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24/04/2023

Director,
Urban Development Authority,
Ministry of Urban Development, Water Supply & Housing Facilities,
9th floor, Sethsiripaya Stage I,
Battaramulla.

Dear Sir/Madam,

REFERENCE

Approved plan no - : MBA/74/2001, MBA/75/2001 & MBA/84/2023

Project - : Commercial building for Makola Medicare Hospital AT No 332/1A,
Makola South, Makola

Owner - : Mrs. D.C.P. Rupasinghe

CERTIFICATION OF CIVIL STRUCTURAL WORKS

I'm the undersigned, a Structural engineer qualified to design buildings as per the Directory of Structural Engineers published by the Institution of Engineers, Sri Lanka (IESL), holding the membership of IESL under membership number M-8098.

This is to certify that all civil engineering construction activities for this building have been done to satisfy relevant structural requirements according to the presently used code of practices and to my satisfaction as a chartered Engineer. Further, I certify that this building will not cause damage to adjoining properties.

The owner shall not make any structural modifications to the approved plan without the undersigned's written approval.

Attached herewith is an inspection report for your reference.

Thank you.



STRUCTURAL CONDITION REPORT OF 4 STORY BUILDING

Makola Medicare Hospital

No 332/1A, Makola South, Makola



Structural Condition Report

Makola Medicare Hospital

Scope of work

A structural condition report for the Makola Medicare Hospital building includes a comprehensive assessment of the building's structural elements and their overall condition. The report aims to identify any existing or potential structural issues, defects, or deficiencies that could compromise the building's stability, safety, and performance. The inspection is conducted by qualified structural engineer of the Institute of Engineers Sri Lanka as per the Directory of Structural Engineers published by the Institution of Engineers, Sri Lanka (IESL), holding the membership of IESL under membership number M-8098.

General Information

- Building identification - **Makola Medicare Hospital**
- Owner - Mrs. D.C.P. Rupasinghe
- Purpose of the building - Private Hospital
- Age of Building - 20+ Years approximately
- Location - No 332/1A, Makola South, Makola
- Occupants - 50 no's people approximately
- Focus of the report - Structural Stability
- Clients representative - Mr. Shantha Weerasighe
- Approved Plan no - MBA/74/2001, MBA/75/2001 & MBA/84/2023
- Date of inspection - 23rd August 2023

Site Observation and general description of the building

This is a 4-story reinforced concrete building consisting of 12,000 square feet approximately with all attachments. The building structure was built in approximately in year 2003 and appears to be pad footing foundation (evidence given by client) with perimeter concrete wall, RCC columns, beams, slabs and staircase, and also it was observed that non-load bearing masonry and lintel level tie beams. It's observed that, sturdy structure that stands as a testament to architectural strength and design. Its imposing presence on the landscape draws



attention, exuding a sense of permanence and reliability. Constructed primarily with reinforced concrete, this building showcases a balance between functionality and aesthetics.

The exterior facade boasts clean lines and a minimalist design, reflecting a contemporary architectural style. Large windows on each floor allow ample natural light to permeate the interior, creating a bright and inviting atmosphere. The concrete walls are accented by carefully selected materials, providing a touch of elegance and texture to the overall appearance.

Upon entering the building, visitors are greeted by a spacious and welcoming lobby. The interior design complements the building's exterior, with sleek and modern finishes enhancing the sense of sophistication. The structural integrity of the concrete construction is evident, as the building stands firm and secure, capable of withstanding various environmental challenges. Each floor of the building serves a distinct purpose, accommodating a range of functions to cater to the diverse needs of its occupants.

The concrete construction not only ensures durability and fire resistance but also provides excellent sound insulation, allowing occupants to enjoy a quiet and peaceful environment despite the building's urban location. Moreover, the energy efficiency of the double height structure is commendable, contributing to sustainable and eco-friendly practices. A rooftop terrace crowns the building, offering a serene retreat for occupants or a unique event space for gatherings.



Figure - 1, Front elevation of the building

Structural observations

Foundation

During the construction of the building, pad foundations are placed at predetermined locations to align with the columns. As per the evidence given by client, it is constructed by excavating the ground to the required depth and then pouring and compacting concrete into the excavated area. Steel reinforcement bars has incorporated into the concrete to enhance its strength and resistance to tensile forces. In addition to that, a perimeter concrete wall has been constructed to ensure stability of the building.

Columns

The reinforced columns are essential structural elements that play a critical role in supporting the weight of a building and transferring loads to the foundation. The columns (9 inch x 9 inch & one foot by one foot size) are placed at the corners and intersections of walls, and at regular intervals along exterior and interior walls, to evenly distribute the loads and maintain stability.



