

BARAKA FASHIONS LIMITED (Extension)

6 Shing Bari Road Boro Dewra Tongi, Gazipur-1700.

(23.906682, 90.379356)

13 March 2023

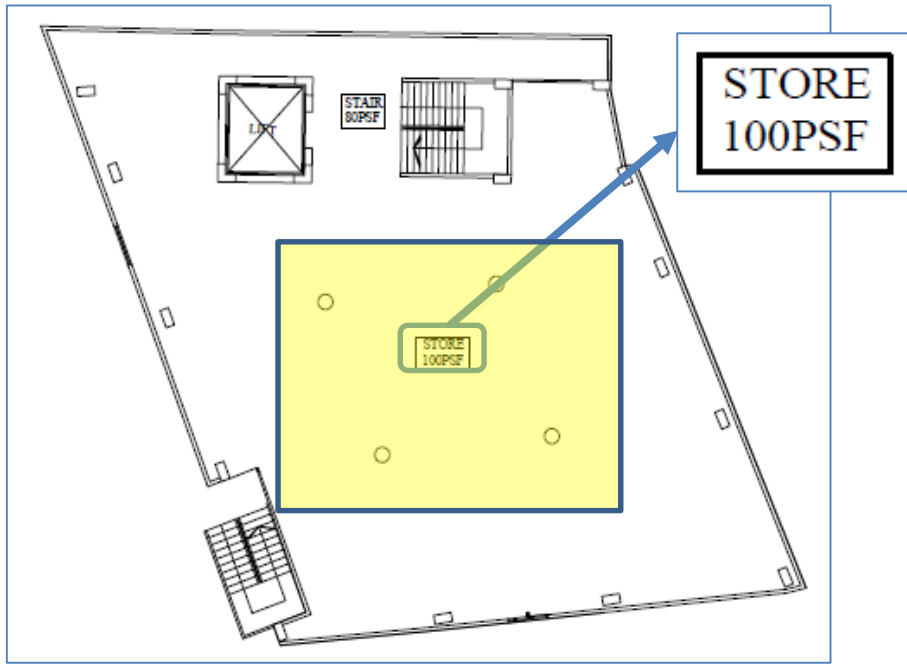


Building Information

Store Building: This structure is a six storied (G+5) reinforced concrete (RC) building.

Observations

Internal column stressed above normal design limit



Load plan with 100 psf (5 kN/m²) for all floor

The cursory calculation indicates that internal columns stress exceeds the normal design limit considering a typical floor live load 6 kPa, and minimum concrete strength 16.3 MPa based on aggregate type. The building engineer is required to review the design, loads, and column stresses.



Storage on typical floors

BAHANGSHAW UNIVERSITY OF ENGINEERING AND TECHNOLOGY (BUET)
DEPARTMENT OF CIVIL ENGINEERING
CONCRETE LABORATORY

TEST REPORT: 1104-00024-17-00024, DR. 1000018

Client: RMG Sustainability Council

Project: Concrete Strength (28 Days)

Location: Dhaka

Date of Test: 10/03/2018

No.	Date of Casting	Specimen Size	Specimen Shape	Test Method	Test Result	Remarks
1	10/03/2018	150x150x150	Cylinder	Compressive	16.3	Compressive Strength (28 Days)
2	10/03/2018	150x150x150	Cylinder	Compressive	16.3	Compressive Strength (28 Days)

Note: Samples were tested in accordance with BS EN 12390-1.

Checked by: [Signature]
Tested by: [Signature]
Reviewed by: [Signature]

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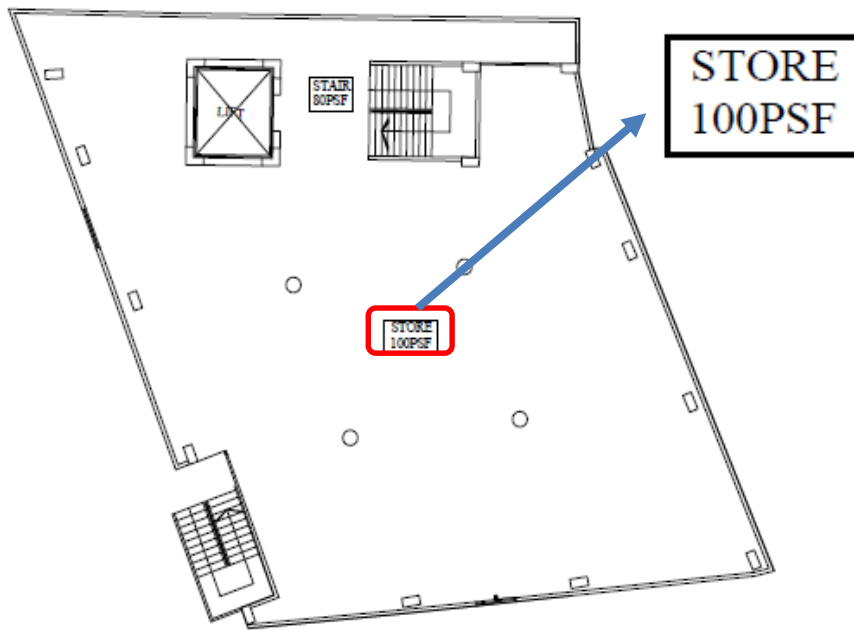
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The factory has provided some concrete cylinder test report from column, but which are not comply with the frequency of BNBC requirement.

**Load plan & design report not comply
with BNBC requirements**



Load plan with 100 psf (5 kN/m²) for all floor

Currently, the typical floor of the building is being allotted for fabric store. As per BNBC, the minimum floor live load for light storage is 6 kN/m² (125 psf). But the storage (typical floors) area of the building is designed for 5 kN/m² live loads. The building engineer is required to revise the storage live load limit and related design documents based on BNBC requirement.



