# Ishayat Apparels Ltd

Sharmin Group, Narashinghapur, Ashulia, Savar, Dhaka – 1341
(23.9319341, 90.306416)
18 October 2023

RSC RMG SUSTAINABILITY COUNCIL

# Building Information

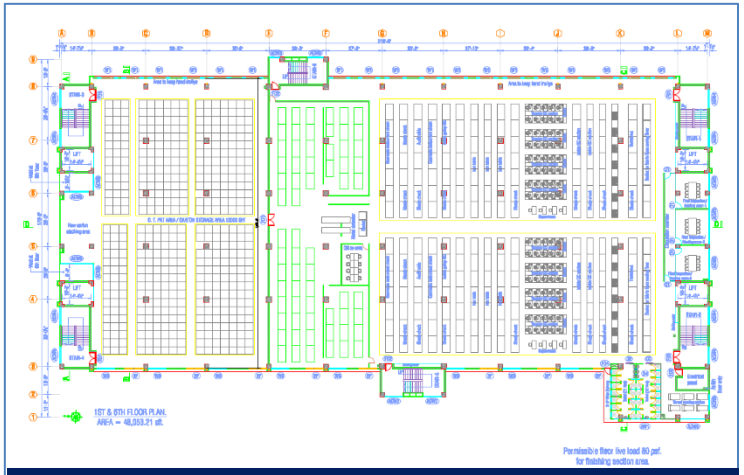
1. **Ishayat Apparels Building:** The structure is a partially nine-storied (G+8) reinforced concrete (RC) building.
2. **Substation:** The structure is a single-storied reinforced concrete (RC) building.
3. **Medical Room:** The structure is a single-storied reinforced concrete (RC) building.
4. **Pump Room:** The structure is a single-storied reinforced concrete (RC) building.
5. **CCTV Control Room:** The structure is a single-storied reinforced concrete (RC) building.
6. **Guard Room:** The structure is a single-storied reinforced concrete (RC) building.

# Observations

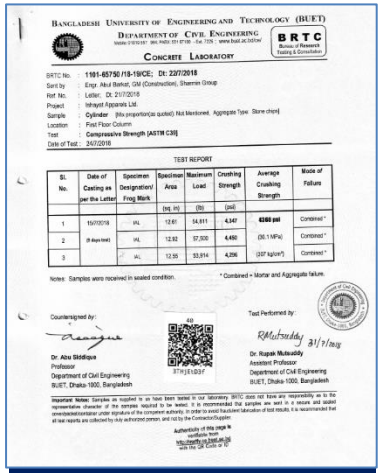
# Load plan and design report not comply with BNBC requirements

## Observation: Ishayat Apparels Building

Storage on 1st floor



3 kPa live load for 1st floor

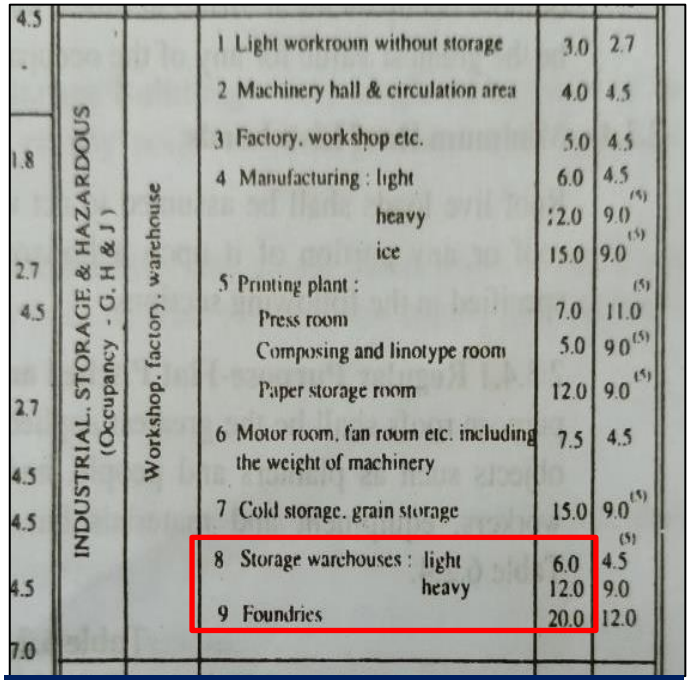


Test report

Currently, the first floor of the building is being used for a finished goods store. As per BNBC, the minimum floor live load for light storage is 6 kN/m2 (125 psf). But the first floor is being designed for 4 kN/m2 live loads.

