SUMMARY

AMAS FM CONSULTANT is a company which very committed in conducting work under Building Surveying work scope. The work can be considered as dynamic since it covers many types of work suitable with current Malaysia's building development Industry. With the support and experience among team members, AMAS FM CONSULTANT is very dedicated to present future policy and strategy in overcoming building issue and problem that may arise.

CHAPTER 2 – LITERATURE REVIEW

2.1 PERIODICAL BUILDING INSPECTION UNDER ACT 133 / 85A

- **Periodical Inspection**

Refer as an inspection which determined the current condition of targeted buildings, facilities and infrastructure. This type of inspection is very important for local authority in order to provide the report of compliance under Street, Drainage and Building Act 1974 (Act 133) Section 85A, UBBL 1984 and standard of maintenance.

- **Periodical Building Inspection Under Act 133 / 85A**

Under Act 133 / 85A, it is mandatory for buildings that are more than 5-storey in terms of height and more than 10-years operation after commencing from the date of issue of Certificate of Fitness (CF) / Certificate of Completion and Compliance (CCC) to run a periodical inspection by a Professional Engineer. A building surveyor also can be considered as a certified person to run the inspection (Majlis Bandaraya Subang Jaya, 2017). A periodical inspection can help to ensure that every building structure is maintained accordingly. Since, it can provide safe and secure conditions for building users for continuous occupation. At the same time, any defect that occur due to maintenance failure can be treated within no time.

- **Related Clause Under Act 133 / 85A**

(1) In this section— “engineer” means a Professional Engineer registered under the Registration of Engineers Act 1967 [Act 138];

“owner” means owner of a building and in relation to a subdivided building includes owners of parcels of the building.

(2) This section shall apply only to a building exceeding five storeys and any storey of a building which is or at a level lower than the ground storey shall be deemed to be a storey.

(3) The local authority may, without prejudice to its powers under section 83, by a notice in writing served on the owner of a building, require the building to be inspected—

(a) after the tenth year commencing from the date the certificate of completion and compliance in respect of the building was issued; and

(b) thereafter at intervals of not more than ten years from the date of the completion of the last inspection of the building under this section.

(4) The owner of a building shall, upon receipt of a notice under subsection (3), cause the building to be inspected within the time specified in the notice by an engineer to be appointed by him.

(5) If the notice under subsection (3) is not complied with the local authority may inspect the building or cause the building to be inspected by an engineer appointed by it and recover all expenses reasonably incurred by it in doing so from the owner of the building.

(6) An engineer carrying out an inspection under this section shall inspect the building in the manner prescribed in the by-laws which shall take into consideration the following:

(a) a visual inspection of the building, including a visual survey of the condition of the building and its structural elements and any addition or alteration to the building and its structural elements;

(b) the preparation and submission to the local authority of a report of the result of the visual inspection;

(c) if, after having considered the results of the visual inspection, the engineer reasonably suspects or is of the opinion that there is a defect, deformation or deterioration in the building or its structural elements as will or will likely endanger or reduce the structural stability or integrity of any part of the building he shall request for permission from the local authority to carry out a full structural investigation on the building including investigation in respect of its structural elements;

(d) if the local authority allows the request made under paragraph (c) the engineer shall carry out a full structural investigation which shall include the following:

(i) taking all reasonable steps in obtaining information relating to the design, erection, maintenance and history of the building;

(ii) checking with reasonable diligence the structural plans of the building together with its structural calculations, or if the plans or calculations are not available to reconstruct such plans and calculations where the local authority so requires, with a view to determine any inadequacy in the structural elements of the building;

(iii) carrying out tests on the structural elements of the building without damaging any part thereof;

(iv) carrying out tests on the building materials; and

(v) carrying out load testing of such parts of the building as the engineer considers necessary; and

(e) the engineer shall thereafter prepare and submit to the local authority a report of the full structural investigation and his recommendations.

(7) An engineer carrying out an inspection or a full structural investigation on a building shall be entitled at all reasonable times to full and free access to the building and any part thereof he is required to inspect or investigate and any person who hinders, obstructs or delays him in the performance of his duty shall be guilty of an offence.

(8) Without prejudice to the right of the local authority to exercise its powers and recover expenses under this section, any owner of a building who contravenes or fails to comply with a notice under subsection (3) shall be guilty of an offence.

(9) The State Authority may by order, in the Gazette, provide for the application of this section with such adaptations or modifications as may be specified therein to buildings in respect of which no certificate of completion and compliance has been issued.

(10) The local authority may, if it is satisfied after evaluating the visual inspection report submitted under paragraph (6)(b) or the full structural investigation report and recommendations of the engineer submitted under paragraph (6)(e),— (a) accept it in full; (b) reject it; (c) accept part of it; or (d) obtain a second opinion on it.

(11) The local authority may thereafter—

(a) issue an order to the owner of the building to take the necessary measures to rectify or remedy any defect, deformation or deterioration as recommended by the engineer within such period as the local authority may specify; or

(b) in place of an inquiry under section 83, issue an order to the owner of the building for closure and demolition of the building.

(12) Before exercising its powers under subsection (11), the local authority shall, if it is reasonably practicable to do so, serve a copy of the order made thereunder to every occupier of the building.

(13) Any person who fails to comply with an order given under subsection (11) shall be liable on conviction to a fine not exceeding one hundred thousand ringgit or to imprisonment for a term not exceeding five years or to both and shall also be liable to a further fine not exceeding five hundred ringgit for every day during which the offence is continued after conviction.

(14) Notwithstanding subsection (13), where the owner of a building fails to comply with an order issued under subsection (11), the local authority may take any measure as specified in the said order or secure the closure and demolition of the building and recover from the owner expenses reasonably incurred by it in relation thereto.

2.2 METHOD OF BUILDING INSPECTION UNDER ACT 133 / 85A

According Majlis Bandaraya Subang Jaya (2017), there are two types of common practice in term of method used in periodical inspection:

2.2.1 Visual Inspection

The inspection is usually carried out for buildings that consist more than 5-storey. A visual survey of the building is conducted to determine the condition of the building. The elements covered within this survey includes structure, any additional or alteration work, surrounding area and others. Basically, there are several aspects been looked out in visual inspection:

- Aspects of exterior
- Aspects of interior
- Aspects of roof
- Aspects of structure
- Aspects of load on building structure
- Aspects of any additions or changes that affect the structure building
- Other conditions that may affect the safety of occupants

2.2.2 Full Structural Investigation

The inspection is usually involved in obtaining the information related to design, construction, maintenance and history of the building. This includes diligence checking, testing, viewing on structural elements of the building, material used in the construction of the building without damaging the building part. Usually, a testing is conducted when it is considered necessary by the engineer.

2.3 THE FLOWCHART OF PERIODICALLY INSPECTION

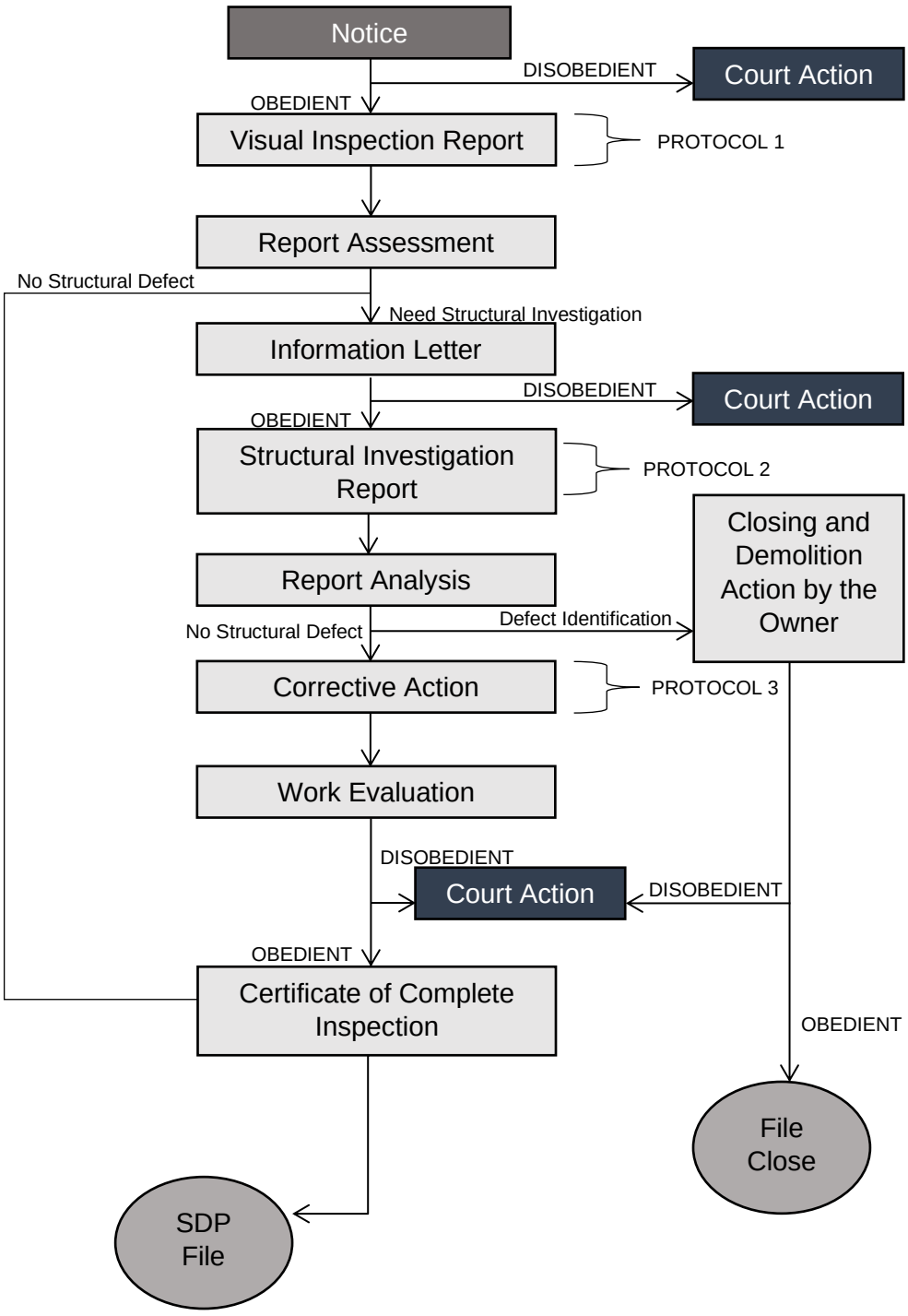


Figure 2.1: *The Procedure of Periodical Inspection*

2.3.1 PROTOCOL 1

i. Visual Inspection Report

- Upon receiving a notice from the Mayor of Subang Jaya City Council, the building owner is required to appoint a qualified Consultant to conduct a visual inspection as a first stage. Requirements a thorough structural investigation will depend on the type, level and the severity of defects, deformations and deterioration of conditions on a structure found by the Consultant in stage 1 - visual inspection.
- A Consultant conducting an inspection under this section shall inspect the building according to the method as set out below Section 85A, the said Act which shall take into account the matters following:

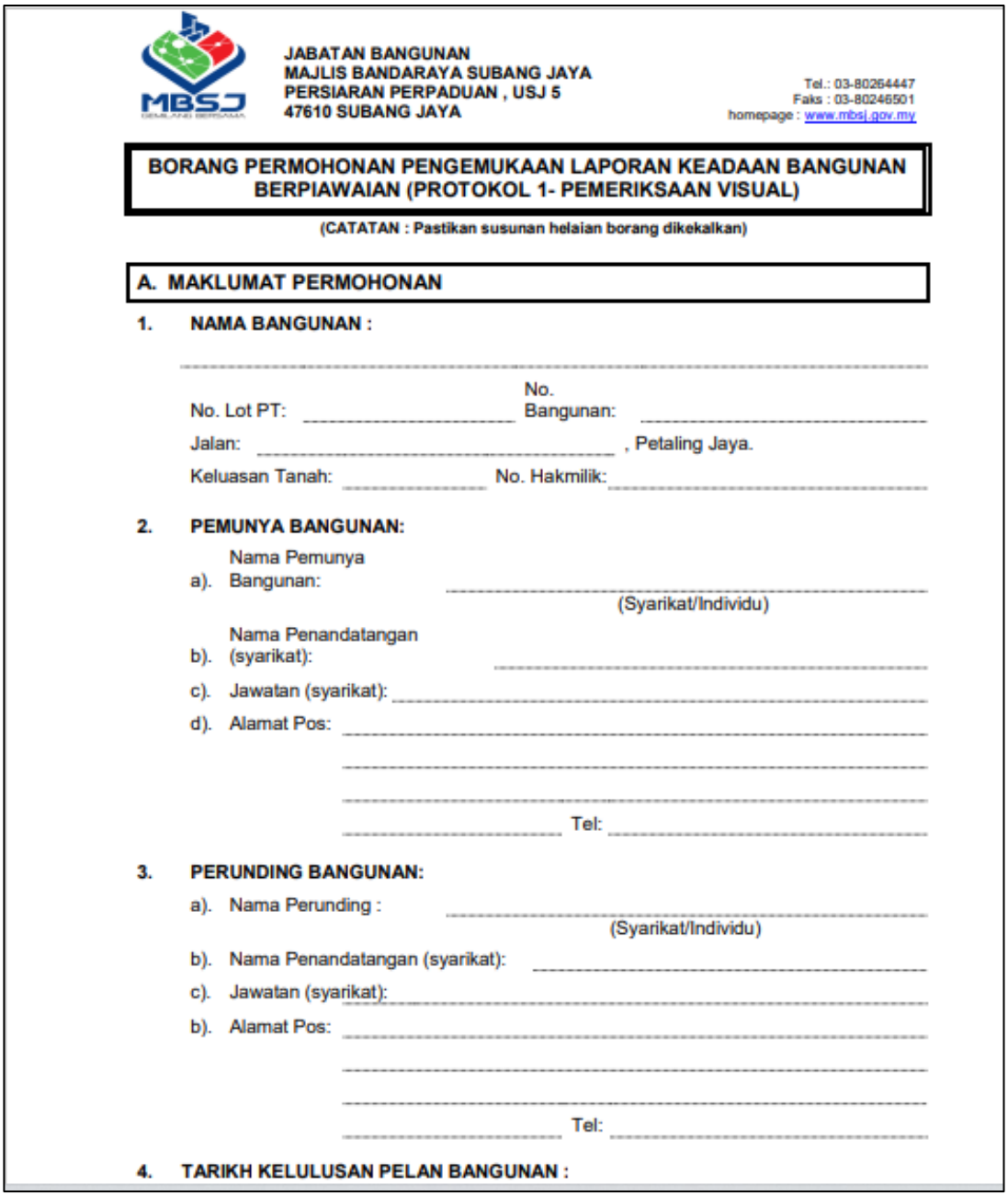
a) A visual inspection of the building, including a survey of the condition building structural elements and any additions or alterations on the building and its structural elements;

b) A visual inspection of the surrounding area of the building including slopes, water tanks and drainage systems and any changes to the structure slope retainer;

c) The preparation and submission of a building condition report as a result of visual inspection under paragraph (a) to the Mayor of the Council Subang Jaya City;

d) If after referring to the results of the visual inspection below paragraph (a), the Consultant reasonably suspects or argues that there is a defect, deformation or deterioration conditions on the building and its structural elements that will or likely to harm or have a negative effect on structural stability or integrity over any part of the building concerned then he shall inform the Mayor of the Subang Jaya City Council on the need to conduct an investigation the structure as a whole including investigations relating to its structural elements;

ii. Sample of Application Form for Visual Inspection



JABATAN BANGUNAN
MAJLIS BANDARAYA SUBANG JAYA
PERSIARAN PERPADUAN , USJ 5
47610 SUBANG JAYA

Tel.: 03-80264447
Faks : 03-80246501
homepage : www.mbsj.gov.my

BORANG PERMOHONAN PENGEMUKAAN LAPORAN KEADAAN BANGUNAN BERPIAWAIAN (PROTOKOL 1- PEMERIKSAAN VISUAL)

(CATATAN : Pastikan susunan helaian borang dikekalkan)

A. MAKLUMAT PERMOHONAN

1. NAMA BANGUNAN :

_____

No. Lot PT: _____ No. Bangunan: _____

Jalan: _____ , Petaling Jaya.

