

NRG Knit Composite (9359)

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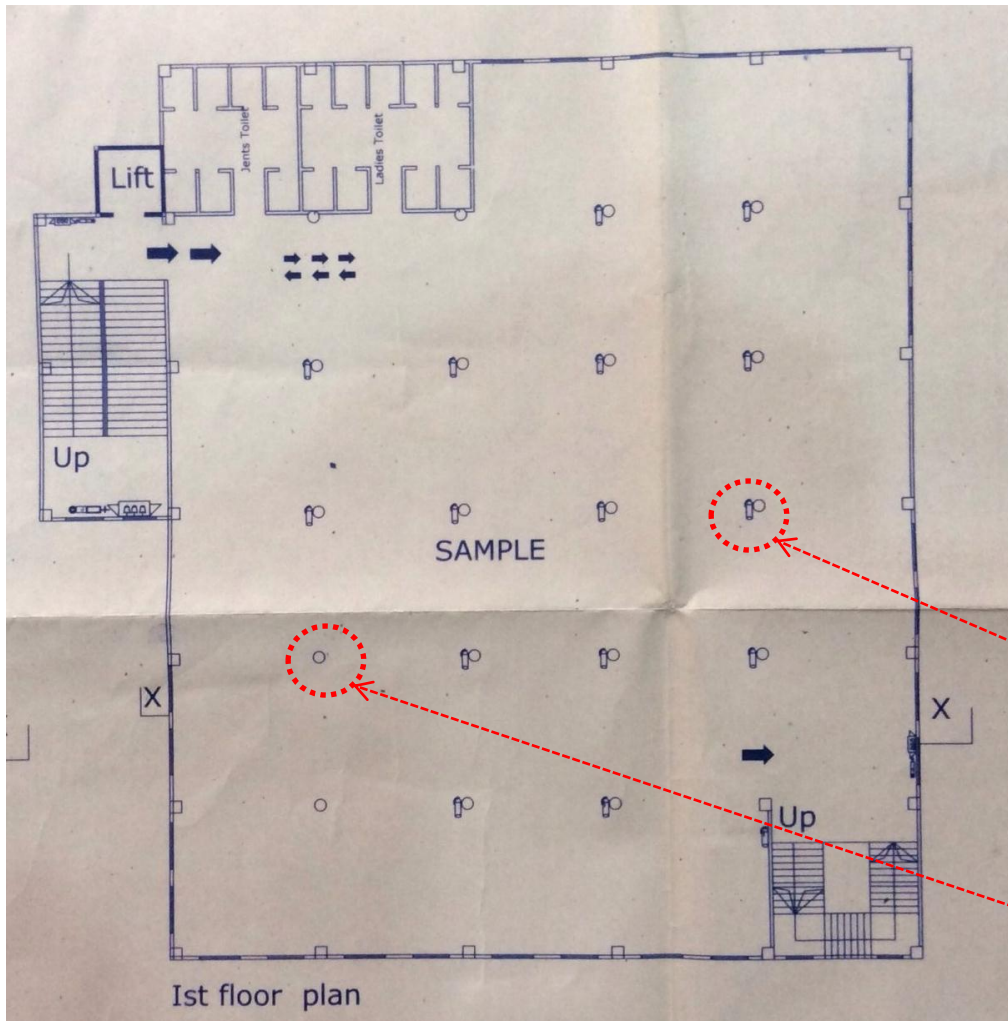
(+23.621023N, 90.477530E)

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Identified Priority 1 Concerns

1st Priority 1 Concern



Based on the load rundown analysis following the agreed minimum design live load assignment, it has been found that typical columns in the building appear significantly insufficient in carrying the dead and live loads at the ground floor level, giving a firm RED warning. The building was constructed in 1993 with stone aggregate concrete and high yield strength reinforcement.

The column 1 is designed to support 12 concrete floors including mezzanine floor.

The column 2 is designed to support 11 concrete floors.

