

Jinnat Knitwears Limited (Sreepur) (Extension)

Dhanua, Sreepur, Gazipur-1740.

(24.25985,90.38833)

08 January 2023



Building Information

Printing Building: This structure is an eight storied (G+7) reinforced concrete (RC) building.

Security checkpoint-1 & RMS Building: This structure is a single storied reinforced concrete (RC) building.

Security checkpoint-2: This structure is a single storied reinforced concrete (RC) building.

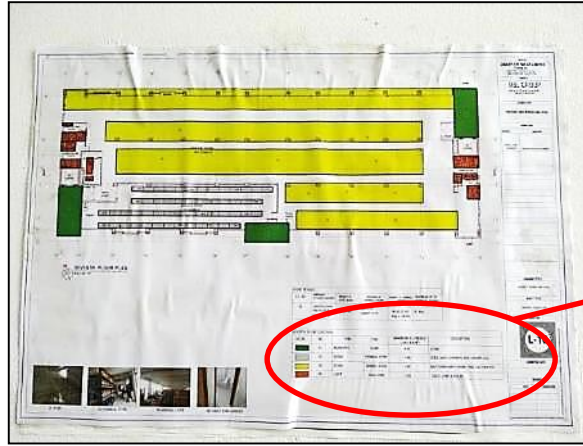
EGB Room: This structure is two storied prefabricated steel structure.

Observations

Design report need to be revised



General store at 7th floor



Load plan posted on site

STORE DETAILS					
S.L. NO.	DIMENSION OF PACK/LOOR MAT	WEIGHT OF STEEL RACK	DIMENSION OF CHEMICAL DRUM	WEIGHT OF CHEMICAL DRUM	MAXIMUM NO. OF CHEMICAL DRUM
G2	LENGTH=24'-0" WIDTH=8'-0" HEIGHT=7'-0"	90 KG	DA=1'-4" HEIGHT=2'-0"	18-20 KG Avg = 20 KG	51 Nos.

SEVENTH FLOOR LOAD PLAN					
COLOR	NO.	TYPE	ITEM	MAXIMUM ALLOWABLE LOAD (KN/M ²)	DESCRIPTION
Green	01	MODERATE	STAIR	4.00	STAIR
Grey	G2	STORE	CHEMICAL STORE	4.00	STEEL RACK, CHEMICAL BOX/ DRUM, ETC
Yellow	G3	STORE	GENERAL STORE	4.00	MAT, FABRIC, LMTY DRUM, BOX, CARTON, ETC
Red	G4	LIGHT	TOILET ZONE	3.00	TOILET ZONE & BOILER

Load plan posted on site

Prepared live load plan not comply with BNBC

Live load:

Live load is the load superimposed by the user or occupancy of the building but not including the environment load. The live load considered for the building is given below in Table 1:

Table 1: Floor occupancy and live load

Sr no	Floor	Use of floor	Height of Floor (ft)	Live load (kN/m ²)
2	Ground floor	ETP, Chemical Storage, Laboratory, Blower Room, CC TV & Security Room.	20'-0"	4.00
4	1 st Floor	Printing.	14'-6"	4.00
5	2 nd Floor	Printing.	14'-6"	4.00
6	3 rd Floor	Printing.	14'-6"	4.00
7	4 th Floor	Printing.	14'-6"	4.00
8	5 th Floor	Printing.	14'-6"	4.00
9	6 th Floor	Printing.	14'-6"	4.00
10	7 th Floor	General Store, Dinning, Office, Conference & Prayer room.	14'-6"	4.00
11	Roof	Empty	14'-6"	2.00
12	Chilakotha		16'-0"	2.00

- 1.0 kN/m² has been assigned as Supper dead load (Floor Finish load).
- 1.5 kN/m² has been assigned as Supper dead load (Partition wall).
- 62.4x5+150x8/12150x6/12=487 psf =24.35 kN/m² ~25.00kN/m² has been assigned as water tank load considering water load+tank bott. Slab load+ tank top slab load.