Keluasan Tanah: _____ No. Hakmilik: _____

2. PEMUNYA BANGUNAN:

a). Nama Pemunya Bangunan: _____
(Syarikat/Individu)

b). Nama Penandatangan (syarikat): _____

c). Jawatan (syarikat): _____

d). Alamat Pos: _____

_____

_____

_____ Tel: _____

3. PERUNDING BANGUNAN:

a). Nama Perunding : _____
(Syarikat/Individu)

b). Nama Penandatangan (syarikat): _____

c). Jawatan (syarikat): _____

b). Alamat Pos: _____

_____

_____

_____ Tel: _____

4. TARIKH KELULUSAN PELAN BANGUNAN :

5. TARIKH KELULUSAN KEBENARAN MERANCANG : _____

6. TARIKH SIJIL PEMATUHAN DAN PENYIAPAN DI KELUARKAN: _____

7. JENIS BANGUNAN:

(Tandakan X pada ruang Jenis Bangunan)

a). Institusi : ☐ Hospital/ Kolej/ Sekolah/ Rumah Ibadat/ Pusat Komuniti/ Perpustakaan/ Pusat Sukan

b). Industri : ☐ Kilang

c). Perdagangan : ☐ Stesen Minyak/ Pejabat/ Pasaraya Besar/ : Kedai/ Pusat Penjaja/ Hotel

B. SENARAI SEMAK PERMOHONAN LAPORAN KEADAAN BANGUNAN BERPIAWAIAN

		PSP	SEMAKAN PEJABAT
1.	Laporan dikemukakan oleh orang yang berkelayakan (Perunding)		
	i. Jurutera Berdaftar		
	ii. Arkitek Berdaftar		
	iii. Juruukur Bangunan Berdaftar		
2.	Surat permohonan daripada Perunding Berdaftar.		
3.	Salinan Perakuan Pendaftaran Perunding yang masih sahlaku *(Jurutera Bertauliah/ Arkitek Berdaftar/* Juruukur Bangunan Berdaftar*)*		
4.	Sijil Pemeriksaan Visual *(Salinan asal berwarna kuning dan diisi lengkap)*		
5.	Salinan dokumen bukti pemunya bangunanan tapak atau bangunan berkenaan:		
	5.1. Salinan Surat Hakmilik Sementara/Geran, atau		
	5.2. Salinan Perjanjian Jual Beli (untuk tempoh kurang setahun dari tarikh perjanjian) beserta salinan Surat Hakmilik Sementara/ Geran sedia ada, atau beserta salinan bukti permohonan pindahmilik (Borang 14A) ke Pejabat Tanah dan Galian		
6.	Salinan dokumen bukti pemunya bangunanan tapak atau bangunan berkenaan:		
	i. Salinan Surat Hakmilik Sementara/Geran, atau		
	ii. Salinan Perjanjian Jual Beli (untuk tempoh kurang setahun dari tarikh perjanjian) beserta salinan Surat Hakmilik Sementara/ Geran sedia ada, atau beserta salinan bukti permohonan pindahmilik (Borang 14A) ke Pejabat Tanah dan Galian		
7.	Salinan kad pengenalan pemunya bangunan/pemunya bangunan-pemunya bangunan bersama		

		PSP	SEMAKAN PEJABAT
9.	Salinan resit Cukai Tanah terkini yang telah dijelaskan		
10.	Salinan surat kelulusan dan pelan Kebenaran Merancang dari Jabatan Perancangan Pembangunan MBSJ untuk seperti berikut:		
11.	1 Salinan Laporan Keadaan Bangunan Berpiawaian		
	11.1. Lebar kertas ukuran A4 mengikut format *Standard Title Blok* yang ditetapkan oleh Jabatan Kawalan Bangunan MBSJ. (*Rujuk dilampiran*)		
	11.2. Laporan dikemukakan ditulis dalam Bahasa Malaysia, Bahasa Asing dalam teks hendak dicondong dan tidak boleh menggunakan perkataan ringkas.		
	11.3 Laporan perlu menggunakan kulit keras (*Rujuk dilampiran*).		
12.	Maklumat Am Bangunan.		
	12.1. Nama Alamat Bangunan.		
	12.2. Pelan Lokasi yang Menunjukkan Kedudukan Bangunan.		
	12.3 Pelan Lakaran Tapak yang Menunjukkan Bilangan Blok Bangunan-Bangunan Di Atas Tapak dengan Menandakan dengan Jelas Blok Yang Diperiksa		
	12.4. Bilangan tingkat dan unit-unit di setiap blok bangunan.		
	12.5. Keterangan kegunaan utama bangunan yang menunjukkan secara anggaran peratusan keluasan kawasan bagi setiap penggunaan		
	12.6. Tarikh disiapkan.		
	12.7. Sejarah Penyelenggaraan Bangunan.		
	13.8. Nama Arkitek asal, Jurutera Profesional asal dan kontraktor asal.		
13.	Sistem Struktur Bangunan.		
	13.1. Keterangan Bentuk-Bentuk Struktur, Sistem-Sistem Dan Bahan-Bahan yang Digunakan Di Bahagian Bangunan yang Berlainan.		
	13.2. Keterangan mengenai keadaan tanah dan sistem asas sekiranya diketahui.		
	13.3. Mengenalpasti elemen-eleman struktur utama dan kawasan-kawasan kritikal untuk penyiasatan khas.		
14.	Keadaan Kawasan Persekitaran.		
	14.1. Keterangan berkenaan dengan keadaan sistem peparitan kawasan persekitaran.		
	14.2. Keterangan berkenaan dengan keadaan sistem perlindungan cerun.		
15.	Tahap Pemeriksaan.		
	15.1. Tahap pemeriksaan yang dijalankan dengan nenunjukkan secara jelas bilangan unit-unit dan peratusan kawasan-kawasan yang telah diperiksa termasuk semua kawasan yang tidak diperiksa dan sebab-sebab kawasan tersebut tidak diperiksa.		
	15.2. Had akses untuk menjalankan pemeriksaan.		
16.	Buku Harian Kajian.		
	16.1. Rekod pemerhatian yang menandakan secara jelas lokasi-lokasi, tahap dan ketegasan sebarang pemerhatian berkaitan dengan keadaan-keadaan bebanan, penambahan/penukaran dan tanda kecacatan-kecacatan struktur, ketegangan dan deformasi		

		PSP	SEMAKAN PEJABAT
	16.2. Rekod pemerhatian ke atas perparitan yang menandakan dengan jelas keretakan, kebocoran, kekurangan keupayaan, tersumbat dan keadaan permukaan konkrit.		
	16.3. Rekod pemerhatian ke atas sistem perlindungan cerun yang menunjukkan dengan jelas sebarang kecondongan atau pergerakan sisian (lateral),keretakan dinding, keretakan "tension" tanah, "sink holes", keadaan "ground anchor" dan keruntuhan kecil.		
17.	Kajian Bebanan Struktur Bangunan.		
	17.1. rekod dan ulasan-ulasan mengenai pemerhatian bagi keadaan – Keadaan bebanan menandakan kegunaan dibahagian –bahagian bangunan yang berlainan dan mengenalpasti sebarang penyalahangunaan atau perubahan kegunaan.		
	17.2. Menyatakan samada kegunaan dan keadaan bebanan sediada adalah bersesuaian dengan kehendak tujuan struktur.		
	17.3. Menyatakan samada sebarang penyalahgunaan atau perubahan kegunaan telah menyebabkan beban berlebihan yang boleh memberi kesan yang memudaratkan struktur bangunan.		
18.	Kajian mengenai penambahan / perubahan kepada struktur bangunan dan persekitaran.		
	18.1. Menyatakan samada sebarang penambahan dan perubahan telah menyebabkan lebihan bebanan atau lain-lain kesan yang memudaratkan kepada struktur bangunan.		
	18.2. Menyatakan samada sebarang penambahan dan perubahan yang telah menyebabkan lebihan beban atau lain-lain kesan yang memudaratkan kepada sistem perlindungan cerun.		
19.	Kajian mengenaltanda kecacatan-kecacatan struktur, kerosakan-kerosakan ketegangan, deformasi atau kemerosotan		
	19.1. Rekod-rekod pemerhatian mengenai sebarang tanda kecacatan-kecacatan struktur, kerosakan, ketegangan, deformasi atau kemerosotan.		
	19.2. Ulasan-ulasan ke atas tahap, sebab-sebab yang mungkin dan menilai masalah-masalah yang telah dikenalpasti.		
	19.3. Laporan hasil samada masalah-masalah yang dikenalpasti ialah:		
	19.3.1. Kecacatan yang tidak memberikan kesan kepada struktur.		
	19.3.2. Kecacatan-kecacatan yang memerlukan pengawasan dan tindakan pembaikan; atau		
	19.3.3. Mengesyaki kecacatan-kecacatan yang memberi kesan ke atas struktur yang memerlukan penyiasatan penuh struktur dan tindakan serta merta.		
	19.3.4. Menggunakan piawaian CP BS 101 dan sistem pemarkahan PENGUKURAN BARIS dimana kandungan terdiri :		
	I Jadual Ringkasan Penemuan Kecacatan Bangunan		
	19.4. Syor-syor dan cadangan ke atas sebarang pengawasan atau tindakan-tindakan pembaikan yang diperlukan untuk memastikan kestabilan struktur dan keutuhan bangunan atau bagi penyiasatan penuh struktur yang selanjutnya.		

		PSP	SEMAKAN PEJABAT
20.	Lain-lain kajian atau pemeriksaan yang dijalankan		
	20.1. Laporan dan ulasan mengenai sebarang pembetulan terdahulu yang dijalankan ke atas struktur bangunan.		
	20.2. Laporan dan ulasan mengenai sebarang kerja pembinaan di atas tapak bersebelahan yang boleh mempengaruhi bangunan yang sedang diperiksa.		
	20.3. Laporan dan ulasan mengenai sebarang kajian atau pemeriksaan lain yang dijalankan ke atas keadaan tangki-tangki air.		
	20.4. Laporan dan ulasan mengenai sebarang kajian atau pemeriksaan-pemeriksaan lain yang dijalankan oleh Jurutera.		
21.	Rumusan		
	21.1. Rumusan berpanduan hasil dari pengunaan piawain CP BSI0I (PENGUKURAN BARIS)		
22.	Syor-Syor dan Cadangan		
	22.1 Syor untuk tindakan-tindakan susulan hendaklah merangkumi langkah-langkah bagi menghadkan bebanan, tindakan ke atas penambahan / perubahan yang memberi kesan kepada struktur bangunan dan sistem perlindungan cerun, pengawasan, pembaikan, pengukuhan dan keperluan untuk menjalankan penyiasatan struktur sepenuhnya sekiranya perlu.		
23.	Pelan Indikasi Kecacatan, Helaian Kecacatan Dan Jadual Kecacatan Keadaan Bangunan (Nota : Sila rujuk format pelan indikasi, helaian kecacatan, dan jadual kecacatan seperti di bahagian belakang borang permohonan)		
	23.1. Jadual kecacatan keadaan bangunan		
	23.2. Helaian kecacatan bangunan		
	23.3. Pelan indikasi kecacatan bangunan		
24.	Perakuan Perunding Dan Pengesahan		
	24.1 Laporan berkenaan hendaklah ditandatangani dan disahkan oleh Perunding yang dilantik untuk menjalankan pemeriksaan tersebut.		
	24.2 Perunding berkenaan hendaklah mengemukakan Sijil Pemeriksaan Visual.		

25.	**PERAKUAN PEMOHON (PERUNDING BERTAULIAH)**

Saya mengakui bahawa segala butir-butir dokumen yang diberi oleh saya dalam borang ini adalah benar.

Nama(Syarikat/*Individu): _____

Nama Penandatangan: _____

No. Pendaftaran:

Alamat: _____

_____

Tarikh: _____

Tandatangan& Cop Rasmi

Peringatan:

1. **Kontraktor yang dilantik hendaklah berdaftar dengan *Construction Industry Development Board* (CIDB) yang Perakuan Pendaftaran masih sahlaku.**

UNTUK KEGUNAAN PEJABAT

Disemak oleh,

_____

Pemeriksa Bangunan (Kaunter)

Nama : _____

Tarikh : _____

Disahkan oleh,

_____

Pemeriksa Bangunan Kanan (Kaunter)

Nama : _____

Tarikh : _____

2.3.2 PROTOCOL 2

i. Structural Investigation Report

- The Mayor of Subang Jaya City Council may after considering the Consultant's report, authorizes the first stage Consultant appoint an Engineer to conduct a thorough structural investigation which shall include the following matters:

a) Take all reasonable steps to obtain information related to design, construction, the maintenance and history of the building;

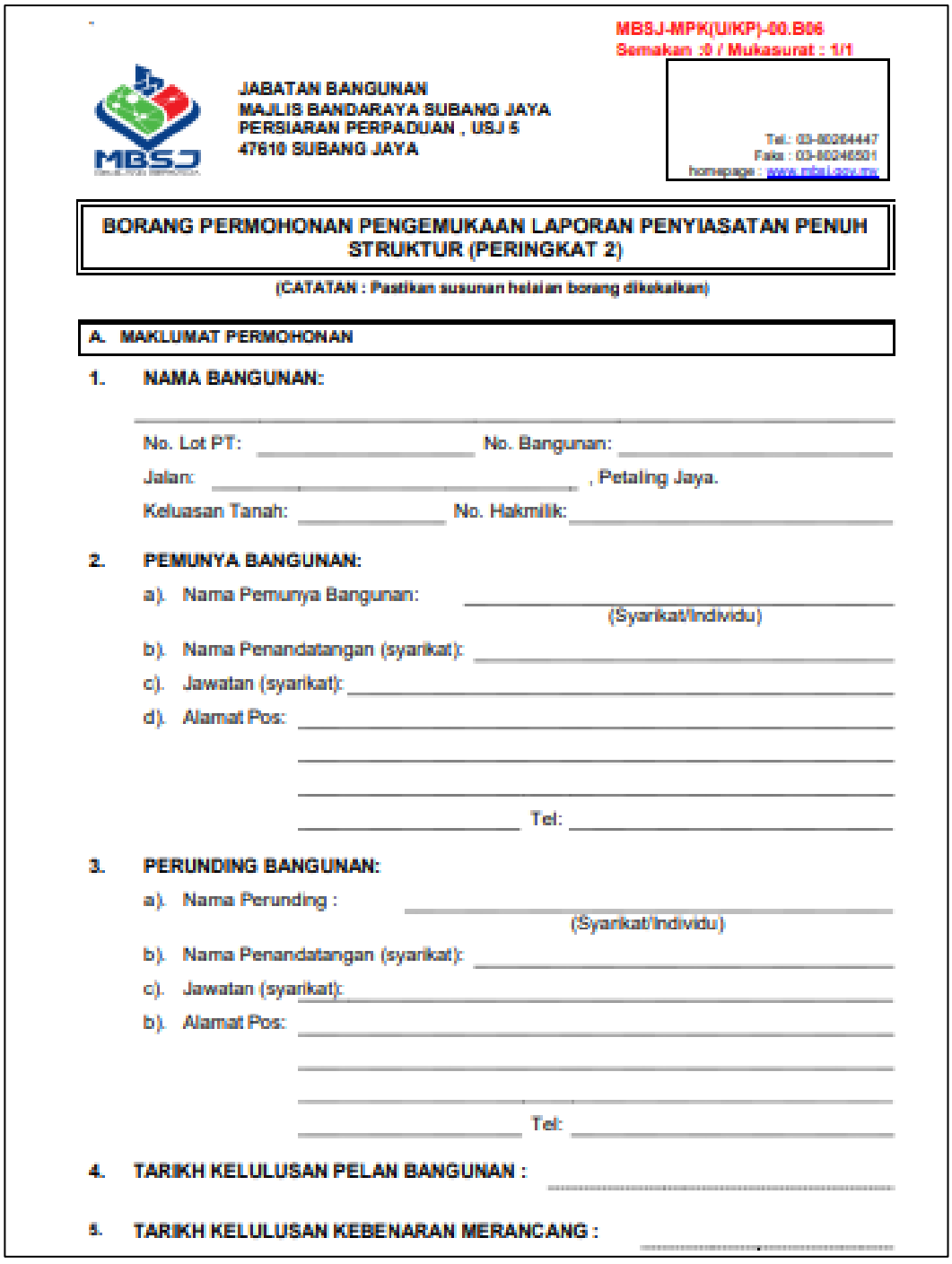
b) with reasonable care examine the structural plans building and its calculations or if a plan is not obtained re-prepare such structural plans as required by the Mayor of Subang Jaya City Council, with a view to determine any weaknesses in the elements the structure of the building;

c) Carry out or cause tests to be carried out on the structural elements of a building in a meticulous manner without causing damage to any part thereof;

d) Carry out or cause tests to be carried out on the material used in the construction of such buildings; and run or cause tests to be run on the part of the building deemed necessary by the Engineer concerned.

- The engineer shall then prepare and submit to the Mayor of Subang Jaya City Council a report on the situation the building results from a thorough structural investigation that conducted under paragraph (d) in protocol A together with his recommendation.

ii. Sample of Application Form for Full Structural Inspection



MBSJ-MPK(UIKP)-00.B06
Semakan :0 / Mukasurat : 1/1

JABATAN BANGUNAN
MAJLIS BANDARAYA SUBANG JAYA
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BORANG PERMOHONAN PENGEMUKAAN LAPORAN PENYIASATAN PENUH STRUKTUR (PERINGKAT 2)

(CATATAN : Pastikan susunan helaian borang dikekalkan)

A. MAKLUMAT PERMOHONAN

1. NAMA BANGUNAN:

_____

No. Lot PT: _____ No. Bangunan: _____

Jalan: _____ , Petaling Jaya.

Keluasan Tanah: _____ No. Hakmilik: _____

2. PEMUNYA BANGUNAN:

a). Nama Pemunya Bangunan: _____
(Syarikat/Individu)

b). Nama Penandatangan (syarikat): _____

c). Jawatan (syarikat): _____

d). Alamat Pos: _____

_____

_____

_____ Tel: _____

3. PERUNDING BANGUNAN:

a). Nama Perunding : _____
(Syarikat/Individu)

b). Nama Penandatangan (syarikat): _____

c). Jawatan (syarikat): _____

b). Alamat Pos: _____

_____

_____

_____ Tel: _____

4. TARIKH KELULUSAN PELAN BANGUNAN : _____

5. TARIKH KELULUSAN KEBENARAN MERANCANG : _____

6. TARIKH SIJIL PEMATUHAN DAN PENYIAPAN DIKELUARKAN: .....

7. JENIS BANGUNAN:

(Tandakan X pada ruang Jenis Bangunan)

a). Institusi : ☐ Hospital/ Kolej/ Sekolah/ Rumah Ibadat/ Pusat Komuniti/ Perpustakaan/ Pusat Sukan

b). Industri : ☐ Kilang

c). Perdagangan : ☐ Stesen Minyak/ Pejabat/ Pasaraya Besar/

: Kedai/ Pusat Penjaja/ Hotel

B. SENARAI SEMAK PERMOHONAN LAPORAN PENYIASATAN PENUH STRUKTUR

		PSP	SEMAKAN PEJABAT
1.	Pelan/ kiraan dikemukakan oleh orang yang berkelayakan (Perunding)		
	i. Jurutera Berdaftar		
	ii. Arkitek Berdaftar		
	iii. Juruukur Bangunan Berdaftar		
2.	Surat permohonan daripada Perunding Bertauliah/ Berdaftar.		
3.	Salinan Perakuan Pendaftaran Perunding yang masih sahlaku *(Jurutera Bertauliah/ Arkitek Berdaftar/* Juruukur Bangunan Berdaftar*)*		
4.	Salinan Sijil Pemeriksaan Visual		
5.	Salinan dokumen bukti pemunya bangunanan tapak atau bangunan berkenaan:		
	5.1. Salinan Surat Hakmilik Sementara/Geran, atau		
	5.2. Salinan Perjanjian Jual Beli (untuk tempoh kurang setahun dari tarikh perjanjian) beserta salinan Surat Hakmilik Sementara/ Geran sedia ada, atau beserta salinan bukti permohonan pindahmilik (Borang 14A) ke Pejabat Tanah dan Galian		
6.	Salinan dokumen bukti pemunya bangunanan tapak atau bangunan berkenaan:		
	i. Salinan Surat Hakmilik Sementara/Geran, atau		
	ii. Salinan Perjanjian Jual Beli (untuk tempoh kurang setahun dari tarikh perjanjian) beserta salinan Surat Hakmilik Sementara/ Geran sedia ada, atau beserta salinan bukti permohonan pindahmilik (Borang 14A) ke Pejabat Tanah dan Galian		
7.	Salinan kad pengenalan pemunya bangunan/pemunya bangunan-pemunya bangunan bersama		
8.	Salinan resit Cukai Pintu (taksiran) terkini yang telah dijelaskan		
9.	Salinan resit Cukai Tanah terkini yang telah dijelaskan		
10.	Salinan surat kelulusan dan pelan Kebenaran Merancang dari Jabatan Perancangan Bandar MBSJ		
11.	1 Salinan Laporan Keadaan Bangunan Berpiawaian		
	11.1. Lebar kertas ukuran A4 mengikut format *Standard Title Blok* yang ditetapkan oleh Jabatan Kawalan Bangunan MBSJ.		