Column stress check with scanned rebar shows insufficient loading capacity (RED)

Identified Priority 3 Concerns

1st Priority 3 Concern

There are signs of water penetration at the underside of roof floor. The reinforcement in this area of the concrete floor could have already started to corrode. This could potentially lead to the failure of certain members

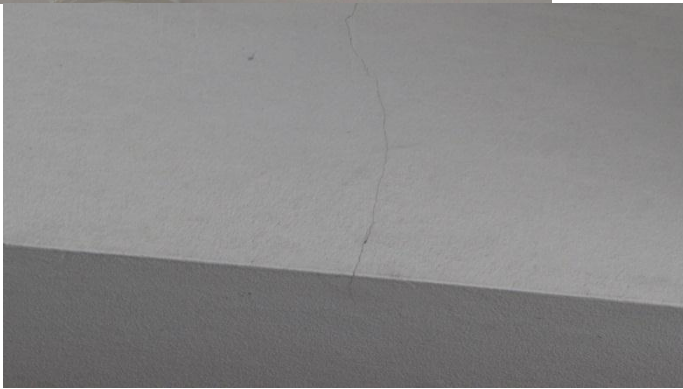


1st Priority 3 Concern (continue)

There are signs of water damage on the perimeter wall and on the wall at toilet areas. This could potentially lead to the failure of these walls.



2nd Priority 3 Concern



There are many cracks on the slabs, beams on many storeys of the building.

Overall Stability System



3rd Priority 3 Concern

The stability system appears to be provided by moment frame action and brick in-fill walls only. However, the structural record do not show any information on the design of lateral load resistance. A lateral load resisting analysis is required to be carried out as part of a DEA.

Overall Lateral Stability

We suggest that these items be investigated as part of a Detailed Engineering Assessment.

Priority Actions

Problems Observed Summary

- ITEM 1: (1st Priority 1) Typical columns in the building have insufficient load carrying capacity under current building loading conditions.**
- ITEM 2: (1st Priority 3) Lack of proper waterproofing or poor construction on the roof level resulting in significant water damage on walls, ceilings and beams**
- ITEM 3: (2nd Priority 3) There are many cracks on the ceiling, beams on all storeys of the building.**
- ITEM 4: (3rd Priority 3) The stability of the building has not been designed.**

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	1st Priority 1 - Typical columns in the building have insufficient load carrying capacity under current building loading conditions.	Suspend all activities on the 6th, 7th, 8th, 9th, 10th levels	Immediate – Now
2	1st Priority 1 - Typical columns in the building have insufficient load carrying capacity under current building loading conditions.	Carry out a full Detailed Engineering Assessment of the entire building including any intrusive testing required. The Factory Engineer is to carry out thorough load checking of the entire structure, including slabs, beams and columns based on BNBC.	6-weeks
3	1st Priority 1 - Typical columns in the building have insufficient load carrying capacity under current building loading conditions.	As per the result of DEA, carry out the strengthening for members that are not able to support the applied loads.	6-months
4	1st Priority 3 - Lack of proper waterproofing or poor construction on the roof level resulting in significant water damage on walls, ceilings and beams.	Provide propping to the damaged concrete areas (slab, beam and column).	6-weeks
5	1st Priority 3 - Lack of proper waterproofing or poor construction on the roof level resulting in significant water damage on walls, ceilings and beams.	Apply a proper waterproofing system to the roof floor level. Hack away the damaged concrete and expose reinforcement to check for corrosion Carry out replacement of reinforcement and proper repair of the structural elements.	6-months
6	2nd Priority 3 - There are many cracks on the ceiling, beams on all storeys of the building.	Carry out full survey of all structural elements and check for compliance with BNBC codes to figure out the reasons of crack formation (due to under design or poor construction)	6-weeks
7	2nd Priority 3 - There are many cracks on the ceiling, beams on all storeys of the building.	Based on the result of the detailed structural survey, the Factory Engineer is to provide the solution and repairing program for the building.	6-months
8	3rd Priority 3 - The stability of the building has not been designed.	Carry out full survey of all structural elements and check for compliance with BNBC codes to figure out the reasons of crack formation (due to under design or poor construction)	6-weeks
9	3rd Priority 3 - The stability of the building has not been designed.	Based on the result of the detailed structural survey, the Factory Engineer is to provide the solution and repairing program for the building.	6-months