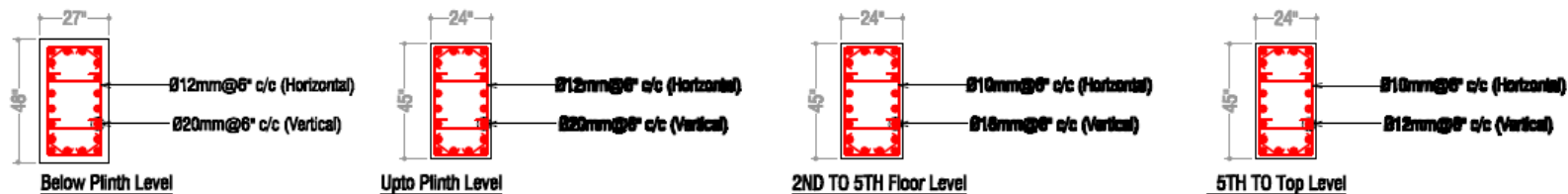
In design report, live load considered 4 kPa for general store.

4.5	1 Light workroom without storage	3.0	2.7
1.8	2 Machinery hall & circulation area	4.0	4.5
	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 :		
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

BNBC minimum live load table.

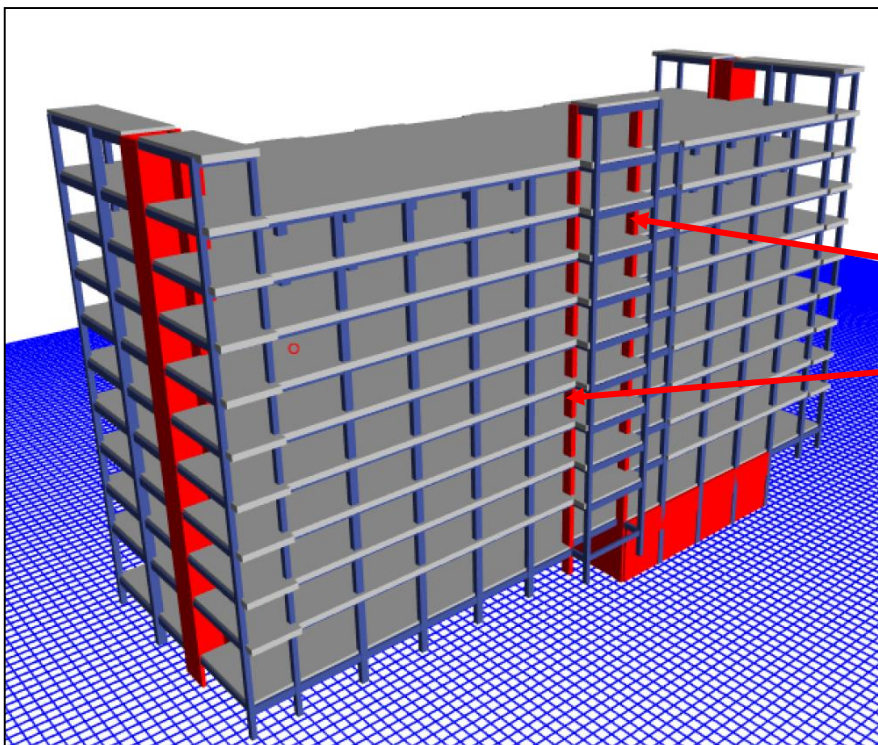
As per BNBC, the minimum floor live load for light storage is 6 kN/m² (126 psf). The storage in this building is designed for 4 kN/m² live loads.

The building engineer is required to revise the load plan for storage area based on BNBC live load requirement and update the design report & FEA model accordingly.

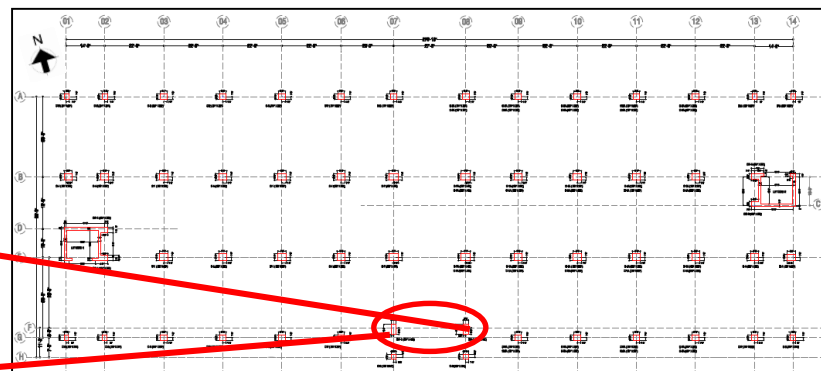


SW- 1 DETAILS

Column schedule of the grid 7F & 8F (considered as shear wall)



In design report the columns (at grid 7F & 8F) are considered as shear wall.