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				PSP	SEMAKAN PEJABAT
	11.2.	Laporan dikemukakan ditulis dalam Bahasa Malaysia, Bahasa Asing dalam teks hendak dicondong dan tidak boleh menggunakan perkataan ringkas.			
	11.3.	Laporan perlu menggunakan kulit keras (*Rujuk dilampiran*).			
12.	Maklumat Am Bangunan.				
	12.1.	Nama Alamat Bangunan.			
	12.2.	Pelan Lokasi yang Menunjukkan Kedudukan Bangunan.			
	12.3.	Pelan Lakaran Tapak yang Menunjukkan Bilangan Blok Bangunan-Bangunan Di Atas Tapak dengan Menandakan dengan Jelas Blok Yang Diperiksa			
	12.4.	Bilangan tingkat dan unit-unit di setiap blok bangunan.			
	12.5.	Keterangan kegunaan utama bangunan yang menunjukkan secara anggaran peratusan keluasan kawasan bagi setiap penggunaan			
	12.6.	Tarikh disiapkan.			
	12.7.	Sejarah Penyelenggaraan Bangunan.			
	12.8.	Nama Arkitek asal, Jurutera Profesional asal dan kontraktor asal.			
13.	Sumber Maklumat Rekabentuk, Pembinaan Dan Penyelenggaraan.				
	13.1.	Perkiraan dan pelan "as-built" laporan tersebut hendaklah menyatakan sumber dan menyediakan senarai perkiraan dan pelan-pelan asal untuk tujuan semakan. Jurutera berkenaan hendaklah memastikan hanya lukisan-lukisan yang berkenaan sahaja digunakan di dalam penilaian struktur.			
	13.2.	Laporan penyiasatan tanah yang merangkumi rekod-rekod sistem asas yang digunakan.			
	13.3.	Apa-apa rekod pembinaan.			
	13.4.	Maklumat penyelenggaraan rutin termasuk pemeriksaan visual terdahulu.			
14.	Semakan Rekabentuk atau Penyediaan semula pelan struktur.				
	14.1.	Sekiranya pelan-pelan dan perkiraan struktur tidak dapat diperolehi, penyediaan semula pelan-pelan dan perkiraan struktur hendaklah jika boleh dibuat semula (termasuk ujian yang dilakukan dan penilaian struktur).			
		14.1.1.	Menjalankan kajian yang diperlukan, penyiasatan-penyiasatan dan ujian untuk menentukan jenis, saiz-saiz dan perincian tetulang elemen-elemen struktur penting termasuk sistem asas.		
		14.1.2.	Menyediakan satu perenggu lukisan-lukisan yang menunjukkan susunatur struktur dan perincian untuk setiap lantai termasuk saiz-saiz anggota struktur dan perincian tetulang elemen-elemen penting.		

					PSP	SEMAKAN PEJABAT
	14.2. Sekiranya pelan-pelan dan perkiraan struktur diperolehi:					
		14.2.1.	Ringkasan laporan menyebutkan rumusan dan penilaian keseluruhan mengenai rekabentuk,			
		14.2.2.	Penilaian dan ulasan-ulasan terperinci ke atas penilaian dan ulasan rekabentuk berdasarkan kepada kriteria seperti berikut:			
			i.	Kod-kod amalan yang digunakan dalam rekabentuk		
			ii.	Rekabentuk bebanan (termasuk beban angin jika digunakan)		
			iii.	Piawaian dan spesifikasi bahan-bahan.		
			iv.	Konsep rekabentuk struktur dan pengenalan elemen elemen struktur penting. - Untuk menilai konsep rekabentuk struktur dan sama ada sebarang proses rekabentuk yang dimudahkan mengambilkira tabiat sistem struktur. - Pengenalan dan klasifikasi elemen-elemen penting struktur.		
			v.	Analisa struktur semua jenis elemen penting struktur, termasuk sistem asas. Untuk menilai analisa pereka dan rekabentuk elemen penting struktur dan membandingkan dengan perkiraan bebas.		
			vi.	Kestabilan kerangka struktur. - Kestabilan di bawah gabungan beban pelbagai termasuk angin dan lain-lain beban dinamik berkaitan dengan nisbah ketinggian/kelebaran.		
			vii.	Perincian struktur - Mestilah konsisten dengan konsep rekabentuk selaras dengan syor dalam kod amalan.		
			viii.	Lain-lain aspek rekabentuk - aspek rekabentuk yang khusus kepada bangunan dan penting kepada keutuhan struktur. - Kestabilan kerja perlindungan cerun di bawah keadaan semasa.		
	15. Ujian yang dijalankan.					
		15.1.	Ujian makmal dan ujian di tapak.			
			15.1.1.	Ujian makmal ke atas sifat-sifat mekanikal dan kimia bahan-bahan.		

				PSP	SEMAKAN PEJABAT
		15.1.2.	Ujian ditapak dengan kaedah tidak memusnahkan (non-destructive).		
		15.1.3.	Ujian untuk kewujudan bahan-bahan merosot dan musnah.		
		15.1.4.	Keterangan mengenai kaedah ujian dan hadnya.		
	15.2.	Ujian bebanan			
		15.2.1.	Ujian bebanan mengenai bahagian-bahagian yang berkaitan atau keseluruhan struktur jika didapati perlu oleh Jurutera.		
		15.2.2.	Keterangan mengenai kaedah ujian dan hadnya.		
		15.2.3	Interpretasi mengenai hasil-hasil ujian.		
16.	Kajian keadaan dan penilaian ke atas keupayaan membawa beban struktur sediada.				
	16.1.	Mengenalpasti kawasan-kawasan sedia ada yang berpotensi untuk mengalami kecacatan dan berkemungkinan akan rosak serta kekurangan keupayaan struktur. Memastikan tahap, jenis, sebab dan kemudaratan kecacatan, kerosakan dan kekurangan tersebut.			
	16.2.	Kajian terhadap dimensi elemen struktur sedia ada dan kajian terhadap jenis, saiz dan bilangan tetulang keluli. Perbandingan dengan lukisan "as-built" perlu dibuat;			
	16.3.	Penilaian terhadap beban sebenar dan keupayaan mengangkut beban struktur:-			
		17.3.1.	Penilaian terhadap beban sebenar dan pengagihan.		
		17.3.2.	Penilaian terhadap kekuatan insitu bahan.		
		17.3.3.	Penilaian kesan daripada kemerosotan dan kemusnahan.		
		17.3.4.	Penilaian terhadap keupayaan mengangkut beban struktur.		
17.	Syor untuk kerja-kerja baik pulih.				
	17.1.	Pada amnya, laporan tersebut hendaklah disertakan dengan lakaran-lakaran, pelan-pelan dan gambar-gambar untuk menerangkan hasil pemeriksaan tersebut.			
	17.2.	Orang Yang Berkelayakan tersebut hendaklah membuat rumusan mengenai pemeriksaan dan mengesyorkan pengawasan, pembaikan, had kegunaan serta bebanan dan sebagainya.			
18.	Helaian kecacatan dan Pelan Indikasi Bangunan				
	18.1.	Menyatakan samada sebarang penambahan dan perubahan telah menyebabkan lebihan bebanan atau lain-lain kesan yang memudaratkan kepada struktur bangunan.			
19.	Pengesahan Orang Yang Berkelayakan dan Sijil				
	19.1.	Laporan tersebut perlu ditandatangani dan disahkan oleh Orang Yang Berkelayakan yang dilantik untuk menjalankan penyiasatan tersebut.			
	19.2	Orang Yang Berkelayakan tersebut perlu menyerahkan Sijil Pemeriksaan Struktur (Seperti dilampirkan).			

20.	**PERAKUAN PEMOHON (PERUNDING)**

Saya mengakui bahawa segala butir-butir dokumen yang diberi oleh saya dalam borang ini

adalah benar.

Nama(Syarikat"Individu): _____

Nama Penandatangan: _____

No. Pendaftaran: _____

Alamat: _____

_____

Tarikh: _____

Tandatangan& Cop Rasmi

Peringatan:

1. **Kontraktor yang dilantik hendaklah berdaftar dengan *Construction Industry Development Board* (CIDB) yang Perakuan Pendaftaran masih sahlaku.**

UNTUK KEGUNAAN PEJABAT

Disemak oleh,

_____

Pemeriksa Bangunan (Kaunter)

Nama : _____

Tarikh : _____

Disahkan oleh,

_____

Pemeriksa Bangunan Kanan (Kaunter)

Nama : _____

Tarikh : _____

2.3.3 PROTOCOL 3

i. Corrective Action

Correction action should be taken where the situation as follow happened:

a) Major repairs and strengthening works, where necessary, shall be considered as building works. Examples of this work include replacing rusty reinforcement steel, water tank reconstruction and “under pinning” work. Thus, all relevant applications for obtain Building Plan approval, permit to carry out works building and supervision of building works shall apply.
b) Minor repairs can be considered as routine maintenance and does not require the submission of a Building Plan or Permit application.
c) If there is any doubt as to the interpretation for major repair work or small may be referred to the Building Department, Mayor of the City Council Subang Jaya.

ii. Sample of Application Form for Corrective Action

MBSJ-MPK(U/KP)-00.B01
Semakan :0 / Mukasurat : 1/3

JABATAN BANGUNAN
MAJLIS BANDARAYA SUBANG JAYA
PERSIARAN PERPADUAN , USJ 5
47610 SUBANG JAYA

Tel.: 03-80264447
Faks : 03-80246501
homepage : www.mbsj.gov.my

BORANG PERMOHONAN PENGEMUKAAN LAPORAN SELEPAS PEMBAIKAN (PROTOKOL 3 – PEMBAIKAN)

(CATATAN : Pastikan susunan helaian borang dikekalkan)

A. MAKLUMAT PERMOHONAN

1. **NAMA BANGUNAN :** _____

No. Lot PT: _____ No. Bangunan: _____

Jalan: _____ , Petaling Jaya.

Keluasan Tanah: _____ No. Hakmilik: _____

2. **PEMUNYA BANGUNAN:**

a). Nama Pemunya Bangunan: _____ (Syarikat/Individu)

b). Nama Penandatangan (syarikat): _____

c). Jawatan (syarikat): _____

d). Alamat Pos: _____

_____ Tel: _____

3. **PERUNDING BANGUNAN:**

a). Nama Perunding : _____ (Syarikat/Individu)

b). Nama Penandatangan (syarikat): _____

c). Jawatan (syarikat): _____

b). Alamat Pos: _____

_____

_____

_____ Tel: _____

4. **TARIKH SIJIL PEMERIKSAAN VISUAL:** _____

5. **TARIKH SIJIL PEMERIKSAAN STRUKTUR :** _____

B. SENARAI SEMAK PERMOHONAN LAPORAN SELEPAS PEMBAIKAN (PERINGKAT 3 – PEMBAIKAN)

		PSP	SEMAKAN PEJABAT
6.	Buku Harian Pembaikan.		
7.	1 Salinan Laporan Keadaan Bangunan Berpiawaian		
	7.1. Lebar kertas ukuran A4 mengikut format *Standard Title Blok* yang ditetapkan oleh Jabatan Bangunan MBSJ. (*Rujuk dilampiran*)		
	7.2. Laporan dikemukakan ditulis dalam Bahasa Malaysia, Bahasa Asing dalam teks hendak dicondong dan tidak boleh menggunakan perkataan ringkas		
	7.3. Laporan perlu menggunakan kulit keras berwarna hijau (*Rujuk dilampiran*)		
8.	Syor-Syor dan Cadangan		
9.	Pelan Indikasi Pembaikan Kecacatan dan Helaian Pembaikan Kecacatan Keadaan Bangunan (Nota : Sila rujuk format pelan indikasi, Pembaikan kecacatan, dan jPembaikan kecacatan seperti di bahagian belakang borang permohonan)		
	9.2. Helaian Pembaikan kecacatan bangunan		
	9.3. Pelan indikasi Pembaikan kecacatan bangunan		
10.	Perakuan Perunding Dan Pengesahan		
	24.1 Laporan pembaikan berkenaan hendaklah ditandatangani dan disahkan oleh Perunding yang dilantik untuk menjalankan pemeriksaan tersebut.		
	24.2 Perunding berkenaan hendaklah mengemukakan Sijil Penyiapan pembaikan		
11	*"CD Softcopy"* laporan dalam format PDF dan *"microsft word"*		

26. PERAKUAN PEMOHON (PERUNDING)

Saya mengakui bahawa segala butir-butir dokumen yang diberi oleh saya dalam borang ini adalah benar.

Nama(Syarikat/*Individ: _____

Nama Penandatangan: _____

No.Pendaftaran: _____

Alamat: _____

_____

Tarikh: _____

Tandatangan& Cop Rasmi

Peringatan:

1. **Kontraktor yang dilantik hendaklah berdaftar dengan *Construction Industry Development Board* (CIDB) yang Perakuan Pendaftaran masih sahlaku.**

UNTUK KEGUNAAN PEJABAT

Disemak oleh,	Disahkan oleh,
Pemeriksa Bangunan (Kaunter)	Pemeriksa Bangunan Kanan (Kaunter)
Nama : _____	Nama : _____
Tarikh : _____	Tarikh : _____

2.4 THE INSPECTION METHODOLOGY

Basically, an inspection and report carried out is based on the Guidelines for Periodic Inspection of Buildings, issued by the Ministry of Housing and Local Government (KPKT). While, findings for damage or defects were assessed using levels of building conditions (BARIS) specified in the Code of Practice for Building Inspection Report (CP BS101). Table below show BARIS assessment measurement:

Table 2.1: *Matrix Analysis*

SCALE		PRIORITY ASSESSMENT			
		E4	U3	R2	N1
CONDITION ASSESSMENT	5	20	15	10	5
	4	16	12	8	4
	3	12	9	6	3
	2	8	6	4	2
	1	4	3	2	1

Table 2.2: *Building Rating and Maintenance Action*

NO	MATRICS	SCORE
1	Plan Maintenance	1-4
2	Condition Monitoring	5-12
3	Serious Attention	13-20
OVERALL BUILDING RATING		
1	Good	1-4
2	Fair	5-12
3	Dilapidated	13-20
CONDITION ASSESSMENT		
CONDITION	**SCALE**	**DESCRIPTION**
1	New / As new	Scheduled Maintenance
2	Fair	Minor Repair
3	Critical	Major Repair / Replacement
4	Very Critical	Not Function
5	Obsolete	
PRIORITY ASSESSMENT		
PRIORITY	**SCALE**	**DESCRIPTION**
Normal	1	Functional, only cosmetic defect
Periodic	2	Minor defect, but will be worsen if not repair
Importance	3	Major defect, cannot function well
Emergency	4	Elements/structures not functioning; OR at risk to cause death and/or accident

Sample of building defect sheet format according to JKR:

<table>
<tr><td colspan="2">No. Helaian Kecacatan</td><td>L-02</td><td colspan="2">Aras</td><td colspan="2">Tingkat Bawah</td></tr>
<tr><td colspan="3" rowspan="2"> 
  </td><td colspan="2">Lokasi</td><td colspan="2">Parkir</td></tr>
<tr><td colspan="2">Elemen/komponen</td><td colspan="2">Dinding Bawah Tanah</td></tr>
<tr><td colspan="3" rowspan="3"></td><td colspan="4">BARIS</td></tr>
<tr><td>Kondisi</td><td>Keutamaan</td><td>Matriks</td><td>Warna</td></tr>
<tr><td>4</td><td>3</td><td>12</td><td></td></tr>
<tr><td colspan="3"></td><td colspan="4">Keterangan Kecacatan
Kesan resapan air, lembab, berkarat dan time leaching</td></tr>
<tr><td colspan="3"></td><td colspan="4">Punca Kecacatan
Disebabkan oleh pengaliran air bawah tanah secara berterusan dan menyebabkan berlakunya tindak balas pada bahan konkrit.</td></tr>
</table>

2.5 THE IMPORTANCE OF PERIODICAL INSPECTION

According to Rock (2019), there are three mains important of periodical inspection for strata building:

- **Safety**

  Periodical inspection is very crucial as it can provide awareness and early trigger in terms of hazard and existing defect within the building. This includes by providing an early indication of any developing risk that might danger for building user or occupants. It is proofing approach to let the customers or building owner in controlling the safety and wellbeing of their people.

- **Productivity and reliability**

  Besides, this type of inspection can introduce the clients with current maintenance and operational styles which may easier the building owner to monitor their building. Thus, expensive maintenance cost issue can be cut out. At the same time, a deep protocol during the process of inspection enable the team to discover potential reliability issue especially when there are using smart equipment and technology during the operation process. Thus, the operation become more flexible and the time taken to complete the task become much shorter.

- **Stay Informed**

  Each condition of inspection will be concluded with a written report and record. So, it will be giving a building owner, clients and management team with complete status and wider overview regarding on building condition, safety and health. Besides, a periodical inspection enables the team to provide suitable recommendation for maintenance upkeep such as replacement parts, upgrade work, needed equipment, etc which help in giving an option for current or future needs, action and improvement. The owner also will be informed with any worn down that need to be replaced in the near future, so that the right spare parts will be available precisely in time needed.

CHAPTER 3 – CASE STUDY

3.1 INTRODUCTION

3.1.1 Inspection Purpose

The purpose of the visual inspection of The Summit Subang USJ Building is to identify the types of defects / damage as well as ensure any signs of material deterioration on the building structure. Besides, to determine any additions or changes that may affect the structure of the building.

3.1.2 Inspection Scope

The scope of this inspection is as follows:

a. Conduct a visual inspection of the building, including an inspection of the condition of the building, structural elements and any additions or alterations to the building and structural elements.
b. Conduct a visual inspection of the surrounding area of the building including the slope and drainage system and any changes to the slope retaining structure.
c. Preparation and submission of reports from the visual inspection to the local authority.
d. Inform the local authority on the need to conduct an investigation related to its structural elements (if necessary)

3.1.3 Inspection Limitation

The limitation of work for this visual inspection is that it does not cover the entire building due to the difficulty of access since many shop / offices units are vacant. In addition, the hotel area is also difficult to access due to hotel is used as a quarantine area for the Covid-19 case. Only common areas are fully inspected. Information on the building is also limited and everything reported within this report is based on information provided by the management of The Summit Subang USJ Building.

3.1.4 Inspection Methodology

These inspections and reports are based on guidelines for periodic building inspections issued by the ministry of housing and local government (KPKT) and findings to damage or injuries are assessed using the building condition level specified in the code of practice for Building Inspection (CP BS101) issued by Royal Institution of Surveyors Malaysia (RISM). Each finding of damage or defect identified during this inspection is assessed using the level of building condition specified in the CPBS101.