Figure 2 – Visible columns

Beams

Concrete beams play a crucial role in the structural integrity and stability of a building or structure. They are essential components of the load-bearing system, responsible for supporting and transferring the weight of various building elements, including floors, roofs, walls, and other loads, to the building's foundation. The visible reinforced beams come in various shapes and sizes, depending on the building's design and the specific loads they need to bear. The visible types of reinforced beams include rectangular, T-shaped, L-shaped, and inverted T-beams, each offering different advantages for different structural application.

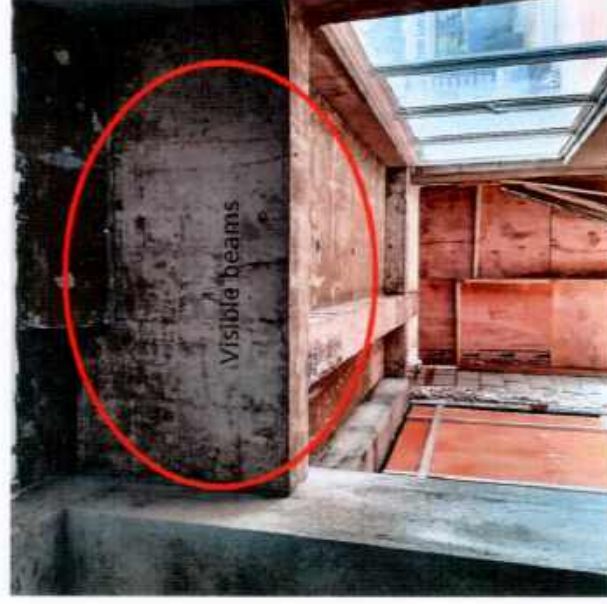


Figure 3 – Visible concrete beams

Slabs

All concrete slabs are constructed as suspended slab. This type of concrete slab is used for upper floors in multi-story buildings. It is supported by beams and hangs above the lower level, creating open spaces.

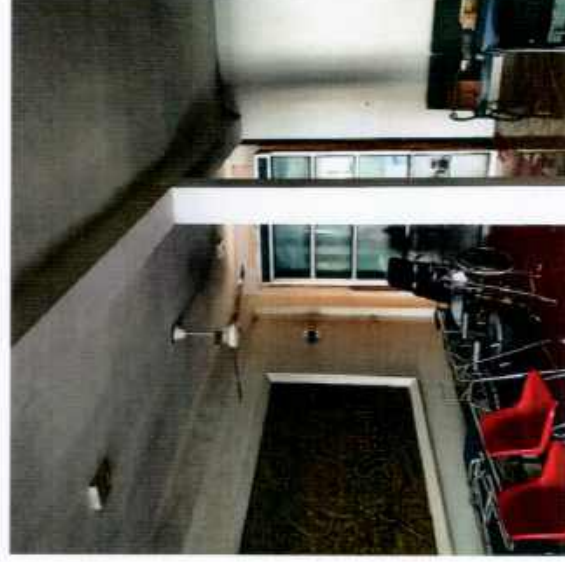


Figure 4 – Visible concrete slab

Staircase

The concrete staircase is straight Staircase, A simple and straightforward design with steps in a straight line from one level to another.



Figure 5 – Visible concrete staircase

Visual Inspection Criteria

Start by examining the visible concrete elements from all sides, looking for any visible signs of distress or damage. Considered following facts,