Ground floor column layout

In design report and in the provided as-built drawing, the columns at grid 7F & 8F are considered as shear wall where the ratio of breadth/width of the columns < 0.4 . Building engineer is required to provide clarification for the consideration (columns as a shear wall) and revise the design report & FEA model accordingly and submit to RSC for review.

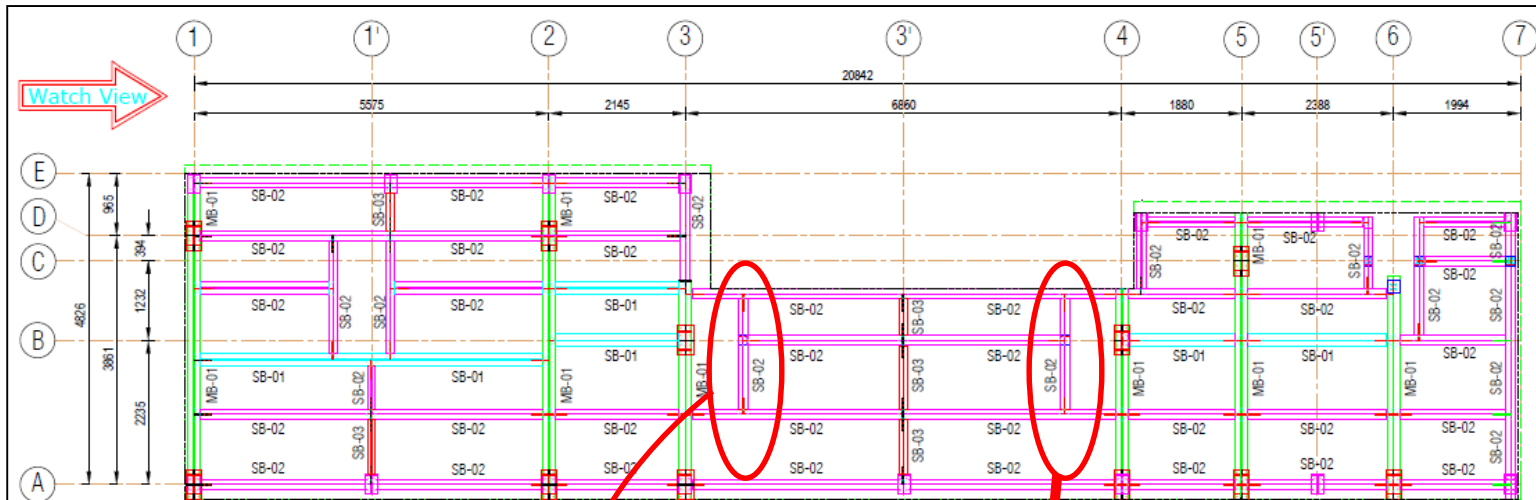
Column susceptible to vehicle impact



Columns on loading/unloading areas are susceptible to vehicle impact. The factory engineer is required to take necessary action to prevent the vehicle impact in the columns.