Table 3.1: *(a) & (b) BARIS Assessment*

Scale		**Priority Assessment**			
		E4	**U3**	**R2**	**N1**
Condition Assessment	5	20	15	10	5
	4	16	12	8	4
	3	12	9	6	3
	2	8	6	4	2
	1	4	3	2	1

(a)

No.	**Matrix**	**Score**	
1	Plan maintenance	1 to 4	
2	Condition Monitoring	5 to 12	
3	serious attention	13 to 20	

(b)

Table 3.2: *Overall Building Rating*

No.	Building Rating	Score
1	Good	1 to 4
2	Fair	5 to 12
3	Dilapidated	13 to 20

Table 3.3: *Condition Assessment*

Condition	Scale Value	Description (Value)
1	New/As New	Minor Servicing
2	Fair	Minor Repair
3	Poor	Major Repair/ Replacement
4	Very Poor	Malfunction
5	Dilapidated	Damage/Missing

Table 3.4: *Priority Assessment*

Priority	Scale Value	Description (Value)
Normal	1	Functional, only cosmetic defect
Routine	2	Minor defect, but can lead to serious defect if left unattended
Urgent	3	Serious defect, cannot function to an acceptable standard
Emergency	4	Element/structure not function at all; OR Risks that can lead to fatality and/ or injury

3.1.5 Inspection Protocol

Out of three protocol, only one protocol has been carried out to run the inspection which is protocol 1: Visual Inspection. The are several aspects been looked out for this inspection which includes building structures, roof, services, exterior compound, etc. The sample of document for visual inspection can be refer on *appendices (E) and (F).*

3.2 BUILDING INFORMATION

Figure 3.1: *The Summit Subang USJ*

Name of Building	:	**The Summit Subang USJ**
Address	:	**Lot 14, Persiaran Kewajipan USJ 1 47600 Subang Jaya, Selangor.**
No. of Floor	:	**Hotel (16-floor includes roof) Shopping Mall (7-floor includes roof) Office Tower (15-floor includes roof) Basement Carpark (3-floor)**
Function of the Building	:	**Shopping Mall, hotel and office**
Completion Date	:	**2000**
Record of Maintenance History	:	**No information**
Building Structure System	:	**The building used a frame structure and used concrete as the main building material.**
Name of Original Architecture	:	**KBT Architect**
Name of Professional Engineer	:	**CVIST Group Consultants, HPS Consult**
Name of Original Contractor	:	**Sykt Pembinaan Who Heng Sdn Bhd**

3.3 SITE CONDITION

The drainage system in the area are in **moderate** condition since there are only several problems such as crack and breakage in the perimeter drain area of the building were founded. The drainage system also become less smooth when the heavy rain happened, causing the water to overflow and seep into the Basement 2 through cracked and broken drains.

3.4 INSPECTION LEVEL

Table 3.5: *Level of Complete Inspection for Each Floor*

No.	Level	Space Function	Inspection Percentage
1.	Basement 3	Parking	100%
2.	Basement 2	Parking	100%
3.	Basement 1	Parking	100%
4.	Lower Ground Floor	Shopping Mall	80%
5.	Ground Floor	Shopping Mall	80%
6.	1st Floor	Shopping Mall	80%
7.	2nd Floor	Shopping Mall	80%
8.	3rd Floor	Shopping Mall	80%
9.	4th Floor	Shopping Mall	80%
10.	5th Floor	Shopping Mall	80%
11.	6th Floor (Roof)	Roof	100%
12.	19th Floor (Office Tower Floor)	Roof	100%
13.	Building Facade	Building Facade	100%

3.5 BUILDING STRUCTURAL LOAD

The used of Summit Subang USJ building is the same as it original used, which still function as a shopping mall, hotel and office space. Besides, no change in term of use and additional load was founded during the inspection.

3.6 STUDY ON ADDITION / CHANGE IN STRUCTURE OR ENVIRONMENT

There are some additional or changes in terms of the building structure and environment have been identified. These includes:

- Addition of the front facade of the building.
- Addition of the escalators in the rear facade of the building.

3.7 STUDY ON SIGNS OF STRUCTURAL DEFECTS

Based on the visual inspection conducted at The Summit Subang USJ, the result for the building elements can be stated as below:

3.7.1 Concrete Ceiling

For this element, many cracks and water seepage as well as leaks occurred on the concrete ceilings in Basement 1, Basement 2 and Basement 3. There were also defects on ceiling surfaces such as broken or spalling concrete and rusty reinforcement steel. This is due to the seepage of water in the concrete slab/ceiling which causes the process of corrosion of reinforcement steel to occur. Water seepage and leakage that occurred in Basements 2 and 3 is likely happened due to problems with the building's drainage system as well as the source of water from the ground floor that flows continuously into the building. Moreover, there was a leaking ceiling problem in basement 1, near the hotel parking area. The leak is most likely due to problems with construction work on the upper floor.

3.7.2 Ground Floor Wall

For the ground floor wall of Basements 2 and 3, there are many effects of water seepage, dampness, rusty and moss that caused by the ground water which continuously flowing into the building through the walls. In facts, there is no ‘wheephole’ from the building provided during the inspection was carried out.

3.7.3 Beam

There is water seeping on the beams in Basements 1, 2 and 3. These likely due to the problems with the building's drainage system as well as the source of water from the ground floor that continuously flows into the building. In the lower ground floor area, there are broken beams and honeycombs defects which may be caused by imperfect or poor construction work.

3.7.4 Wall

In basements 1, 2 and 3, there are water seepage and leaking on wall element were identified. This may happen due to the problems of the building's drainage system as well as groundwater issue which flowing continuously into the building through the walls. Besides, the failure to provide wheephole also become significant cause for the issue arise.

3.7.5 Column

Based on inspection result, there is no defects found on this structure. There are only few defects like cracks and water seepage occurred on the column.

3.7.6 Floor

In basements 1, 2 and 3 there are many problems of cracked and broken floors which possibly caused by soil settlement. The problem of water stagnant and water seepage on floor for Basement 3 also happened, which likely caused by groundwater seeping that continuously flowing through the building. Furthermore, there is also an

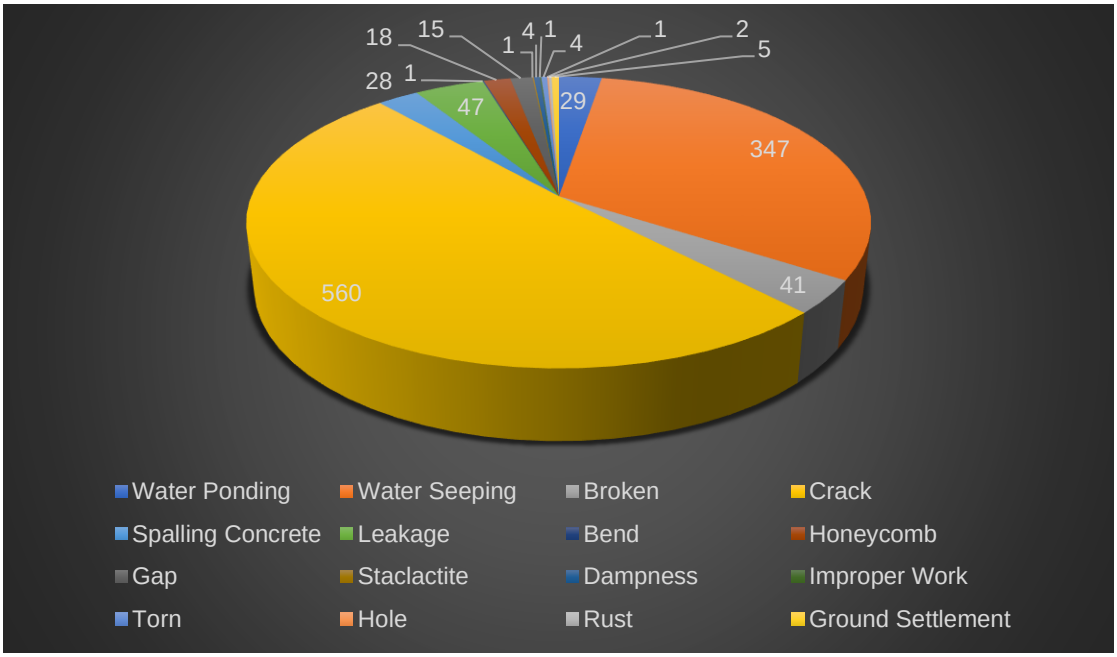
issue of water stagnant on floor for Fan Room in Basement 1 causing the exposed electrical cable on floor surface submerged inside the water.

3.7.7 Flat Roof

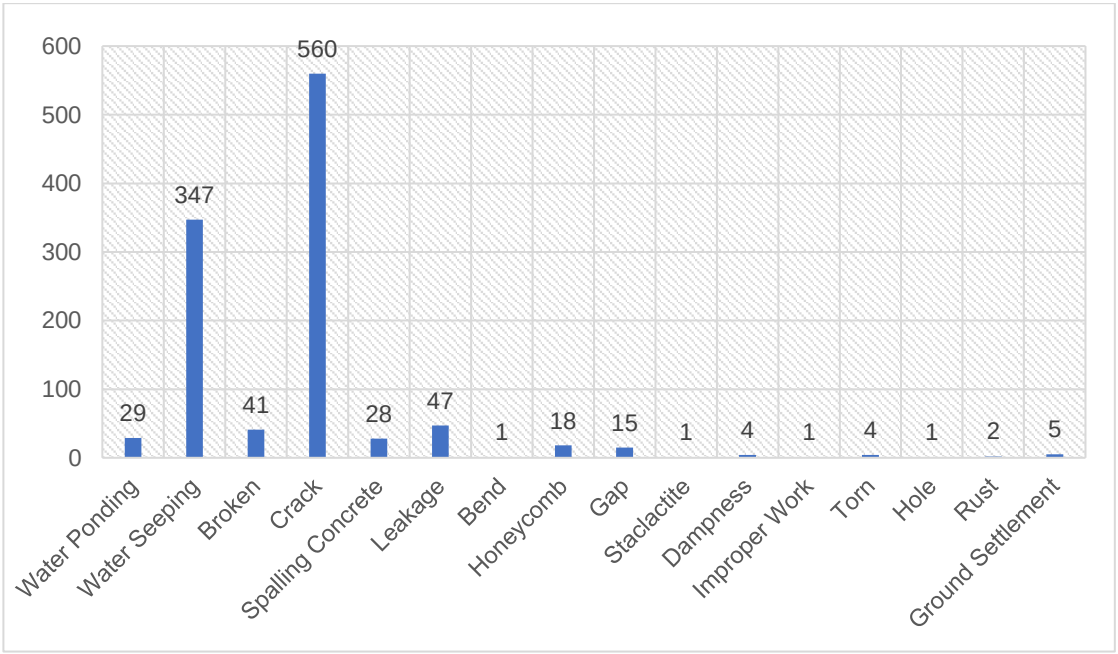
One of significant defect found on flat roof element is water stagnant issue. Besides, the installation of waterproofing layers for this element also can be considered as poor in condition as it seem less tidy.

3.8 SUMMARY OF FINDING

3.8.1 Defect Analysis by Types of Defects



(a)



(b)

Figure 3.2 (a) and (b): *Defects Analysis by Category*

Based in figure 3.2 (a) and (b), the highest number of defect type are crack with 50.72% (560) cracks detected in the building. This may be due to ground settlement and load issue. There are three types of defects can be classified within the building. These types of defects can be categorised as major, medium and fair crack. Majority of major crack found on wall elements, while medium and fair crack have been found on every elements of the building which includes concrete ceiling, wall, column, and floor structure.

The second most common type of defect on the building is water seeping with 31.43% (347) total issue found. The main source of defects is likely come from continuous flow of groundwater since this building is not provided with 'wheephole' system to exit the ground water causing the reaction on the concrete material. Almost majority building element such as column, wall, floor and concrete ceiling in Basement 3 are affected with water seeping problem. The condition may lead to poor indoor air quality of the building simultaneously affecting the occupant with higher chance of causing "Sick Building Syndrome" if it not threated immediately.

The least type of defect discovered throughout the building are water ponding, broken, spalling concrete, leakage, bend, honeycomb, gap, stalactite, dampness, improper work, torn, hole, rust, and settlement with represent between 0.1- 5% (1-47) defects recorded for each type of the defects mentioned. All of these defects are in fair and moderate condition. However, it is important to run respective inspection and condition monitoring for each defect identified to ensure the function, usage and performance of the building meet the building requirement and user satisfaction.

3.8.2 Result Analysis

Table 3.6: *Analysis Summary*

BCARS ANALYSIS		
Defect Quantity	Total Score	Overall Building Rating
1095	**9.63**	**Fair**

Based on result of analysis, the total rating score is 9.63 (**moderate**) which it is between a score of 5 - 12. Evaluation and results of the study is basically based on observation (visual), by taking into account all the impact of building conditions in terms of safety, functionality and maintenance. Detail for analysis can be refer on *appendices (A), (B), and (C).*

3.9 SUMMARY

In overall, the condition of the Summit Subang USJ building is at a moderate level. However, the safety aspects that involve human and physical life of the building are worrying due to problems such as soil sediment as well as water seepage and leaks in the building.

Therefore, the building can be easily exposed in dangerous risk or unexpected condition if it not threaten immediately. This includes user safety and comfort, failure of building operation and service, as well as shorten the building life span. So, it is recommended for the management to conduct regular monitoring and immediate repair work due to current condition of building since it is still in use. The repair work should be done on a scheduled basis.

CHAPTER 4 – PROBLEM IDENTIFY

4.1 PROBLEM

As a result of the inspection carried out, there are several issues or defects regarding to Summit Subang USJ building have been identified. This includes:

a) Broken, damage and clogged of drainage system make the water easily seeping into the building structure.
b) Wall defects related to crack issue that effected almost majority of wall in Basement 3. The defects divided into two condition which is fair crack (1-5mm) and major crack (< 5mm).
c) The existence of crack on soffit slab for certain area in Basement 3.
d) Crack and broken on floor that much likely caused by object impact and vehicle friction.
e) Sanitary and plumbing issue especially plumbing on ceiling since there are many existences of moisture and dampness in certain surface of ceiling.
f) The absent of ‘wheephole’ to exit the groundwater in basement causing almost majority of the defects occur in this area come from this source.

CHAPTER 5 – CONCLUSION AND RECOMMENDATION

5.1 CONCLUSION AND RECOMMENDATION

5.1.1 Conclusion

As a conclusion, The Summit Subang USJ is a building which mainly function as shopping mall, office and basement carpark. Thus, it is important to make sure the condition of the building always in a good state. Based on surveyor's inspection, several types of defects have been found with commonly affected in every level of the building. This includes defects such as crack, water seeping, broken, stagnant, etc. However, according to the defect analysis that have been made the overall building rating is in good and fair condition. Still, it is crucial to run maintenance work such as repair, replace, and services considering the current situation of the building. The detail recommendation can be referred on *5.1.2.*

5.1.2 Recommendation

As a result of the inspection carried out, it is important to run daily monitoring and repair work in this building to avoid the risk and other problems of damage or defects occur in the future. The repair work to be carried out must be in accordance with the aspects of safety and priority. Below are recommendations for repair work:

a) Conduct replacement and repair work of the existing drain area that has been broken and damaged, as well as clearing off the clogged drain.
b) Conduct repair work for both side of wall (in/out) of the building including applying a sealant.
c) Conduct repair work for cracks with sika (polymer modified cement based or resin-based mortars), painting and anti-rust on soffit slab.
d) Conduct repair work for cracks with sika (polymer modified cement base or resin-based mortars) and broken floor finishes.
e) Conduct inspection works for sanitary and plumbing element in the building, especially pipelines in the ceiling which involved by professional contractor and specialized in the piping system.
f) Conduct installation of ‘wheephole’ works to overcome the issue of groundwater since the technology enable the groundwater to exit the building easily.

The Summit Subang USJ is also well recommended to seek an advice and views from a Professional Structural Engineer Consultant regarding on damage to the building structure. Also, the point views from Geotechnical consultant regarding on strength and stability of soil also need to be considered as majority of the defects and problem occurred are very related with the foundation structure of the building. In addition, it is recommended for The Summit Subang USJ to conduct a building condition inspection (BCA) for the entire building area.

REFERENCES

Majlis Bandaraya Subang Jaya. (2017). Garis Panduan Pemeriksaan Bangunan Berkala.

Syukri, S. S. (2021). The Summit Subang USJ. (N. A. Zulkifli, Interviewer)

APPENDICES

- **DRAWING, PLAN AND DOCUMENT**

(A) SCHEDULE OF SUMMARY BUILDING CONDITION

SUMMIT SUBANG USJ - BASEMENT 3

LEVEL	TOTAL MARKS	DEFECTS QUANTITY	TOTAL SCORE	RATING
Basement 3	2529	273	9.26	FAIR
Basement 2	3218	322	9.99	FAIR
Basement 1	2315	258	8.97	FAIR
Lower Ground Floor	370	42	8.81	FAIR
Ground Floor	138	14	9.86	FAIR
First Floor	243	25	9.72	FAIR
Second Floor	219	24	9.13	FAIR
Third Floor	156	17	9.18	FAIR
Fourth Floor	392	43	9.12	FAIR
Fifth Floor	276	28	9.86	FAIR
Sixth Floor	48	5	9.60	FAIR
Nineteen Floor	156	14	11.14	FAIR
Building Façade	330	37	8.92	FAIR
TOTAL MARKS [d] (∑ OF c)			123.55	
TOTAL DEFECTS QUANTITY (e)			13	
TOTAL SCORE (d / e)			9.50	
OVERALL BUILDING RATING			FAIR	

(B) BUILDING CONDITION SCHEDULE (BARIS)

NO. OF DEFECT SHEET	NO	LEVEL	LOCATION	ELEMENT / COMPONENT	DEFECTS	BARIS			SHEET NO.	INDICATION CODE
						CONDITION	PRIORITY	MATRIX		
196	1	Basement 3	Stair 1	Wall	Water seeping	3	3	9	A-001	A1
197	2	Basement 3	Stair 1	Wall	Water seeping	3	3	9	A-002	A2
200	3	Basement 3	Stair 9	Wall	Water seeping	3	3	9	A-003	A3
199	4	Basement 3	Stair 11	Wall	Water seeping	3	3	9	A-004	A4
228	5	Basement 3	Fan Room (B3-N0-1)	Floor	Water stagnant due to leakage on ventilation fan	3	4	12	A-005	A5
229	6	Basement 3	Fan Room (B3-N0-1)	Wall	Water seeping	3	3	9	A-006	A6
230a	7	Basement 3	Fan Room (B3-N0-1)	Wall	Water seeping	3	3	9	A-007	A7
230b	8	Basement 3	Fan Room (B3-N0-1)	Wall	Water seeping	3	3	9	A-008	A8
231a	9	Basement 3	Fan Room (B3-N0-1)	Wall	Water seeping	3	3	9	A-009	A9
231b	10	Basement 3	Fan Room (B3-N0-1)	Wall	Water seeping	3	3	9	A-010	A10
232	11	Basement 3	Fan Room (B3-N0-1)	Wall	Water seeping	3	3	9	A-011	A11
221	12	Basement 3	Fan Room (B3-2/4)	Wall	Fair Crack 1-5mm	3	3	9	A-012	A12
222	13	Basement 3	Fan Room (B3-2/4)	Wall	Fair Crack 1-5mm	3	3	9	A-013	A13
223	14	Basement 3	Fan Room (B3-2/4)	Wall	Fair Crack 1-5mm	3	3	9	A-014	A14
224	15	Basement 3	Fan Room (B3-2/4)	Wall	Fair Crack 1-5mm	3	3	9	A-015	A15
225	16	Basement 3	Fan Room (B3-2/4)	Wall	Water seeping	3	3	9	A-016	A16
226	17	Basement 3	Fan Room (B3-2/4)	Beam	Water seeping	3	3	9	A-017	A17
227	18	Basement 3	Fan Room (B3-2/4)	Column	Water seeping	3	3	9	A-018	A18
198	19	Basement 3	Stair 6	Wall	Water seeping	3	3	9	A-019	A19
209	20	Basement 3	Fan Room (B3-3/4)	Wall	Fair Crack 1-5mm	3	3	9	A-020	A20
210a	21	Basement 3	Fan Room (B3-3/4)	Concrete Ceiling	Water seeping	3	3	9	A-021	A21
210b	22	Basement 3	Fan Room (B3-3/4)	Concrete Ceiling	Water seeping	3	3	9	A-022	A22
211	23	Basement 3	Fan Room (B3-3/4)	Wall	Fair Crack 1-5mm	3	3	9	A-023	A23
212	24	Basement 3	Fan Room (B3-3/4)	Wall	Major Crack >5mm	4	3	12	A-024	A24
213	25	Basement 3	Fan Room (B3-3/4)	Wall	Water seeping	3	3	9	A-025	A25
214	26	Basement 3	Fan Room (B3-3/4)	Wall	Water seeping	3	3	9	A-026	A26
215	27	Basement 3	Fan Room (B3-3/4)	Wall	Fair Crack 1-5mm	3	3	9	A-027	A27
216	28	Basement 3	Fan Room (B3-3/4)	Wall	Fair Crack 1-5mm	3	3	9	A-028	A28
217	29	Basement 3	Fan Room (B3-3/4)	Wall	Fair Crack 1-5mm	3	3	9	A-029	A29
218	30	Basement 3	Fan Room (B3-3/4)	Wall	Water seeping	3	3	9	A-030	A30

