Tech Max Ltd.

Beron, Diakhali, Yearpur Union, Ashulia, Dhaka-1349.
(23.934751, 90.300964)
24th October 2021

RSC RMG SUSTAINABILITY COUNCIL

Building Information

Main Building: (G+7)

Utility Building: (G with Mezzanine)

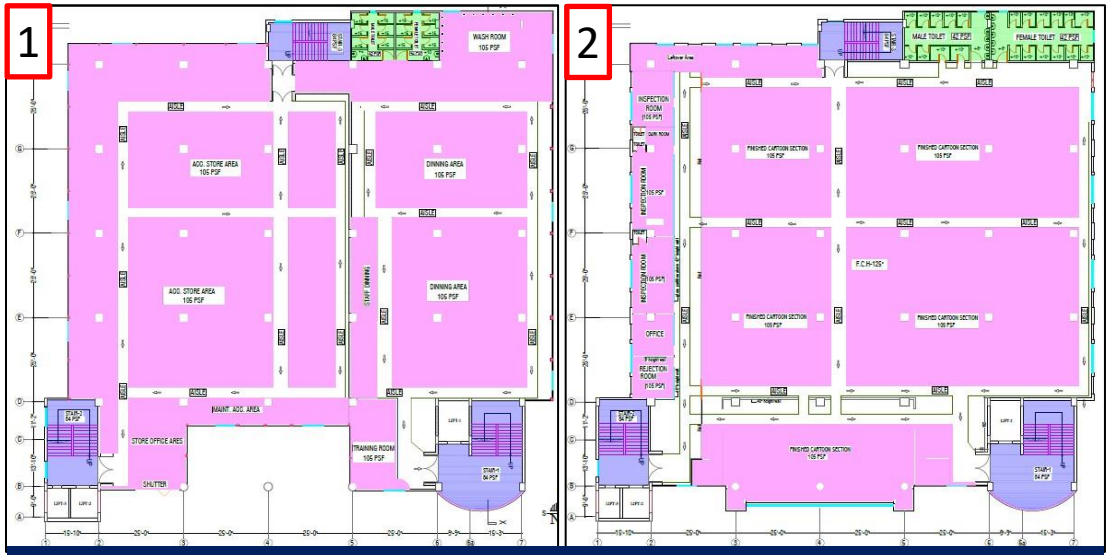
Pump House: (Basement)

Doctor’s Shed: (G)

Observations

Inconsistency in the design report

Observations: Main Building



1) 1st floor load plan. 2) 2nd floor load plan

Floor loading

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
		3 Factory, workshop etc.	5.0	4.5
		4 Manufacturing : light	6.0	4.5
		heavy	12.0	9.0 (5)
		ice	15.0	9.0 (5)
		5 Printing plant :		(5)
		Press room	7.0	11.0
		Composing and linotype room	5.0	9.0 (5)
		Paper storage room	12.0	9.0 (5)
		6 Motor room, fan room etc. including the weight of machinery	7.5	4.5
		7 Cold storage, grain storage	15.0	9.0 (5)
		8 Storage warehouses : light	6.0	4.5 (5)
		heavy	12.0	9.0
		9 Foundries	20.0	12.0

BNBC live load requirements Storage load

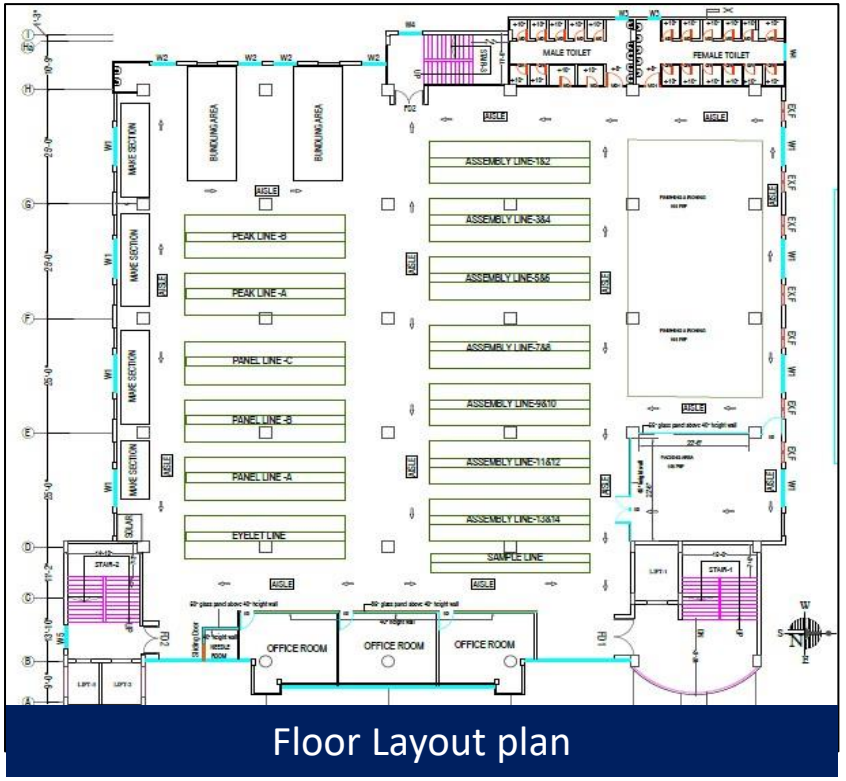
TYPICAL FLOOR LOADING FOR THIS FLOOR			
NO.	TYPE	ITEM	MAX LOAD IN PSF
01	LS	STORAGE AREA	105
02	LS	DINNING AREA	105
03	LS	WASH ROOM AREA	105