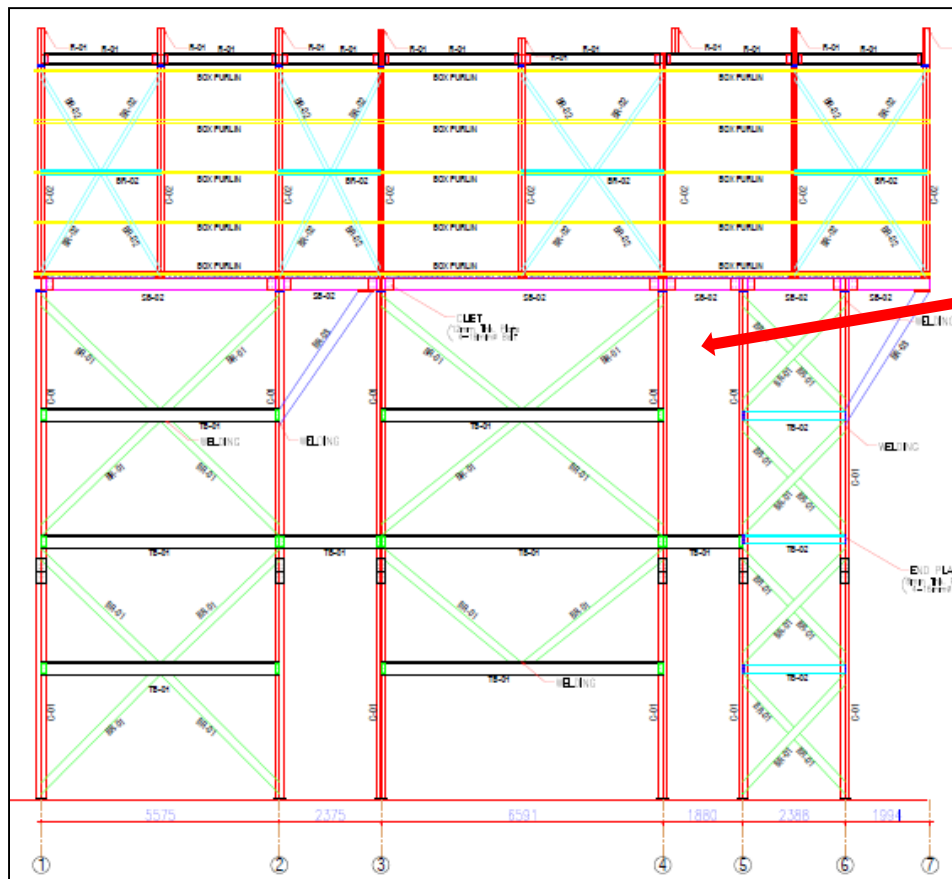
Mismatch between drawings and as-built conditions



Floor beam layout at
1st floor level



Some sub-beam found missing at on-site



Vertical bracing found missing in provided as-built drawing.



Vertical bracing

Discrepancies were observed between the provided as-built drawing and on-site condition. Building engineer is required to produce accurate as-built drawing.

Absence of design documents



No design report was available for EGB

As per BNBC, every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1, part-6 of BNBC.

At the time of inspection, only as-built drawing and geotechnical report were available, but no design report & load plan were available which are required to be prepared in compliance with section 1.9.1 (part-6, BNBC).

Corrosion in steel member



Corrosion in cantilever steel beam

Corrosion in steel member was observed in cantilever portion at North. The factory is required to remove the corrosion and apply suitable corrosion resistance coating to the steel members.

Problems Observed

Printing Building:

Item 01: Design report need to be revised.

Item 02: Column susceptible to vehicle impact.

EGB Room:

Item 03: Mismatch between drawings and as-built conditions.

Item 04: Absence of design documents.

Item 05: Corrosion in steel member.

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Design report need to be revised. (Printing Building)	The building engineer is required to revise the load plan for storage area based on BNBC live load requirement and update the design report & FEA model accordingly. And submit design documents to RSC for review.	6-weeks
02	Design report need to be revised. (Printing Building)	Implement the recommendations of design report.	6-months
03	Design report need to be revised. (Printing Building)	Implement RSC accepted floor load plan.	6-months
04	Column Susceptible to vehicle impact. (Printing Building)	The factory engineer is required to provide barrier around the column to prevent the vehicle impact in the columns.	6-weeks
05	Mismatch between drawings and as-built conditions. (EGB Room)	The building engineer is required to check the structure, collect information and produce accurate as-built structural drawings.	6-weeks
06	Absence of design documents. (EGB Room)	Building engineer is required to prepare the design documents including a design report, and a set of structural drawings in compliance with section 1.9.1, part-6 of BNBC and submit to RSC for review.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
07	Absence of design documents. (EGB Room)	Carry out remedial works (if any) after reviewed by the RSC.	6-months
08	Corrosion in steel member. (EGB Room)	The factory is required to remove the corrosion and apply suitable corrosion resistance coating to the steel members.	6-weeks