219	31	Basement 3	Fan Room (B3-3/4)	Wall	Fair Crack 1-5mm	3	3	9	A-031	A31
220a	32	Basement 3	Fan Room (B3-3/4)	Concrete Ceiling	Water seeping	3	3	9	A-032	A32
220b	33	Basement 3	Fan Room (B3-3/4)	Concrete Ceiling	Water seeping	3	3	9	A-033	A33
204	34	Basement 3	Fan Room (B3-5/6)	Wall	Fair Crack 1-5mm	3	3	9	A-034	A34
205	35	Basement 3	Fan Room (B3-5/6)	Wall	Fair Crack 1-5mm	3	3	9	A-035	A35
206a	36	Basement 3	Fan Room (B3-5/6)	Wall	Fair Crack 1-5mm	3	3	9	A-036	A36
206b	37	Basement 3	Fan Room (B3-5/6)	Wall	Fair Crack 1-5mm	3	3	9	A-037	A37
207	38	Basement 3	Fan Room (B3-5/6)	Wall	Fair Crack 1-5mm	3	3	9	A-038	A38
208	39	Basement 3	Fan Room (B3-5/6)	Wall	Broken	3	3	9	A-039	A39
202	40	Basement 3	Stair	Wall	Water seeping	3	3	9	A-040	A40
203a	41	Basement 3	Room	Wall	Water seeping	3	3	9	A-041	A41
201	42	Basement 3	Room	Wall	Water seeping	3	3	9	A-043	A43
001a	43	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	3	9	A-044	A44
001b	44	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	3	9	A-045	A45
001c	45	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	3	9	A-046	A46
001d	46	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	3	9	A-047	A47
001e	47	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	3	9	A-048	A48
001f	48	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	3	9	A-049	A49
003	49	Basement 3	Office Parking	Wall	Water seeping	3	3	9	A-050	A50
004	50	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-051	A51
005	51	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-052	A52
006	52	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-053	A53
007	53	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-054	A54
008	54	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-055	A55
009	55	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-056	A56
010	56	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-057	A57
011	57	Basement 3	Office Parking	Floor	Fair Crack 1-5mm	3	3	9	A-058	A58
012	58	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-059	A59
013	59	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	3	9	A-060	A60
014	60	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	3	9	A-061	A61
015a	61	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-062	A62
015b	62	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-063	A63

016	63	Basement 3	Office Parking	Floor	Fair Crack 1-5mm	3	3	9	A-064	A64
017	64	Basement 3	Office Parking	Floor	Fair Crack 1-5mm	3	3	9	A-065	A65
018	65	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-066	A66
019	66	Basement 3	Office Parking	Floor	Fair Crack 1-5mm	3	3	9	A-067	A67
020	67	Basement 3	Office Parking	Floor	Water seeping	3	3	9	A-068	A68
021	68	Basement 3	Office Parking	Floor	Fair Crack 1-5mm	3	3	9	A-069	A69
022	69	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	3	9	A-070	A70
023	70	Basement 3	Office Parking	Ground Floor Wall	Fair Crack 1-5mm	3	3	9	A-071	A71
024	71	Basement 3	Office Parking	Wall	Water seeping	3	3	9	A-072	A72
025	72	Basement 3	Office Parking	Wall	Fair Crack 1-5mm	3	3	9	A-073	A73
026	73	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-074	A74
027	74	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-075	A75
028	75	Basement 3	Office Parking	Concrete Ceiling t	Fair Crack 1-5mm	3	3	9	A-076	A76
029	76	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-077	A77
030	77	Basement 3	Office Parking	Floor	Water seeping	3	3	9	A-078	A78
031	78	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-079	A79
032	79	Basement 3	Office Parking	Column	Water seeping	3	3	9	A-080	A80
033	80	Basement 3	Office Parking	Floor	Water seeping	3	3	9	A-081	A81
034a	81	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-082	A82
034b	82	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-083	A83
034c	83	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-084	A84
035	84	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-085	A85
036	85	Basement 3	Office Parking	Floor	Water seeping	3	3	9	A-086	A86
037a	86	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	3	9	A-087	A87
037b	87	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	3	9	A-088	A88
037c	88	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	3	9	A-089	A89
038	89	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-090	A90
039	90	Basement 3	Office Parking	Floor	Fair Crack 1-5mm	3	3	9	A-091	A91
040a	91	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-092	A92
040b	92	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-093	A93
041	93	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-094	A94
042	94	Basement 3	Office Parking	Concrete Ceiling	Water seeping	3	3	9	A-095	A95
043	95	Basement 3	Office Parking	Concrete Ceiling	Water seeping	3	3	9	A-096	A96
044	96	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-097	A97
045	97	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	3	9	A-098	A98

047	98	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-099	A99
048	99	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-100	A100
049	100	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-101	A101
050	101	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-102	A102
051	102	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-103	A103
052	103	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-104	A104
053	104	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-105	A105
054	105	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-106	A106
055	106	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-107	A107
056	107	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-108	A108
057	108	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-109	A109
058	109	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	3	9	A-110	A110
059	110	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	3	9	A-111	A111
060	111	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-112	A112
061	112	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-113	A113
062	113	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-114	A114
063	114	Basement 3	Office Parking	Floor	Water seeping	3	4	12	A-115	A115
064	115	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-116	A116
065	116	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-117	A117
066	117	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	4	12	A-118	A118
067	118	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-119	A119
068	119	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-120	A120
069	120	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-121	A121
070	121	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-122	A122
071a	122	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-123	A123
071b	123	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-124	A124
071c	124	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-125	A125
072	125	Basement 3	Office Parking	Wall	Major Crack >5mm	4	3	12	A-126	A126
073	126	Basement 3	Office Parking	Concrete Ceiling	Fair Crack 1-5mm	3	4	12	A-127	A127
074	127	Basement 3	Office Parking	Ground Floor Wall	Water seeping	3	4	12	A-128	A128
075	128	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-129	A129

076	129	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-130	A130
077	130	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-131	A131
078a	131	Basement 3	Mall Parking	Ground Floor Wall	Water seeping	3	4	12	A-132	A132
079a	132	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-136	A136
079b	133	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-137	A137
079c	134	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-138	A138
080	135	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-139	A139
081	136	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-140	A140
082	137	Basement 3	Mall Parking	Floor	Broken	3	3	9	A-141	A141
083	138	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-142	A142
084a	139	Basement 3	Mall Parking	Ground Floor Wall	Water seeping	3	3	9	A-143	A143
085a	140	Basement 3	Mall Parking	Ground Floor Wall	Water seeping	3	3	9	A-146	A146
086	141	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-149	A149
087	142	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-150	A150
088	143	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-151	A151
089	144	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-152	A152
090	145	Basement 3	Mall Parking	Concrete Ceiling	Water seeping	3	4	12	A-153	A153
091	146	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-154	A154
092	147	Basement 3	Mall Parking	Floor	Broken	3	3	9	A-155	A155
093	148	Basement 3	Mall Parking	Concrete Ceiling	Water seeping	3	3	9	A-156	A156
094	149	Basement 3	Mall Parking	Wall	Water seeping	3	3	9	A-157	A157
095	150	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-158	A158
096a	151	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-159	A159
096b	152	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-160	A160
096c	153	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-161	A161
097a	154	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-162	A162
097b	155	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-163	A163
098a	156	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-164	A164
098b	157	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-165	A165
099	158	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-166	A166
100	159	Basement 3	Mall Parking	Floor	Broken	3	3	9	A-167	A167
101a	160	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-168	A168
101b	161	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-169	A169

102	162	Basement 3	Mall Parking	Concrete Ceiling	Water seeping	3	3	9	A-170	A170
103	163	Basement 3	Mall Parking	Wall	Fair Crack 1-5mm	3	3	9	A-171	A171
104	164	Basement 3	Mall Parking	Wall	Major Crack >5mm	4	3	12	A-172	A172
105a	165	Basement 3	Mall Parking	Ground Floor Wall	Water seeping	3	3	9	A-173	A173
105b	166	Basement 3	Mall Parking	Ground Floor Wall	Water seeping	3	3	9	A-174	A174
105c	167	Basement 3	Mall Parking	Ground Floor Wall	Water seeping	3	3	9	A-175	A175
106	168	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-176	A176
107	169	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-177	A177
108	170	Basement 3	Mall Parking	Concrete Ceiling	Water seeping	3	3	9	A-178	A178
109	171	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-179	A179
110a	172	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-180	A180
110b	173	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-181	A181
111a	174	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-182	A182
111b	175	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-183	A183
112	176	Basement 3	Mall Parking	Column	Water seeping	3	3	9	A-184	A184
113	177	Basement 3	Mall Parking	Floor	Broken	3	3	9	A-185	A185
114	178	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-186	A186
115a	179	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-187	A187
115b	180	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-188	A188
116	181	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-189	A189
117	182	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-190	A190
118	183	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-191	A191
119	184	Basement 3	Mall Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-192	A192
233a	185	Basement 3	Mall Parking	Floor	Water seeping	3	3	9	A-193	A193
233b	186	Basement 3	Mall Parking	Floor	Water seeping	3	3	9	A-194	A194
234	187	Basement 3	Mall Parking	Floor	Water seeping	3	3	9	A-195	A195
120	188	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	3	4	12	A-196	A196
121	189	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-197	A197
122	190	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-198	A198
123	191	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-199	A199
124a	192	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-200	A200
124b	193	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-201	A201
125a	194	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-202	A202
125b	195	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-203	A203

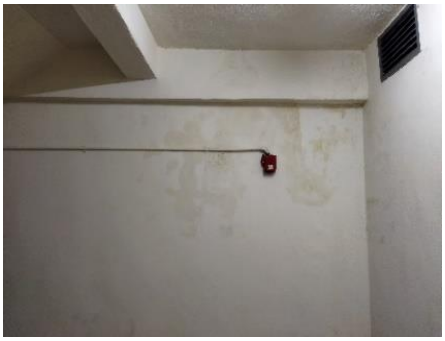
126	196	Basement 3	Hotel Parking	Column	Water seeping	3	3	9	A-204	A204
127	197	Basement 3	Hotel Parking	Column	Water seeping	3	3	9	A-205	A205
128	198	Basement 3	Hotel Parking	Floor	Water seeping	3	3	9	A-206	A206
129	199	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-207	A207
130	200	Basement 3	Hotel Parking	Floor	Water seeping	3	3	9	A-208	A208
131	201	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-209	A209
132	202	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-210	A210
133	203	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-211	A211
134	204	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-212	A212
135	205	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-213	A213
136	206	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-214	A214
137	207	Basement 3	Hotel Parking	Concrete Ceiling	Water seeping	3	3	9	A-215	A215
138	208	Basement 3	Hotel Parking	Concrete Ceiling	Water seeping	3	3	9	A-216	A216
139	209	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-217	A217
140	210	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	3	3	9	A-218	A218
141	211	Basement 3	Hotel Parking	Floor	Water seeping	3	3	9	A-219	A219
142	212	Basement 3	Hotel Parking	Floor	Water seeping	3	3	9	A-220	A220
143	213	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-221	A221
144	214	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-222	A222
145	215	Basement 3	Hotel Parking	Column	Water seeping	3	3	9	A-223	A223
146	216	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-224	A224
147	217	Basement 3	Hotel Parking	Column	Fair Crack 1-5mm	3	3	9	A-225	A225
148	218	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-226	A226
149	219	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-227	A227
150	220	Basement 3	Hotel Parking	Floor	Broken	3	3	9	A-228	A228
151	221	Basement 3	Hotel Parking	Concrete Ceiling	Spalling	3	4	12	A-229	A229
152a	222	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	4	3	12	A-230	A230
152b	223	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	4	3	12	A-231	A231
152c	224	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	4	3	12	A-232	A232
153	225	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-233	A233
154	226	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-234	A234
155	227	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-235	A235
156	228	Basement 3	Hotel Parking	Floor	Water seeping	3	4	12	A-236	A236
157	229	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	3	3	9	A-237	A237
158	230	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	3	3	9	A-238	A238
159	231	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-239	A239

160	232	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-240	A240
161	233	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-241	A241
162	234	Basement 3	Hotel Parking	Concrete Ceiling	Water seeping	3	3	9	A-242	A242
163	235	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-243	A243
164	236	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-244	A244
165	237	Basement 3	Hotel Parking	Floor	Broken	3	4	12	A-245	A245
166	238	Basement 3	Hotel Parking	Floor	Broken	3	4	12	A-246	A246
167	239	Basement 3	Hotel Parking	Floor	Broken	3	4	12	A-247	A247
168	240	Basement 3	Hotel Parking	Floor	Broken	3	4	12	A-248	A248
169	241	Basement 3	Hotel Parking	Floor	Broken	3	4	12	A-249	A249
170	242	Basement 3	Hotel Parking	Floor	Fair Crack 1-5mm	3	3	9	A-250	A250
171	243	Basement 3	Hotel Parking	Floor	Fair Crack 1-5mm	3	3	9	A-251	A251
172	244	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-252	A252
173a	245	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-253	A253
173b	246	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-254	A254
174	247	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-255	A255
175	248	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-256	A256
176a	249	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	3	3	9	A-257	A257
176b	250	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	3	3	9	A-258	A258
176c	251	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	3	3	9	A-259	A259
176d	252	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	3	3	9	A-260	A260
177	253	Basement 3	Hotel Parking	Ground Floor Wall	Broken	3	3	9	A-261	A261
178	254	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-262	A262
179	255	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-263	A263
180	256	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-264	A264
181	257	Basement 3	Hotel Parking	Wall	Water seeping	4	3	12	A-265	A265
182	258	Basement 3	Hotel Parking	Concrete Ceiling	Water seeping	3	3	9	A-266	A266
183	259	Basement 3	Hotel Parking	Wall	Water seeping	3	3	9	A-267	A267
184	260	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	3	3	9	A-268	A268
185	261	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-269	A269
186	262	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-270	A270
187	263	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	3	3	9	A-271	A271
188	264	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-272	A272
189	265	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	3	3	9	A-273	A273
190	266	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	3	3	9	A-274	A274
191	267	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	3	3	9	A-275	A275
192	268	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	3	3	9	A-276	A276
193	269	Basement 3	Hotel Parking	Ground Floor Wall	Water seeping	3	3	9	A-277	A277

194	270	Basement 3	Hotel Parking	Wall	Water seeping	3	3	9	A-278	A278
195	271	Basement 3	Hotel Parking	Concrete Ceiling	Fair Crack 1-5mm	3	3	9	A-279	A279
234	272	Basement 3	Stair	Wall	Water seeping	3	4	12	A-280	A280
235	273	Basement 3	Hotel Parking	Wall	Water seeping	3	4	12	A-281	A281
TOTAL MARK (d) (Σ of c)								**2529**		
NUMBER OF DEFECT / DEFECTS (e)								**273**		
TOTAL SCORE (d/e)								**9.26**		
OVERALL BUILDING RATING								**Fair**		

(C) DEFECT SHEET

DEFECT SHEET / DAMAGE – BASEMENT 3

No. of Defect Sheet	A-001	**Level**	Basement 3		
 		**Location**	Stair		
		Element / Component	Wall		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Water seeping			
		Possible Causes			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-003	**Level**	Basement 3		
 		**Location**	Stair		
		Element / Component	Wall		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Water seeping			
		Possible Causes			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-005	**Level**	Basement 3		
 		**Location**	Fan Room (B3-N0-1)		
		Element / Component	Floor		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	4	12	
		Defect Description			
		Water stagnant			
		Possible Causes			
		Leaking from ventilation fan.			

No. of Defect Sheet	A-008	**Level**	Basement 3		
 		**Location**	Fan Room (B3-N0-1)		
		Element / Component	Wall		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Water seeping			
		Possible Causes			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-012	**Level**	Basement 3		
		**Location**	Fan Room (B3-2/4)		
		Element / Component	Wall		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Fair crack (1-5mm)			
		Possible Causes			
		Probably due to vibration from the ventilation duct fan / soil settlement			

No. of Defect Sheet	A-039	Level	Basement 3		
 		Location	Fan Room (B3-5/6)		
		Element / Component	Wall		
		BARIS			
		Condition	Priority	Matriks	Color
		3	3	9	
		Defect Description			
		Broken of concrete wall			
		Possible Causes			
		Object Impact			

No. of Defect Sheet	A-040	Level	Basement 3		
 		Location	Stair		
		Element / Component	Beam		
		BARIS			
		Condition	Priority	Matrix	Color
		3	3	9	
		Defect Description			
		Water seeping			
		Possible Causes			
		Water seeping from the top.			