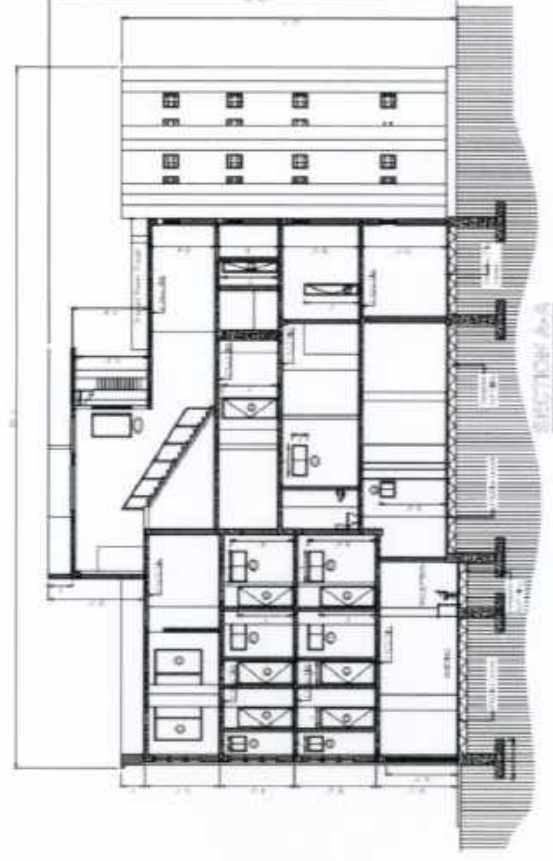
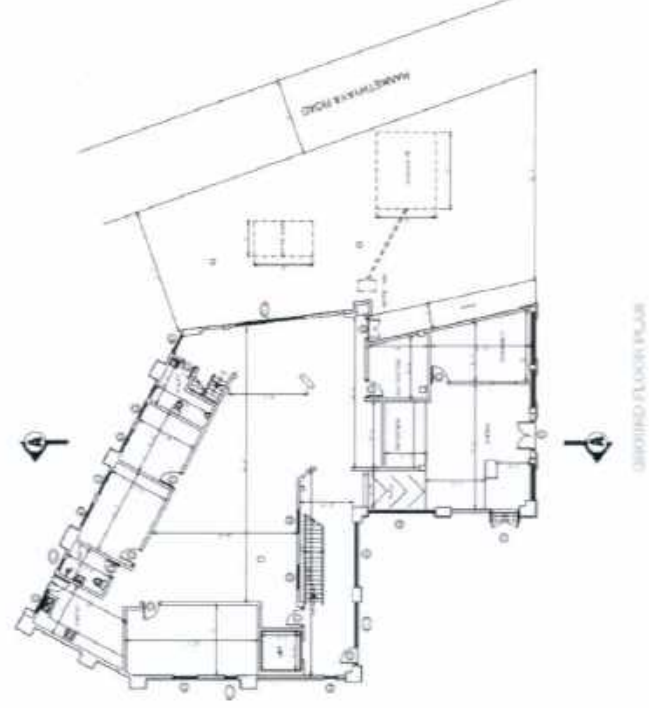
- Cracks: Identify the presence of cracks and measure their width, length, and depth. Noted if the cracks are superficial or if they extend through the entire depth of the beam.
- Spalling: Look for areas where the concrete has chipped or broken off the surface, known as spalling. This can identify as a corrosion of the reinforcement bars.
- Discoloration: Noted any areas of discoloration, which may indicate water infiltration, efflorescence, or potential chemical reactions.
- Rust Stains: Examine the surface for rust stains, which could suggest corrosion of the steel reinforcement inside the concrete.

