

Spring Trade Ltd. (9522)

Plot # 42, Konapara Tenguri, Zirani Bazar, B.K.S.P, Savar, Dhaka, Bangladesh.

(+23.990869N, +90.244843E)

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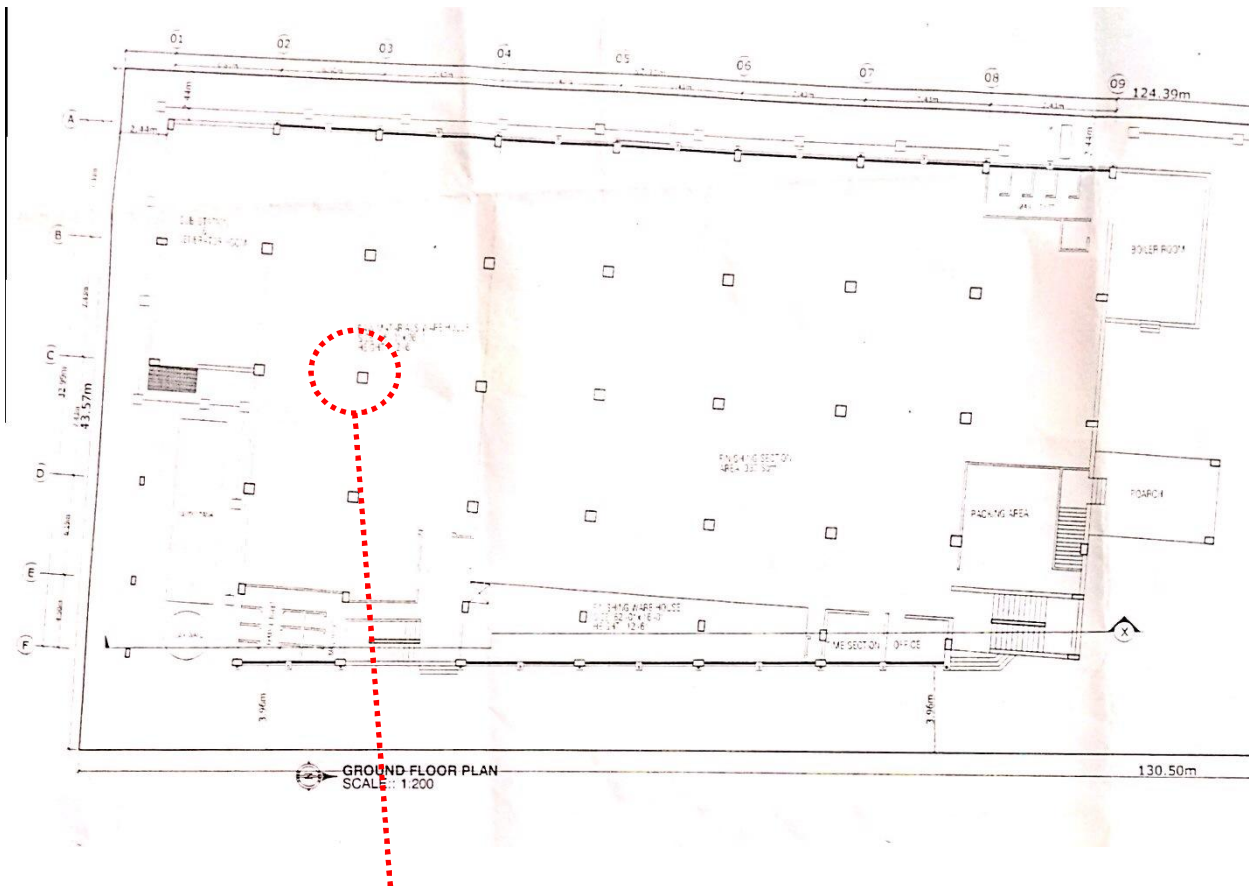