No. of Defect Sheet	A-044	**Level**	Basement 3		
 		**Location**	Office Parking		
		Element / Component	Ground Floor Wall		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Water seeping			
		Possible Causes			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-046	**Level**	Basement 3		
 		**Location**	Office Parking		
		Element / Component	Ground Floor Wall		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Water seeping			
		Possible Causes			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-047	Level	Basement 3		
 		Location	Office Parking		
		Element / Component	Ground Floor Wall		
		BARIS			
		Condition	Priority	Matrix	Color
		3	3	9	
		Defect Description			
		Water seeping			
		Possible Causes			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-048	Level	Basement 3		
 		Location	Office Parking		
		Element / Component	Ground Floor Wall		
		BARIS			
		Condition	Priority	Matrix	Color
		3	3	9	
		Defect Description			
		Water seeping			
		Possible Causes			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-060	**Level**	Basement 3		
		**Location**	Office Parking		
		Element / Component	Ground Floor Wall		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Water seeping			
		**Possible Causes**			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-061	**Level**	Basement 3		
		**Location**	Office Parking		
		Element / Component	Ground Floor Wall		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Water seeping			
		**Possible Causes**			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-062	Level	Basement 3		
		Location	Office Parking		
		Element / Component	Concrete Ceiling		
		BARIS			
		Condition	Priority	Matrix	Color
		3	3	9	
		Defect Description			
		Fair crack (1-5mm)			
		Possible Causes			
		Soil settlement / load pressure.			

No. of Defect Sheet	A-066	Level	Basement 3		
		Location	Office Parking		
		Element / Component	Concrete Ceiling		
		BARIS			
		Condition	Priority	Matrix	Color
		3	3	9	
		Defect Description			
		Water seeping			
		Possible Causes			
		Water seeping from the top.			

No. of Defect Sheet	A-078	**Level**	Basement 3		
		**Location**	Office Parking		
		Element / Component	Floor		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Water seeping			
		**Possible Causes**			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-079	**Level**	Basement 3		
		**Location**	Office Parking		
		Element / Component	Concrete Ceiling		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Fair crack (1-5mm)			
		**Possible Causes**			
		Soil settlement / load pressure.			

No. of Defect Sheet	A-080	**Level**	Basement 3		
		**Location**	Office Parking		
		Element / Component	Column		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Water seeping			
		**Possible Causes**			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-082	**Level**	Basement 3		
		**Location**	Office Parking		
		Element / Component	Concrete Ceiling		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Fair crack (1-5mm)			
		**Possible Causes**			
		Soil settlement / load pressure.			

No. of Defect Sheet	A-118	**Level**	Basement 3		
 		**Location**	Office Parking		
		Element / Component	Concrete Ceiling		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	4	12	
		Defect Description			
		Water seeping			
		Possible Causes			
		Water seeping from the top.			

No. of Defect Sheet	A-153	**Level**	Basement 3		
 		**Location**	Mall Parking		
		Element / Component	Concrete Ceiling		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	4	12	
		Defect Description			
		Water seeping			
		Possible Causes			
		Water seeping from the top.			

No. of Defect Sheet	A-167	**Level**	Basement 3		
		**Location**	Mall Parking		
		Element / Component	Floor		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Broken			
		**Possible Causes**			
		Object impact or vehicle friction.			

No. of Defect Sheet	A-184	**Level**	Basement 3		
		**Location**	Mall Parking		
		Element / Component	Column		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Water seeping			
		**Possible Causes**			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-195	**Level**	Basement 3		
		**Location**	Mall Parking		
		Element / Component	Floor		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Water seeping			
		Possible Causes			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-204	**Level**	Basement 3		
		**Location**	Hotel Parking		
		Element / Component	Column		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Water seeping			
		Possible Causes			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-206	**Level**	Basement 3		
		**Location**	Hotel Parking		
		Element / Component	Floor		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	4	12	
		Defect Description			
		Water seeping			
		**Possible Causes**			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-219	**Level**	Basement 3		
		**Location**	Hotel Parking		
		Element / Component	Floor		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		Defect Description			
		Water seeping			
		**Possible Causes**			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-220	**Level**	Basement 3		
		**Location**	Hotel Parking		
		Element / Component	Floor		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	3	9	
		**Defect Description**			
		Water seeping			
		Possible Causes			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

No. of Defect Sheet	A-229	**Level**	Basement 3		
		**Location**	Hotel Parking		
		Element / Component	Concrete Ceiling		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	4	12	
		**Defect Description**			
		Concrete spalling on ceiling			
		Possible Causes			
		Rusty reinforcement steel due to existence of moisture.			

No. of Defect Sheet	A-248	Level	Basement 3		
		Location	Hotel Parking		
		Element / Component	Floor		
		BARIS			
		Condition	Priority	Matrix	Color
		3	4	12	
		Defect Description			
		Broken floor			
		Possible Causes			
		Object impact or vehicle friction.			

No. of Defect Sheet	A-257	Level	Basement 3		
		Location	Hotel Parking		
		Element / Component	Ground Floor Wall		
		BARIS			
		Condition	Priority	Matrix	Color
		3	3	9	
		Defect Description			
		Water seeping			
		Possible Causes			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			
					

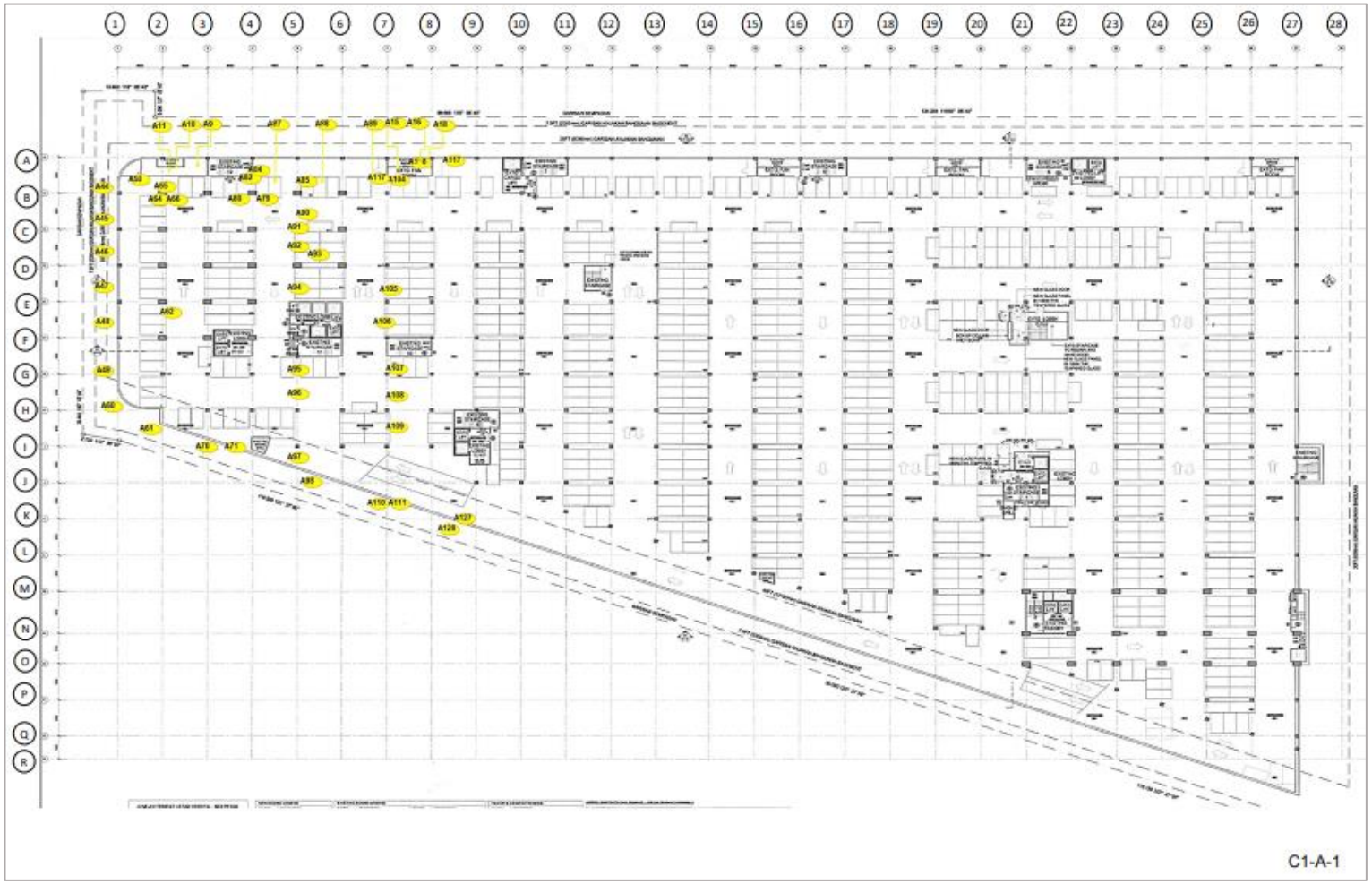
No. of Defect Sheet	A-265	Level	Basement 3		
 		Location	Hotel Parking		
		Element / Component	Wall		
		BARIS			
		Condition	Priority	Matrix	Color
		4	3	12	
		Defect Description			
		Water seeping			
		Possible Causes			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

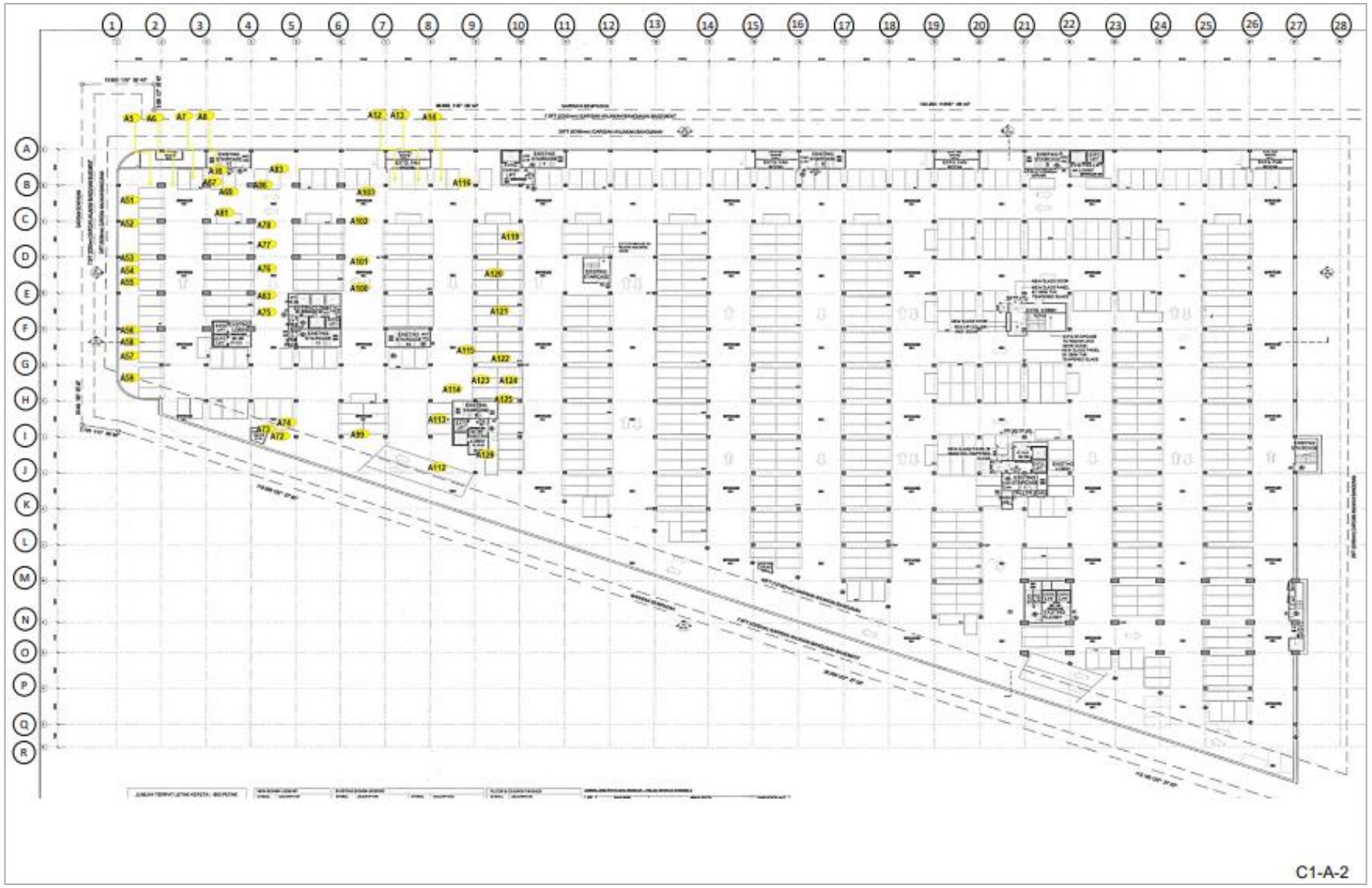
No. of Defect Sheet	A-266	Level	Basement 3		
 		Location	Hotel Parking		
		Element / Component	Concrete Ceiling		
		BARIS			
		Condition	Priority	Matrix	Color
		3	3	9	
		Defect Description			
		Water seeping			
		Possible Causes			
		Water seeping from the top.			

No. of Defect Sheet	A-281	**Level**	Basement 3		
		**Location**	Hotel Parking		
		Element / Component	Wall		
		BARIS			
		Condition	**Priority**	**Matrix**	**Color**
		3	4	12	
		**Defect Description**			
		Water seeping			
		Possible Causes			
		Due to continuous flow of groundwater and causing the reaction on the concrete material.			