Live load has been considered 5 kPa (105 psf) in load plan.

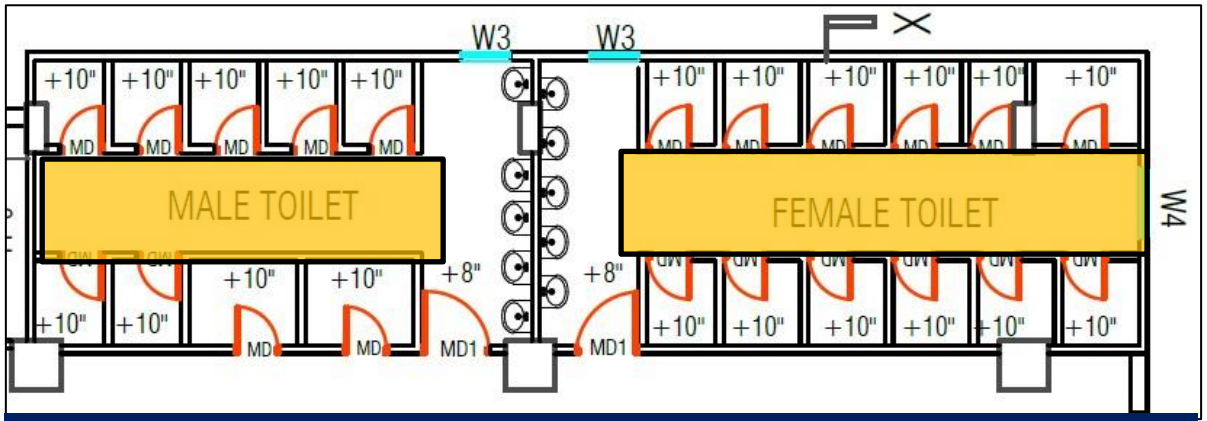
The live load of the storage area has been considered 5kPa (105 psf) which do not comply the floor load requirement of BNBC. As per BNBC, minimum loading 6 Kpa is required for the light storage warehouse. Building engineer is required to update the floor loading plan, software-based analysis and design report following BNBC loading requirement.

Observations: Main Building

Additional 75 mm floor finishes found at toilet block



Floor Layout plan



Additional finishes was found at marked area

During inspection, additional Floor finishes was found 75 mm in toilet zone area. Which has not been shown in drawing.

Building engineer is required to update the as-built drawing and revise the DEA document which to reviewed by RSC.

Observations: Main Building

Design report need to be prepared

Observation: Utility Building

No design report for utility building

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 1.9.1.1 and section 1.9.1.2 as per BNBC (Part-6). Factory provided only as-built drawing for this structure, but no design report was available at the time of inspection.

Building engineer is required to prepare design documents including design report, load plan following BNBC-2006 requirements.

Observation: Utility Building

Discrepancies in as-built drawing

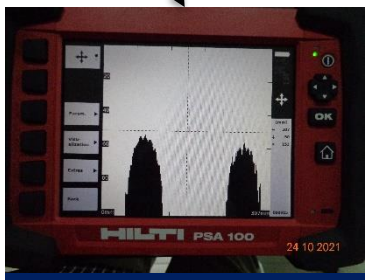
Observation: Utility Building

COLUMN SCHEDULE

COLUMN ID.	BELLOW GB	GROUND & 1ST
C1	8 - 20mm Ø Ø10mm @ (5"-7"-5")	8 - 20mm Ø Ø10mm @ (5"-7"-5")
C2	10 - 20mm Ø Ø10mm @ (5"-7"-5")	10 - 20mm Ø Ø10mm @ (5"-7"-5")
C3	12 - 20mm Ø Ø10mm @ (5"-7"-5")	12 - 20mm Ø Ø10mm @ (5"-7"-5")

Column Schedule

Ferro Scan



Column C1 Scan

Column C2 Scan

Column C3 Scan

As-built drawing no. of rebar of C1, C2 & C3 column was mentioned as 8-20mm, 10-20mm & 12-20mm, respectively. But during the inspection by Ferro scanning no. of rebar of C1, C2 & C3 column was found 4-20mm, 8-20mm & 8-20mm, respectively. Building engineer is required to update the as-built drawing with the accurate on-site condition.