ACCORD
on Fire and Building Safety in Bangladesh



Identified Priority 1 Concerns

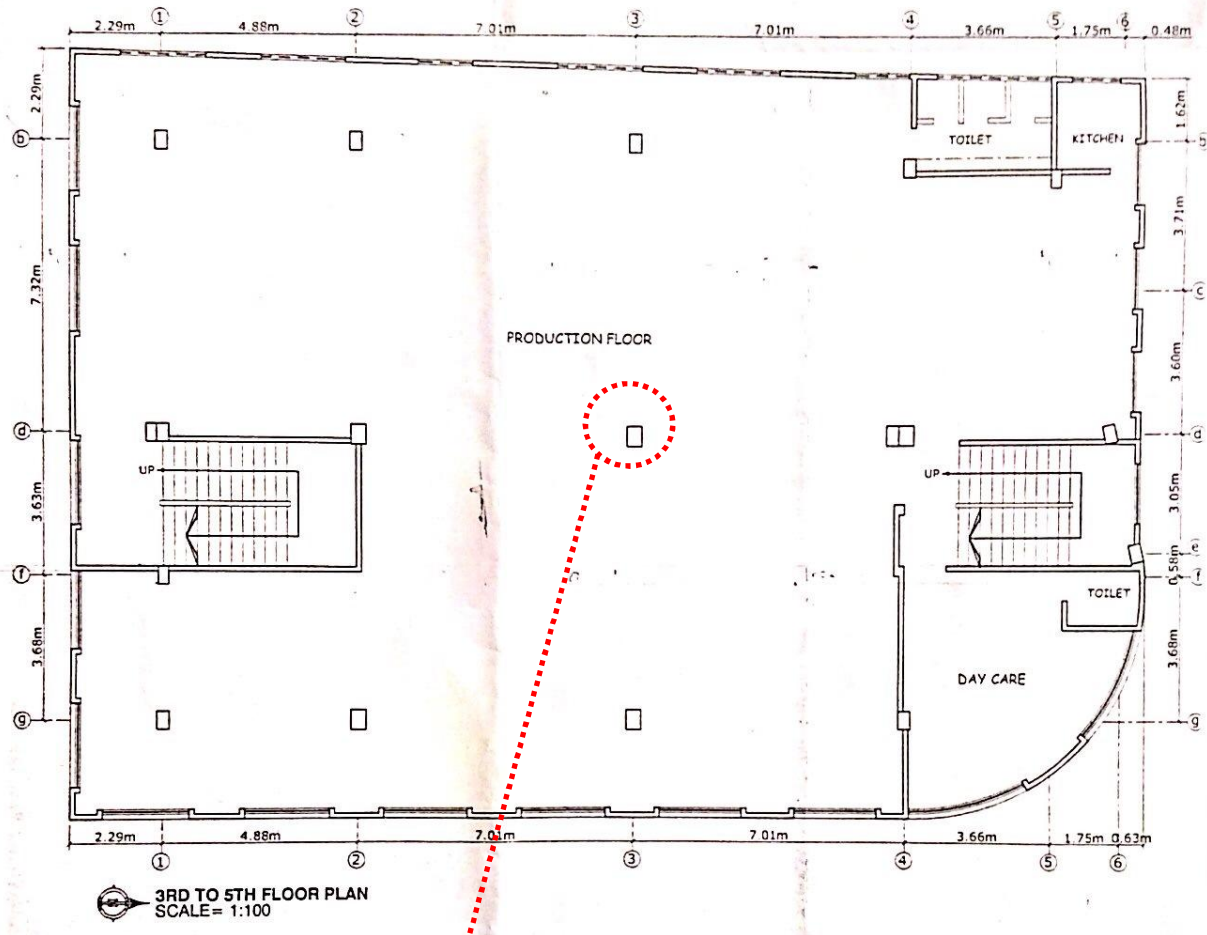
1st Priority 1 Concern



Typical column to be checked

Based on the load rundown analysis with the agreed minimum design live load assignment, the column at the circled area has been found to be significantly insufficient in carrying the dead and live loads. The working stress is just a fraction above being rated with a 'red' warning, giving a firm 'AMBER' warning instead. The building was constructed with brick aggregate and high-yield re-bar.

2nd Priority 1 Concern



Typical column to be checked. Two buildings has been designed in the same way. Thus, the results are very similar for all typical columns

The same procedure is applied for the typical columns in building 2 for checking the working stress. The column at the circled area has been found to be significantly insufficient in carrying the dead and live loads. The working stress is just a fraction above being rated with 'red' warning, giving a firm 'AMBER' warning. The building was constructed with brick aggregate and high-yield re-bar.

Identified Priority 3 Concerns

1st Priority 3 Concern



Crack on the beams in building 1



hairline cracks have been seen at the middle of the beams on the 5th floor in Building 1



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

The two buildings do not appear to have any rational form of lateral stability system to resist the wind or earthquake loads. It is essential to design for lateral loads.



Problems Observed Summary

ITEM 1: (1st Priority 1) Columns in Building 1 exhibit insufficient capacity under current building floor loads.

ITEM 2: (2nd Priority 1) Columns in Building 2 exhibit insufficient capacity under current building floor loads

ITEM 3: (1st Priority 3) There are many hairline cracks at the middle of the beams on the soffit of the 5th floor in Building 1.

ITEM 4: (2nd Priority 3) It appears that two buildings are not designed with any lateral resisting systems.

Item 1 & 2 and actions

Preliminary load take-down calculations suggest that the typical columns in two buildings are very close to having a 'red' warning. The typical columns possess very little spare capacity.

Priority 1 (Immediate – Now)

- None required

Priority 2 (within 6 – weeks)

- Carry out a full Detailed Engineering Assessment of the entire building including any intrusive testing required.
- Carry out full survey of all structural elements to check the loading capacity of the overall structural system.
- The Factory Engineer to review design, loads and columns stresses in entire building in accordance with BNBC regulations.

Priority 3 (within 6-months)

- Provided loading plan must be strictly maintained.

Item 3 and actions

There are many visible cracks at the middle of the beams on the soffit of the 5th floor in Building 1. It could be due to poor construction or under-design of these beams.

Priority 1 (Immediate – Now)

- None required

Priority 2 (within 6 – weeks)

- Carry out the steps noted in Item 1
- The Factory Engineer to review design, loads to figure out the reasons of the crack formation

Priority 3 (within 6-months)

- As per result of design check, building engineer to propose the strengthening or repairing works for those beam with cracks accordingly.
- Consider to remove the old plaster and reapply the new plastering layer.

Item 4 and actions

There is a lack of any lateral support design for two buildings. It could lead to serious damage in a wind or earthquake event.

Priority 1 (Immediate – Now)

- None required

Priority 2 (within 6 – weeks)

- None required

Priority 3 (within 6-months)

- As per the results of structural analysis, the building needs to be revised to accord with BNBC building codes with regard to lateral stability.