(D) INDICATION PLAN

SUMMIT SUBANG USJ- BASEMENT 3

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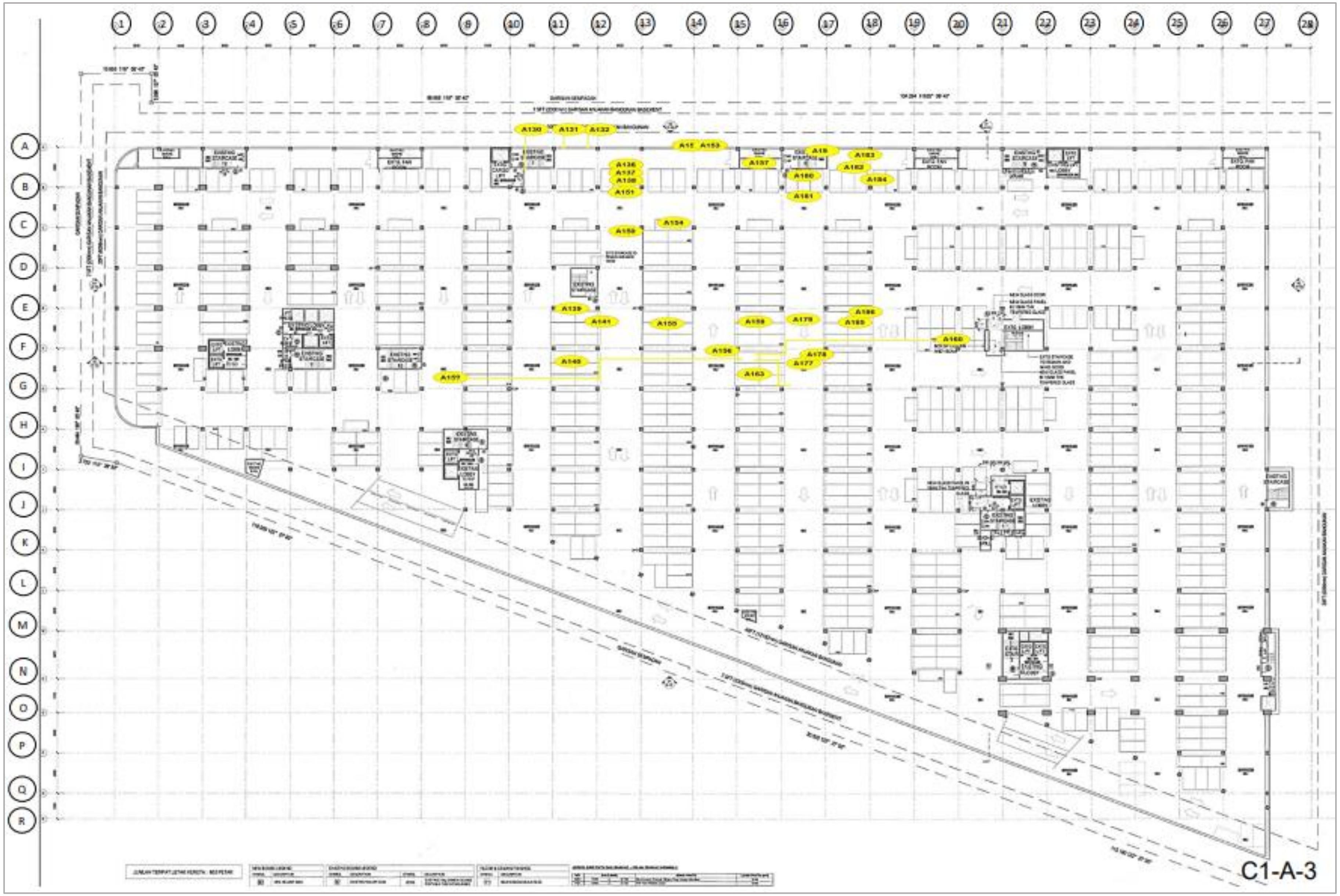
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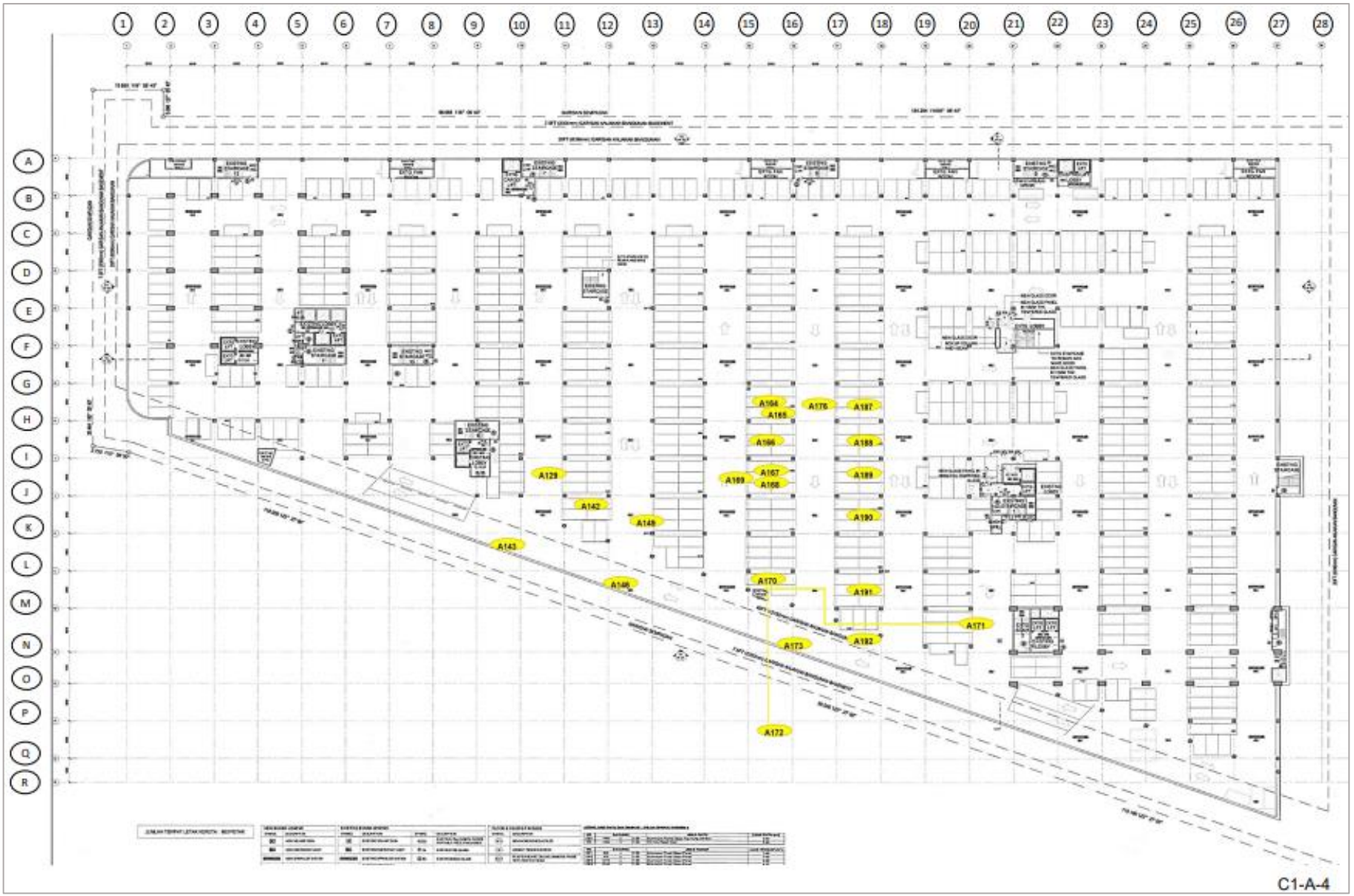
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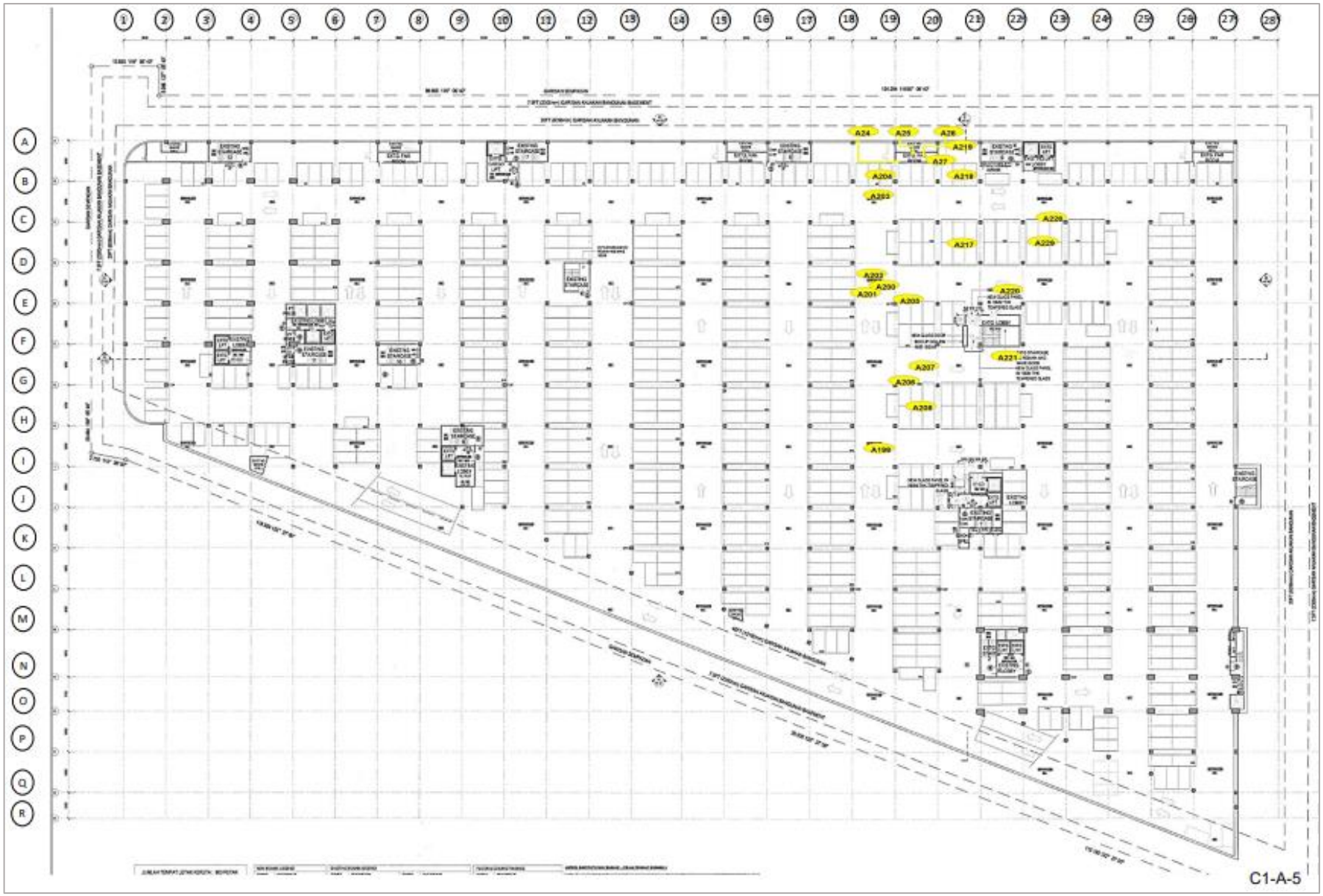
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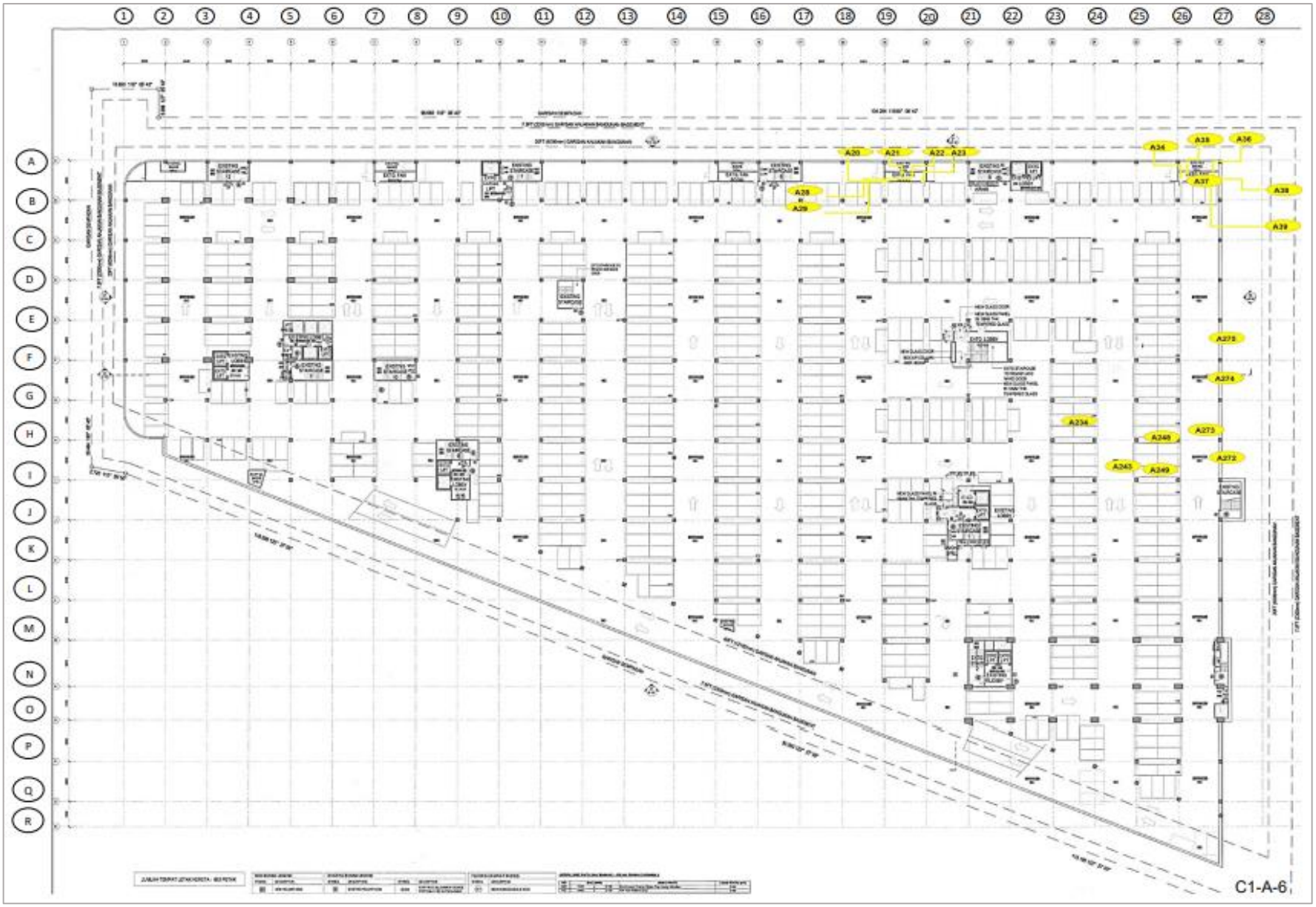
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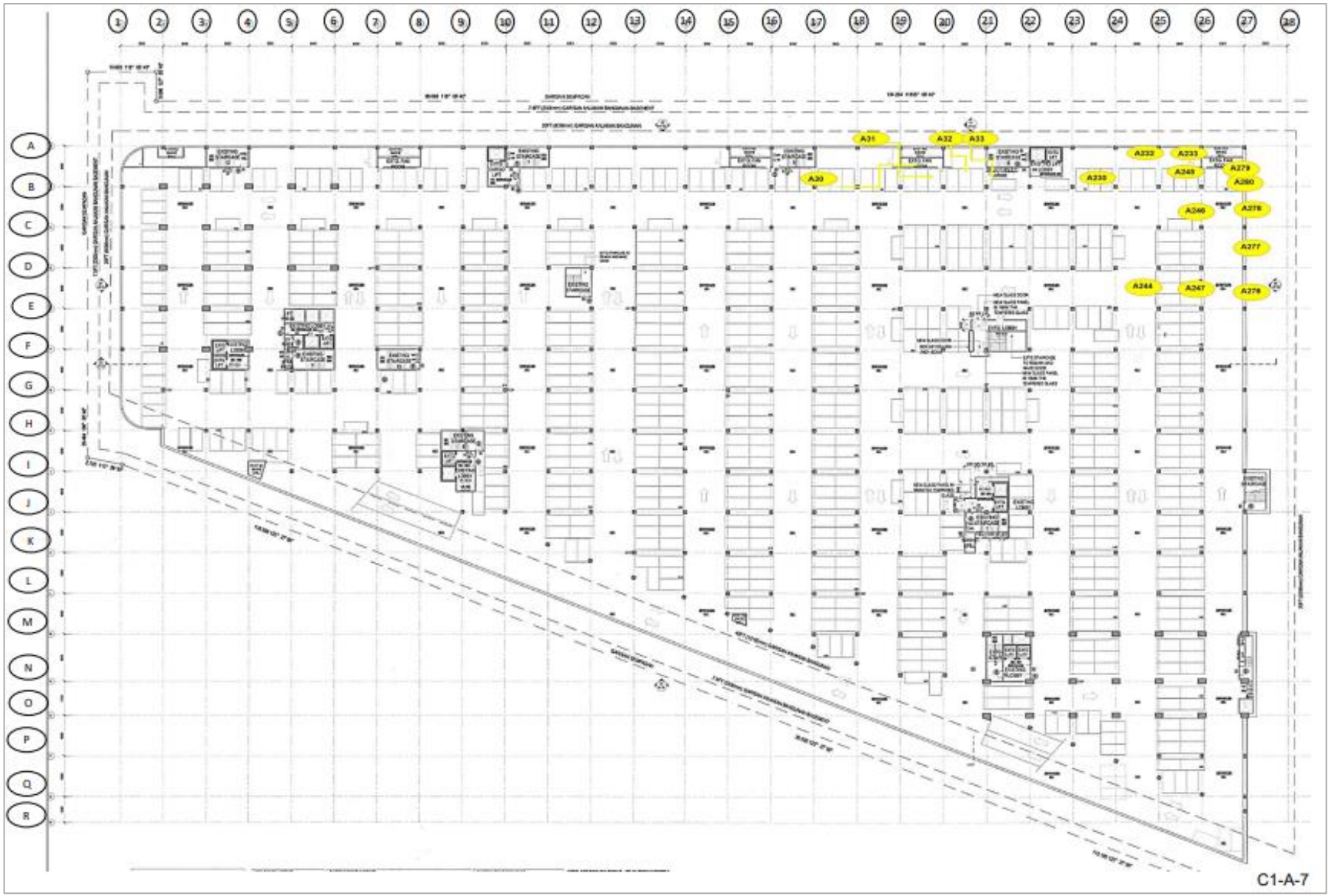
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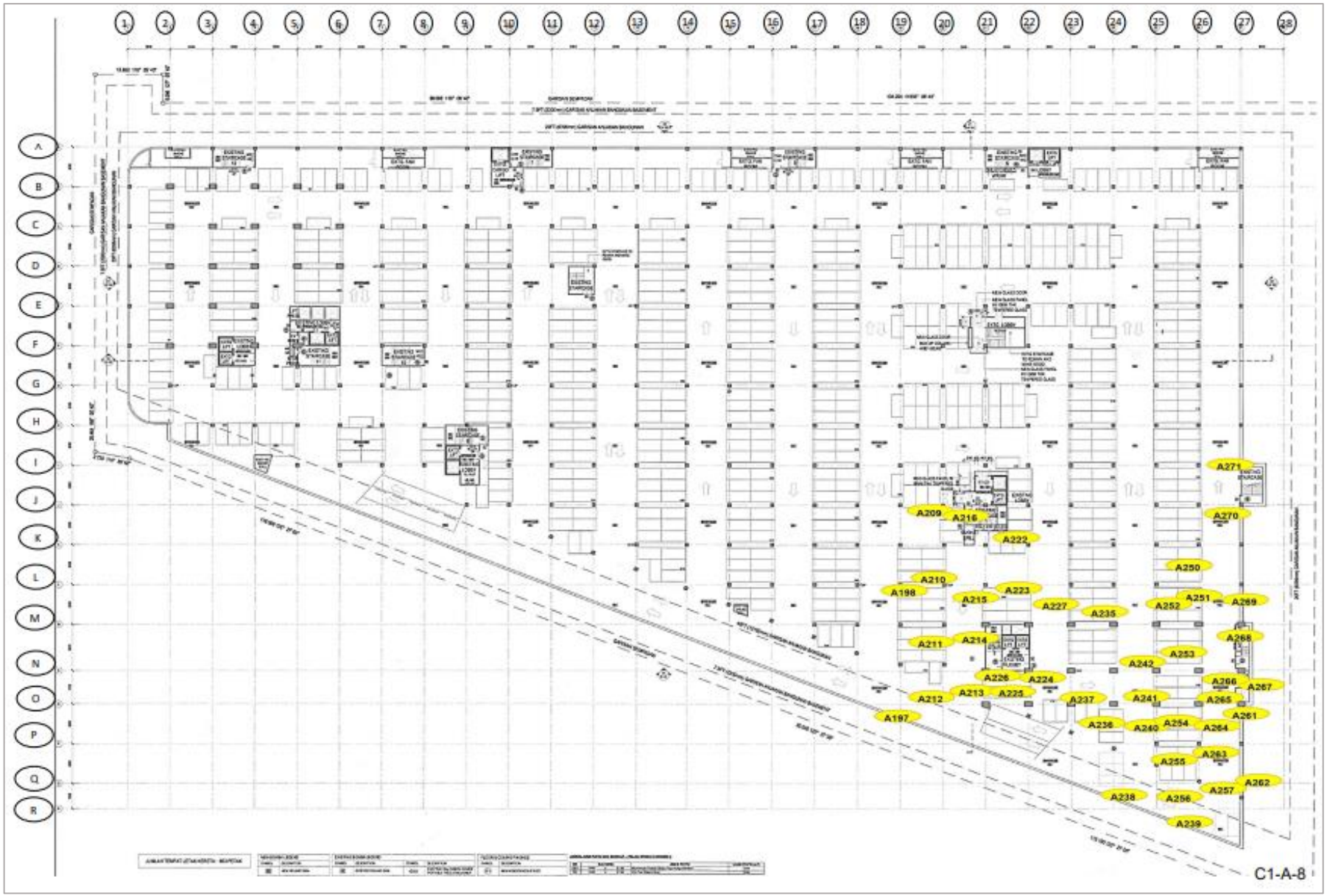
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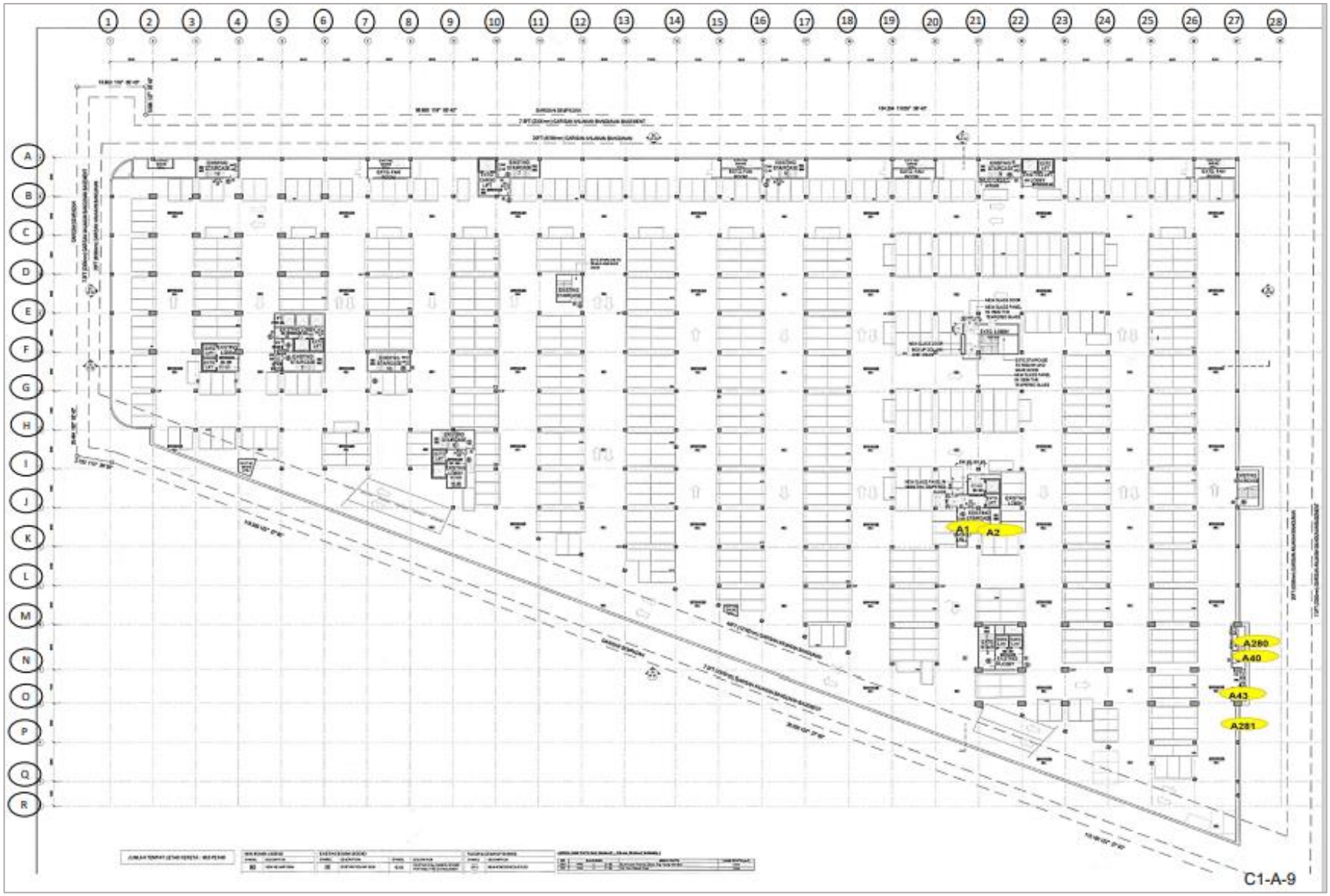
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(E) PROTOCOL APPLICATION FORM