Moreover, the factory has provided only 10 sets of concrete cylinder test reports from the column, but no cylinder test report was found for the ground floor. Which doesn't comply with the frequency of testing requirement of BNBC (section-5.12.2).

The building engineer is required to revise the floor live load plan following the BNBC storage live load requirement and revise the design documents based on in-situ material strength.



| | | | |
|---|---|---|---|
| 4.5 | INDUSTRIAL, STORAGE & HAZARDOUS (Occupancy - G, H & J) Workshop, factory, warehouse | 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 |
| | | heavy | 12.0 9.0 (5) |
| 2.7 | | ice | 15.0 9.0 (5) |
| | | 5 Printing plant : | (5) |
| 4.5 | | Press room | 7.0 11.0 |
| | | Composing and linotype room | 5.0 9.0 (5) |
| | | Paper storage room | 12.0 9.0 (5) |
| 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 (5) |
| 4.5 | | 8 Storage warehouses : light | 6.0 4.5 (5) |
| | | heavy | 12.0 9.0 |
| 4.5 | | 9 Foundries | 20.0 12.0 |
| 7.0 | | | |

Live load chart of BNBC

# Observation: Ishayat Apparels Building

# Improper vehicle impact protection



**Observation: Ishayat Apparels Building**

Column adjacent of driveway of loading unloading area is susceptive to vehicle impact. The factory has provided light barrier touching the column surface. The building engineer is required to provide sufficient barrier just outside of exposed column to prevent the vehicle impact.

Column adjacent of driveway of loading unloading

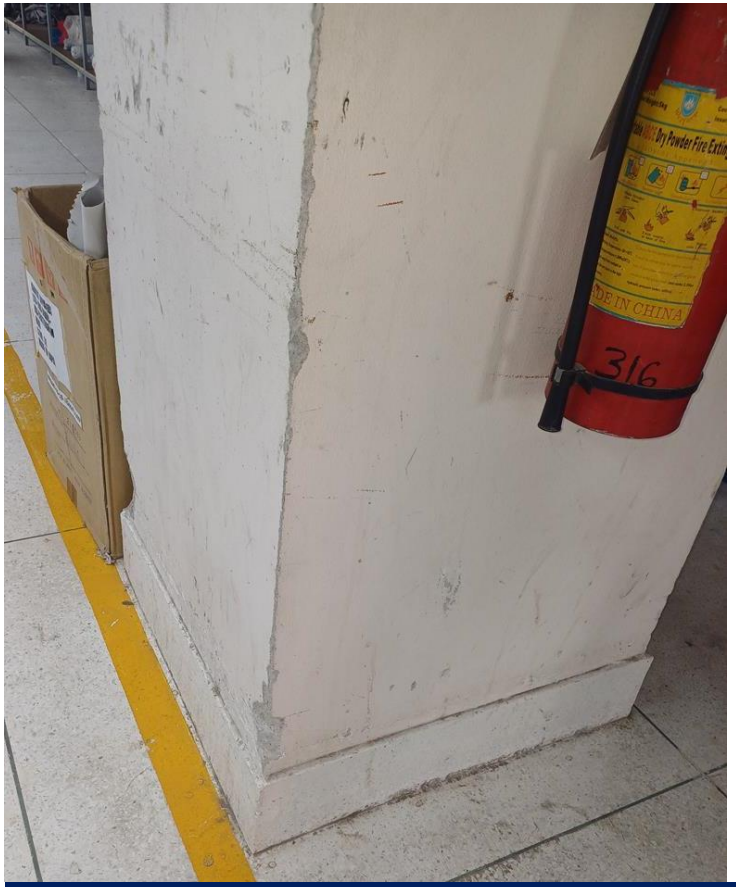


# Observation: Ishayat Apparels Building

**Column susceptible to trolly impact**



## Observation: Ishayat Apparels Building




Susceptive column on 4th floor

Column on the 4th floor is susceptive to trolly impact. The building engineer is required to provide a separate barrier around the column to avoid possible trolly impact.