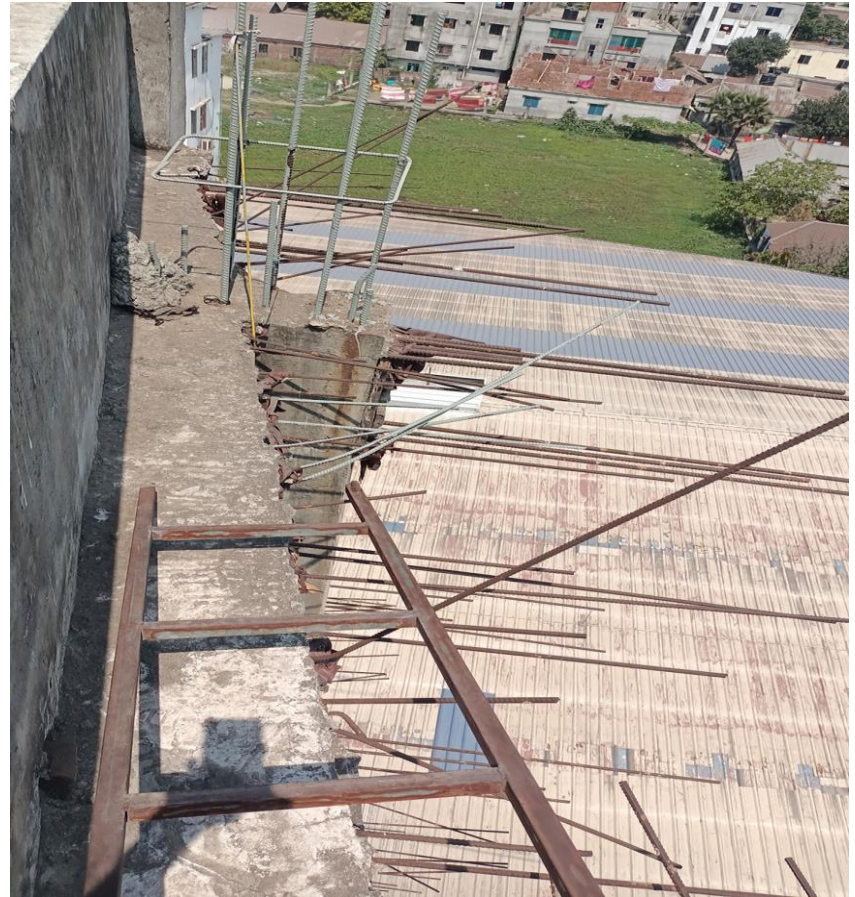
Storage on typical floors

4.5		1 Light workroom without storage	3.0	2.7
		2 Machinery hall & circulation area	4.0	4.5
1.8		3 Factory, workshop etc.	5.0	4.5
		4 Manufacturing : light	6.0	4.5 ^(S)
		heavy	12.0	9.0 ^(S)
		ice	15.0	9.0 ^(S)
2.7		5 Printing plant :		(S)
4.5		Press room	7.0	11.0
		Composing and linotype room	5.0	9.0 ^(S)
		Paper storage room	12.0	9.0 ^(S)
2.7		6 Motor room, fan room etc. including the weight of machinery	7.5	4.5
4.5		7 Cold storage, grain storage	15.0	9.0 ^(S)
4.5		8 Storage warehouses : light	6.0	4.5 ^(S)
4.5		heavy	12.0	9.0
7.0		9 Foundries	20.0	12.0

Corrosion on exposed rebar



Corrosion at exposed rebar



Corrosion at exposed rebar

Corrosion observed at exposed rebar. Building engineer is required to take proper measure to protect the rebar from corrosion.

**Racks and plastic water tanks
not anchored or braced.**



Non-anchored storage rack at several floors



Plastic water tank not braced

Some racks on different floors and rooftop plastic water tanks are not anchored or braced to resist lateral (earthquake) forces. The factory is required to anchor/brace all non-structural elements adequately to resist earthquake forces.

Problems Observed

Store Building:

Item 01: Internal column stressed above normal design limit.

Item 02: Load plan & design report not comply with BNBC requirements.

Item 03: Corrosion on exposed rebar.

Item 04: Rack and plastic water tank not anchored or braced.

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Internal column stressed above normal design limit.	Building engineer is required to verify in-situ concrete strength by taking cores from lower tier columns.	6-weeks
02	Internal column stressed above normal design limit.	Building Engineer to review design, loads and column stresses.	6-weeks
03	Internal column stressed above normal design limit.	Produce and actively manage a loading plan for all floor plates within the factory, considering floor, column and foundation capacity.	6-weeks
04	Internal column stressed above normal design limit.	Complete implementation of any remedial works.	6-months
05	Internal column stressed above normal design limit.	Continue to implement loading plan.	6-months
06	Load plan & design report not comply with BNBC requirements.	The building engineer is required to revise the storage live load limit and related design documents based on BNBC requirement.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
07	Load plan & design report not comply with BNBC requirements.	Revise and actively manage a set of floor loading plan following BNBC.	6-weeks
08	Load plan & design report not comply with BNBC requirements.	Implement the recommendations of design report.	6-months
09	Load plan & design report not comply with BNBC requirements.	Implement floor load plan.	6-months
10	Corrosion on exposed rebar.	Building engineer is required to take proper measure to protect the rebar from corrosion.	6-weeks
11	Racks and plastic water tanks not anchored or braced.	Building is required to adequately anchor/brace all non-structural elements to resist earthquake forces to comply with the BNBC.	6-weeks