Summary of Visual Inspection of Structural Elements

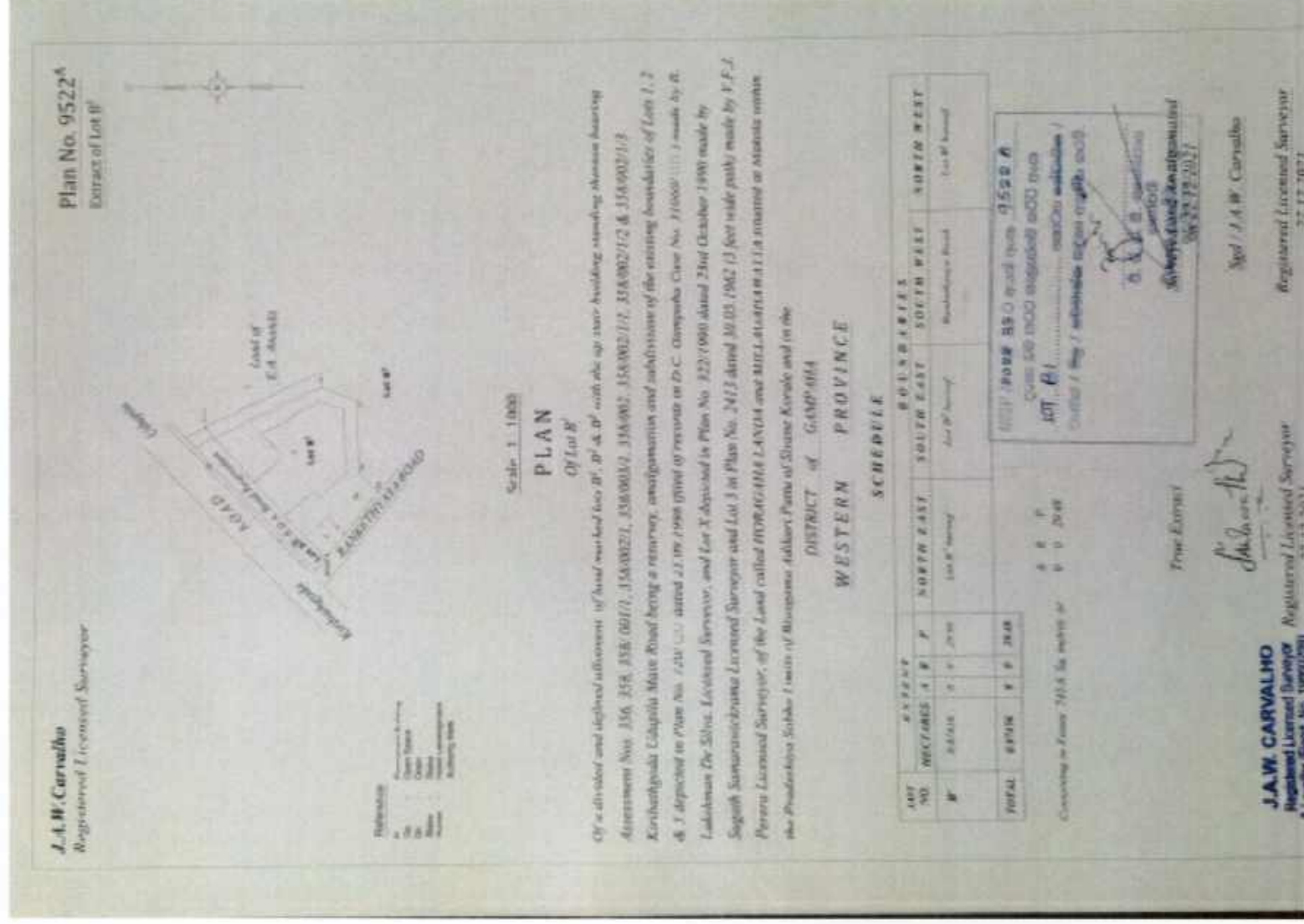
In general, the building is in good condition. The masonry walls are well-maintained and show no signs of decay. There are no visible indications of distress, damage, or deterioration in the structural elements of the building. Some hairline cracks are observed on the concrete beams of the ground floor, but they do not require immediate repair. The construction of the building exhibits good quality, with visible materials and workmanship of satisfactory standards. The exterior walls have a rough finish with architectural mouldings, contributing to the overall aesthetics. No significant defects or deficiencies were identified during the inspection.



Annex 02 – Approved building plan



Annex 03 – Survey plan of the building



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தேவதாஸ் குமார் குமாரம் பார்த்திபன் தனது 11 வயது 5551 சது மீட்டர் பரப்பளவு கொண்ட

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U. (1) 0000 0000

சென்னை மாநகராட்சி நிர்வாகப் பேரவைத் தலைவர் அவர்களின் தலைமையில் நடைபெற்ற இரண்டாம் தரவார்டு கமிட்டி உட்காணும் கூட்டத்தில் கீழ்க்கண்டவாறு தீர்மானம் எடுத்தது.

10. $\frac{1}{2} \ln 2$

பூதந் ராஜாரு ஒரு தந்தையாகவே ஒரு மகனாக இருக்கிறார். சிறைக்குள் போன பின்னர் அவருக்கு ஒரு மகனாக இருக்கிறார். சிறைக்குள் போன பின்னர் அவருக்கு ஒரு மகனாக இருக்கிறார். சிறைக்குள் போன பின்னர் அவருக்கு ஒரு மகனாக இருக்கிறார்.

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(cyl)

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1.1. 1998-1999

(1) **உரிமையுடைய**

(1) பி.சி.சி.டி.
ஒரு மெட்ரிக்யூலர் கிளாஸ்டோமியா, கலாசாலைக்கு உட்குடி கட்டிடம் கட்டியதில் காலம் கடந்து
இருக்கிறது.

(c)

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(22) இது மிகவும் சிறந்த உதாரணமாக இருக்கிறது. இது மிகவும் சிறந்த உதாரணமாக இருக்கிறது.

(25)

(ന) സിവിൽസർവ്വീസ് ആക്ട് പ്രകാരം തയ്യാറാക്കിയ പട്ടികയിൽ പട്ടണത്തിന്റെ പേര് ഉൾപ്പെടുത്തിയിട്ടുള്ളതായി തീർന്നാൽ അതിനെ അതിന്റെ പേരിൽ പട്ടണമായി കണക്കാക്കുന്നതാണ്.

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18)

Full text

1. **செயல்பாட்டு முறை** : இது ஒரு குறிப்பிட்ட நேரத்தில், ஒரு குறிப்பிட்ட இடத்தில், ஒரு குறிப்பிட்ட நபர் மூலமாக நடைபெறும் ஒரு செயல்பாட்டு முறை.

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