- Standard Building Condition Report Submission Application Form

MBSJ-MPK(U/KP)-00.B06
Semakan :0 / Mukasurat : 1/1

JABATAN BANGUNAN
MAJLIS BANDARAYA SUBANG JAYA
PERSIARAN PERPADUAN , USJ 5
47610 SUBANG JAYA

Tel : 03-80364447
Faks : 03-80240501
homepage : www.mbsj.gov.my

BORANG PERMOHONAN PENGEMUKAAN LAPORAN KEADAAN BANGUNAN BERPIAWAIAN (PROTOKOL 1- PEMERIKSAAN VISUAL)

(CATATAN : Pastikan susunan helaian borang dikekalkan)

A. MAKLUMAT PERMOHONAN

1. **NAMA BANGUNAN :** THE SUMMIT SUBANG USJ

No. Lot PT: LOT 14 No. Bangunan: TWOA

Jalan: PERSIARAN KEWAJIPAN USJ 1 SUBANG JAYA , Petaling Jaya,

Keluasan Tanah: 31155 SQ M No. Hakmilik: 43528
After land acquisition by Prasarana (0.4121Hek)

2. **PEMUNYA BANGUNAN:**

a). Nama Pemunya Bangunan: THE SUMMIT SUBANG USJ MANAGEMENT CORPORATION (SEL:2859/08)
(Syarikat/Individu)

b). Nama Penandatangan (syarikat): EN. HEONG KIM MENG

c). Jawatan (syarikat): SETIAUSAHA

d). Alamat Pos: CENTER MANAGEMENT OFFICE
F4.09 LEVEL 4 THE SUMMIT SUBANG USJ
PERSIARAN KEWAJIPAN USJ 1 , 47600 SUBANG JAYA SELANGOR
Tel: 03-80233493

3. **PERUNDING BANGUNAN:**

a). Nama Perunding : AMAS FM CONSULTANT SDN. BHD
(Syarikat/Individu)

b). Nama Penandatangan (syarikat): Sr. Ts. Dr. ABDUL MUTALIB AMAN SHAH

c). Jawatan (syarikat): PENGARAH URUSAN

b). Alamat Pos: NO. 55-A JALAN UDANG KARA 31, OFFF JALAN HASSAN,
SUNGAI UDANG, 41250 KLANG, SELANGOR DARUL EHSAN

Tel: 019-2822820

4. **TARIKH KELULUSAN PELAN BANGUNAN :** 24 OCT 1997

5. **TARIKH KELULUSAN KEBENARAN MERANCANG :** 24 OCT 1997

6. **TARIKH SIJIL PEMATUHAN DAN PENYIAPAN DI KELUARKAN:** _____

7. **JENIS BANGUNAN:**
(Tandakan X pada ruang Jenis Bangunan)

a). Institusi : ☐ Hospital/ Kolej/ Sekolah/ Rumah Ibadat/ Pusat Komuniti/ Perpustakaan/ Pusat Sukan

b). Industri : ☐ Kilang

c). Perdagangan : ☒ Stesen Minyak/ Pejabat/ Pasaraya Besar/ : Kedai/ Pusat Penjaja/ Hotel

B. SENARAI SEMAK PERMOHONAN LAPORAN KEADAAN BANGUNAN BERPIAWAIAN

		PSP	SEMAKAN PEJABAT
1.	Laporan dikemukakan oleh orang yang berkelayakan (Perunding)		
	i. Jurutera Berdaftar		
	ii. Arkitek Berdaftar		
	iii. Juruukur Bangunan Berdaftar		
2.	Surat permohonan daripada Perunding Berdaftar.		
3.	Salinan Perakuan Pendaftaran Perunding yang masih sahlaku *(Juruteta Bertauliah/ Arkitek Berdaftar/ Juruukur Bangunan Berdaftar)*		
4.	Sijil Pemeriksaan Visual *(Salinan asal berwarna kuning dan ditx/ lengkap)*		
5.	Salinan dokumen bukti pemunya bangunanan tapak atau bangunan berkenaan:		
	5.1. Salinan Surat Hakmilik Sementara/Geran, atau	APPENDIX A (i) A (ii)	
	5.2. Salinan Perjanjian Jual Beli (untuk tempoh kurang setahun dari tarikh perjanjian) beserta salinan Surat Hakmilik Sementara/ Geran sedia ada, atau beserta salinan bukti permohonan pindahmilik (Borang 14A) ke Pejabat Tanah dan Galian	NA	
6.	Salinan dokumen bukti pemunya bangunanan tapak atau bangunan berkenaan:		
	i. Salinan Surat Hakmilik Sementara/Geran, atau	SEE 5.1 ABOVE	
	ii. Salinan Perjanjian Jual Beli (untuk tempoh kurang setahun dari tarikh perjanjian) beserta salinan Surat Hakmilik Sementara/ Geran sedia ada, atau beserta salinan bukti permohonan pindahmilik (Borang 14A) ke Pejabat Tanah dan Galian	NA	
7.	Salinan kad pengenalan pemunya bangunan/pemunya bangunan-pemunya bangunan bersama	APPENDIX B	
8.	Salinan resit Cukai Pintu (taksiran) terkini yang telah dijelaskan	NA	

		PSP	SEMAKAN PEJABAT
9.	Salinan resit Cukai Tanah terkini yang telah dijelaskan	NIA	
10.	Salinan surat kelulusan dan pelan Kebenaran Merancang dari Jabatan Perancangan Pembangunan MBSJ untuk seperti berikut:	APPENDIX C (i) C (ii)	
11.	1 Salinan Laporan Keadaan Bangunan Berpiawaian		
	11.1. Lebar kertas ukuran A4 mengikut format *Standard Title Blok* yang ditetapkan oleh Jabatan Kawalan Bangunan MBSJ. *(Rujuk dilampiran)*		
	11.2. Laporan diskemukakan ditulis dalam Bahasa Malaysia, Bahasa Asing dalam teks hendak dicondong dan tidak boleh menggunakan perkataan ringkas.		
	11.3 Laporan perlu menggunakan kulit keras *(Rujuk dilampiran)*.		
12.	Maklumat Am Bangunan.		
	12.1. Nama Alamat Bangunan.		
	12.2. Pelan Lokasi yang Menunjukkan Kedudukan Bangunan.	APPENDIX D	
	12.3 Pelan Lakaran Tapak yang Menunjukkan Bilangan Blok Bangunan-Bangunan Di Atas Tapak dengan Menandakan dengan Jelas Blok Yang Diperiksa	APPENDIX D	
	12.4. Bilangan tingkat dan unit-unit di setiap blok bangunan.	APPENDIX E (i)	
	12.5. Keterangan kegunaan utama bangunan yang menunjukkan secara anggaran peratusan keluasan kawasan bagi setiap penggunaan	APPENDIX E (ii)	
	12.6. Tarikh disiapkan.		
	12.7. Sejarah Penyelenggaraan Bangunan.		
	13.8. Nama Arkitek asal, Jurutera Profesional asal dan kontraktor asal.	APPENDIX F	
13.	Sistem Struktur Bangunan.		
	13.1. Keterangan Bentuk-Bentuk Struktur, Sistem-Sistem Dan Bahan-Bahan yang Digunakan Di Bahagian Bangunan yang Berlainan.		
	13.2. Keterangan mengenai keadaan tanah dan sistem asas sekiranya diketahui.		
	13.3. Mengenalpasti elemen-elemen struktur utama dan kawasan-kawasan kritikal untuk penyiasatan khas.		
14.	Keadaan Kawasan Persekitaran.		
	14.1. Keterangan berkenaan dengan keadaan sistem peparitan kawasan persekitaran.		
	14.2. Keterangan berkenaan dengan keadaan sistem perlindungan cerun.		
15.	Tahap Pemeriksaan.		
	15.1. Tahap pemeriksaan yang dijalankan dengan menunjukkan secara jelas bilangan unit-unit dan peratusan kawasan-kawasan yang telah diperiksa termasuk semua kawasan yang tidak diperiksa dan sebab-sebab kawasan tersebut tidak diperiksa.		
	15.2. Had akses untuk menjalankan pemeriksaan.		
16.	Buku Harian Kajian.		
	16.1. Rekod pemerhatian yang menandakan secara jelas lokasi-lokasi, tahap dan kategasan sebarang pemerhatian berkaitan dengan keadaan-keadaan bebanan, penambahan/penukaran dan tanda kecacatan-kecacatan struktur, ketegangan dan deformasi		

			PSP	SENARAN PEJABAT
	16.2.	Rekod pemerhatian ke atas perpatian yang menandakan dengan jelas keretakan, kebocoran, kekurangan kepayaan, tersumbat dan keadaan permukaan konkrit.		
	16.3.	Rekod pemerhatian ke atas sistem perlindungan cerun yang menunjukkan dengan jelas sebarang kecondongan atau pergerakan sistan (lateral),keretakan dinding, keretakan "tension" tanah, "sink holes", keadaan "ground anchor" dan keruntuhan kecil.		
17.	Kajian Bebanan Struktur Bangunan.			
	17.1.	rekod dan ulasan-ulasan mengenai pemerhatian bagi keadaan – Keadaan bebanan menandakan kegunaan dibahagian –bahagian bangunan yang berlainan dan mengenalpasti sebarang penyalahgunaan atau perubahan kegunaan.		
	17.2.	Menyatakan samada kegunaan dan keadaan bebanan sediada adalah bersesuaian dengan kehendak tujuan struktur.		
	17.3.	Menyatakan samada sebarang penyalahgunaan atau perubahan kegunaan telah menyebabkan beban berlebihan yang boleh memberi kesan yang memudaratkan struktur bangunan.		
18.	Kajian mengenai penambahan / perubahan kepada struktur bangunan dan persekitaran.			
	18.1.	Menyatakan samada sebarang penambahan dan perubahan telah menyebabkan lebihan bebanan atau lain-lain kesan yang memudaratkan kepada struktur bangunan.		
	18.2.	Menyatakan samada sebarang penambahan dan perubahan yang telah menyebabkan lebihan beban atau lain-lain kesan yang memudaratkan kepada sistem perlindungan cerun.		
19.	Kajian mengenaitanda kecacatan-kecacatan struktur, kerosakan-kerosakan ketegangan, deformasi atau kemerosotan			
	19.1.	Rekod-rekod pemerhatian mengenai sebarang tanda kecacatan-kecacatan struktur, kerosakan, ketegangan, deformasi atau kemerosotan.		
	19.2.	Ulasan-ulasan ke atas tahap, sebab-sebab yang mungkin dan meniai masalah-masalah yang telah dikenalpasti.		
	19.3.	Laporan hasil samada masalah-masalah yang dikenalpasti ialah:		
		19.3.1. Kecacatan yang tidak memberikan kesan kepada struktur.		
		19.3.2. Kecacatan-kecacatan yang memerlukan pengawasan dan tindakan pembaikan; atau		
		19.3.3. Mengesyaki kecacatan-kecacatan yang memberi kesan ke atas struktur yang memerlukan penyiasatan penuh struktur dan tindakan serta merta.		
		19.3.4. Menggunakan piawaian CP BS 101 dan sistem pemarkahan PENGUKURAN BARIS dimana kandungan terdiri :		
		i Jadual Ringkasan Penemuan Kecacatan Bangunan		
	19.4.	Syor-syor dan cadangan ke atas sebarang pengawasan atau tindakan-tindakan pembaikan yang diperlukan untuk memastikan kestabilan struktur dan keutuhan bangunan atau bagi penyiasatan penuh struktur yang selanjutnya.		

		PSP	SEMAKAN PEJABAT
20.	Lain-lain kajian atau pemeriksaan yang dijalankan		
	20.1. Laporan dan ulasan mengenai sebarang pembetulan terdahulu yang dijalankan ke atas struktur bangunan.		
	20.2. Laporan dan ulasan mengenai sebarang kerja pembinaan di atas tapak bersebelahan yang boleh mempengaruhi bangunan yang sedang diperiksa.		
	20.3. Laporan dan ulasan mengenai sebarang kajian atau pemeriksaan lain yang dijalankan ke atas keadaan tangki-tangki air.		
	20.4. Laporan dan ulasan mengenai sebarang kajian atau pemeriksaan-pemeriksaan lain yang dijalankan oleh Jurutera.		
21.	Rumusan		
	21.1. Rumusan berpanduan hasil dari pengunaan piawain CP BSI01 (PENGUKURAN BARIS)		
22.	Syor-Syor dan Cadangan		
	22.1 Syor untuk tindakan-tindakan susulan hendaklah merangkumi langkah-langkah bagi menghadkan bebanan, tindakan ke atas penambahan / perubahan yang memberi kesan kepada struktur bangunan dan sistem perlindungan cerun, pengawasan, pembaikan, pengukuhan dan keperluan untuk menjalankan penyiasatan struktur sepenuhnya sekiranya perlu.		
23.	Pelan Indikasi Kecacatan, Helaian Kecacatan Dan Jadual Kecacatan Keadaan Bangunan (Nota : Sila rujuk format pelan indikasi, helaian kecacatan, dan jadual kecacatan seperti di bahagian belakang borang permohonan)		
	23.1. Jadual kecacatan keadaan bangunan		
	23.2. Helaian kecacatan bangunan		
	23.3. Pelan indikasi kecacatan bangunan		
24.	Perakuan Perunding Dan Pengesahan		
	24.1 Laporan berkenaan hendaklah ditandatangani dan disahkan oleh Perunding yang dilantik untuk menjalankan pemeriksaan tersebut.		
	24.2 Perunding berkenaan hendaklah mengemukakan Sijil Pemeriksaan Visual.		

25.	**PERAKUAN PEMOHON (PERUNDING BERTAULIAH)**

Saya mengakui bahawa segala butir-butir dokumen yang diberi oleh saya dalam borang ini adalah benar.

Nama(Syarikat/*Individu): AMAS FM CONSULTANT SDN. BHD

Nama Penandatangan: Sr. Ts. Dr. ABDUL MUTALIB AMAN SHAH

No. Pendaftaran: 1013363-W

Alamat: NO. 55-A JALAN UDANG KARA 31, OFFF JALAN HASSAN,
SUNGAI UDANG, 41250 KLANG, SELANGOR DARUL EHSAN

Tarikh: 14 SEPTEMBER 2021

Tandatangan& Cop Rasmi

Peringatan:

1. **Kontraktor yang dilantik hendaklah berdaftar dengan *Construction Industry Development Board* (CIDB) yang Perakuan Pendaftaran masih sahlaku.**

UNTUK KEGUNAAN PEJABAT

Disemak oleh,

Pemeriksa Bangunan (Kaunter)

Nama :

Tarikh :

Disahkan oleh,

Pemeriksa Bangunan Kanan (Kaunter)

Nama :

Tarikh :

(F) CERTIFICATE OF VISUAL INSPECTION

MBSJ-MPK(U/KP)-00.B06
Semakan :0 / Muksurat : 1/1

JABATAN BANGUNAN
MAJLIS BANDARAYA SUBANG JAYA
PERSIARAN PERPADUAN , USJ 5
47610 SUBANG JAYA

Tel.: 03-80264447
Faks : 03-80246681
homepage : www.mbsj.gov.my

SIJIL PEMERIKSAAN VISUAL

(Seksyen 85A, Akta Jalan, Parit dan Bangunan 1974)

Kepada
Datuk Bandar Majlis Bandaraya Subang Jaya

No. Rujukan Notis :

Nama Bangunan : THE SUMMIT SUBANG USJ

Alamat Bangunan : CENTER MANAGEMENT OFFICE
FA,08 LEVEL 4 THE SUMMIT SUBANG USJ PERSIARAN KEWAJIPAN USJ 1 , 47600 SUBANG JAYA SELANGOR

Seperti yang dikehendaki di bawah Seksyen 85A, Akta Jalan, Parit dan Bangunan 1974, (Akta 133), saya telah menjalankan pemeriksaan visual bagi bangunan diatas dan kawasan

persekitaran dari tarikh : 18 AUGUST 2021 hingga tarikh : 19 AUGUST 2021

*Dalam membuat kesimpulan, Saya mengesahkan bahawa :

- ✓ Tiada petanda kecacatan-kecacatan struktur penting dilihat.
- ✓ Kecacatan-kecacatan yang memerlukan pengawasan tetapi bukan penyiasatan dan tindakan pembaikkan (Jika Ada) telah kelihatan pada bangunan dan kawasan persekitaran semasa pemeriksaan.
- ✓ Tanda-tanda kemungkinan mengenai kecacatan-kecacatan struktur penting telah dikesan pada bangunan dan sistem perlindungan cerun semasa saya membuat pemeriksaan. Satu penyiasatan penuh dan serta merta untuk menentukan kesan-kesan ke atas struktur diperlukan

Saya dengan ini mengemukakan laporan bagi pemeriksaan visual

Nama : Sr. Ts. Dr. ABDUL MUTALIB AMAN SHAH
No. Pendaftaran : 1013363-W
Nama Firma : AMAN PM CONSULTANT SDN. BHD
Alamat Firma : NO. 55-A JALAN UDANG KARA 31, OFF JALAN HASSAN, SUNGAI UDANG, 41250 KLANG, SELANGOR DARUL EHSAN

Tandatangan & Cop Rasmi Perunding
Bertauliah

s.k (Pemunya Bangunan / Perbadanan Pengurusan)
*Sila tandakan di petak mana yang berkenaan

REGISTERED BUILDING SURVEYOR MALAYSIA

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