Observation: Utility Building

Dampness on brick wall

Observation: Utility Building

Dampness on brick wall

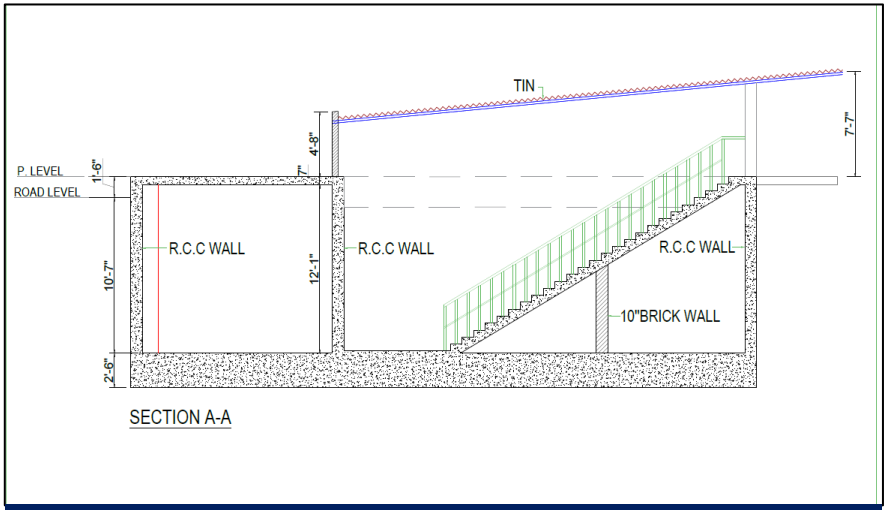
Due to water absorption, dampness was found on brick wall & RC beam. Building engineer is required to take necessary measures to prevent dampness in brick wall & RC beam.

Observation: Utility Building

Possibility of future vertical extension

Observation: Pump House

Extended column re-bar at ground floor



Sectional elevation of pump house

Building constructed only at basement

The building permission layout is for basement only. Till the date of this inspection, Construction was done at only basement. There is also extended column re-bar at ground floor. So, there is a possibility of future vertical extension.

Building engineer is required to perform Detail Engineering Assessment (DEA) for the structure prior to commencement of further extension work.

Observation: Pump House

Exposed rebar at ground floor

Observation: Pump House

Exposed rebar at ground floor

Exposed reinforcement was found at ground floor. Building engineer is required to take necessary measures to prevent the corrosion in exposed rebar.

Observation: Pump House

Problems Observed

Main Building:

Item 01: Inconsistency in the design report.

Utility Building:

Item 05: Design report needs to be prepared.
Item 06: Discrepancies in as-built drawing.
Item 07: Dampness on brick wall.

Pump House:

Item 08: Possibility of future vertical extension.
Item 09: Exposed rebar at ground floor.

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Inconsistency in the design report	Building engineer to update the design document including a design report, and a set of structural drawings in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC.	6-weeks
02	Inconsistency in the design report	Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.	6-weeks
03	Inconsistency in the design report	Implement the recommendations of design report.	6-months
04	Inconsistency in the design report	Implement load plan.	6-months
05	Design report needs to be prepared	Building engineer to prepare the design report in compliance with section 1.9.1.1 as per BNBC.	6-weeks
06	Design report needs to be prepared	Implement the recommendations of design report.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
07	Discrepancies in as-built drawing	Building engineer is required to update the as-built drawing as per onsite condition.	6-weeks
08	Dampness on brick wall	Building engineer is required to investigate the damp area to verify if any damaged occurred due to the presence of the moisture and repair accordingly.	6-weeks
09	Possibility of future vertical extension	Prior to vertical extension, Building engineer is required to produce Detailed Engineering Assessment(DEA) of the structure according to BNBC and submit to RSC for review.	6-weeks
10	Possibility of future vertical extension	Carry out recommendation as outcome of the DEA.	6-months
11	Exposed rebar at ground floor	All exposed reinforcement is to be protected from corrosion which may cause degradation of the concrete.	6-weeks