# Observation: Ishayat Apparels Building

**Nut missing at base plate of roof stair**



## Observation: Ishayat Apparels Building

Nut missing in several bolts on base plat. Building engineer is required to install the missing nuts where necessary.

Nut missing in several bolts



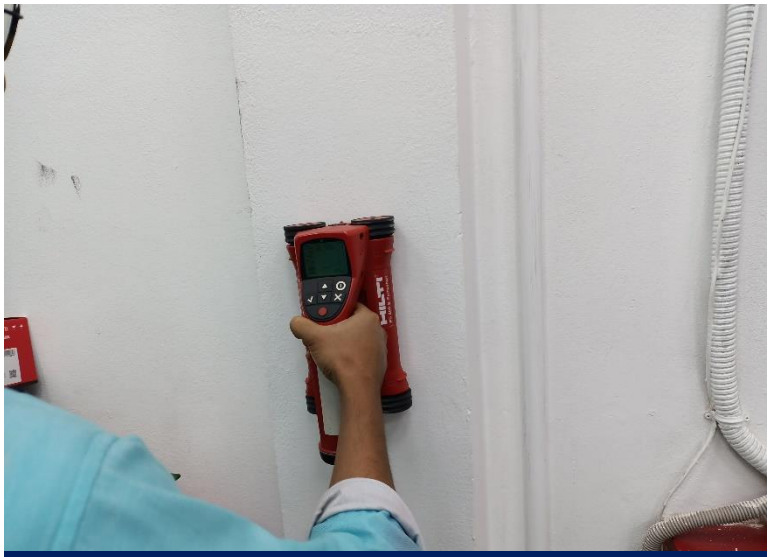
# Observation: Ishayat Apparels Building

# Inconsistencies in as-built drawing



## Observation: Ancillary Structures

The factory has provided a set of drawings which did not match fully with the structures. Brick columns were found instead of RC column for the mentioned structures. The building engineer is required to survey the whole structure and prepare a full set of as-built drawings in compliance in compliance with section 1.9.1.2, part 6 of BNBC.



CCTV Control Room

Medical Room

Guard Room

# Observation: Ancillary Structures

# Test Carried Out

Stone chips found the in tested column

Ishayat Apparels Building

Pump Room

Substation

# Test Carried Out :

# Problems Observed

**Ishayat Apparels Building:**

Item-01: Load plan and design report not comply with BNBC requirements.
Item-02: Improper vehicle impact protection.
Item-03: Column susceptible to trolly impact.
Item-04: Nut missing at base plate of roof stair.

**Medical Room; Guard Room-1, CCTV Control Room:**

Item-05: Inconsistencies in as-built drawing.

# Priority Actions

| Item No. | Observation | Recommended Action Plan | Recommended Timeline |
|---|---|---|---|
| 01 | Load plan and design report not comply with BNBC requirements. (Ishayat Apparels Building) | Building engineer is required to revise the live load in the storage areas and related design documents based on BNBC requirements. | 6-weeks |
| 02 | Load plan and design report not comply with BNBC requirements. (Ishayat Apparels Building) | Building engineer is required to verify in-situ concrete strength by taking cores from lower-tier columns. | 6-weeks |
| 03 | Load plan and design report not comply with BNBC requirements. (Ishayat Apparels Building) | Revise and actively manage a set of floor loading plans following BNBC. | 6-weeks |
| 04 | Load plan and design report not comply with BNBC requirements. (Ishayat Apparels Building) | Implement the recommendations of design report. | 6-months |
| 05 | Improper vehicle impact protection. (Ishayat Apparels Building) | The building engineer is required to take necessary action to prevent the vehicle impact in the columns and beams. | 6-weeks |

| Item No. | Observation | Recommended Action Plan | Recommended Timeline |
|---|---|---|---|
| 06 | Column susceptible to trolly impact. (Ishayat Apparels Building) | Building engineer is required to provide a safety barrier around the columns to avoid possible trolly impact. | 6-months |
| 07 | Nut missing at baseplate of roof stair. (Ishayat Apparels Building) | Install missing nuts in the baseplate. | 6-months |
| 08 | Inconsistencies in as built drawings. (Medical Room; Guard Room-1, CCTV Control Room) | Building Engineer is to survey the whole structure and update as-built drawings representing accurate site condition. | 6-weeks |