Montex Fabrics Ltd. (Extension)

Nayapara, Kashimpur, Gazipur
(23.989344, 90.318055)
04 October 2023

RSC RMG SUSTAINABILITY COUNCIL

Executive Summary

Building Information

Building-1 Warehouse: The structure is a two (G+1) storied prefabricated steel shed.

Building 07B Main Gate: A two (G+1) storied reinforced concrete building.

Observations

lateral stability system required review

Observation: Building-1 Warehouse

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Missing compression strut member

Compression strut was found missing in several locations. So lateral stability in the long direction is incomplete. The building engineer is required to check the stability system of the existing structure and suggest remedial measures where necessary.

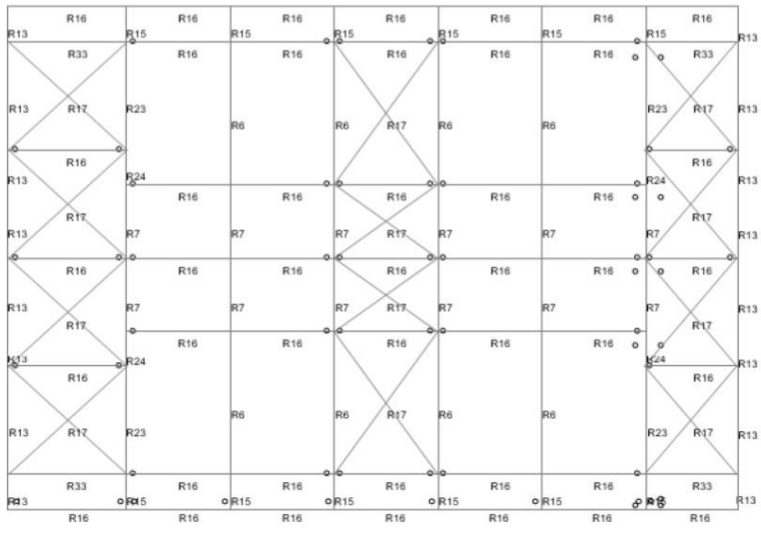

Figure 3.5: Roof Layout (Structural Steel)

Bracing and strut layout in design report

Observation: Building-1 Warehouse

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Loose nut and bolt missing

Observation: Building-1 Warehouse

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Loose nut and Bolt missing observed in joint at several locations. Building engineer is required to tighten the loose nut and install the missing bolt where necessary.

Loose nut

Bolt missing

Observation: Building-1 Warehouse

Loose cable bracing

Observation: Building-1 Warehouse

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Roof cable bracings were found loose at several locations. Building engineer is required to tighten the loose bracing where necessary.

Loose cable bracing

Observation: Building-1 Warehouse

Racks not anchored or braced

Observation: Building-1 Warehouse

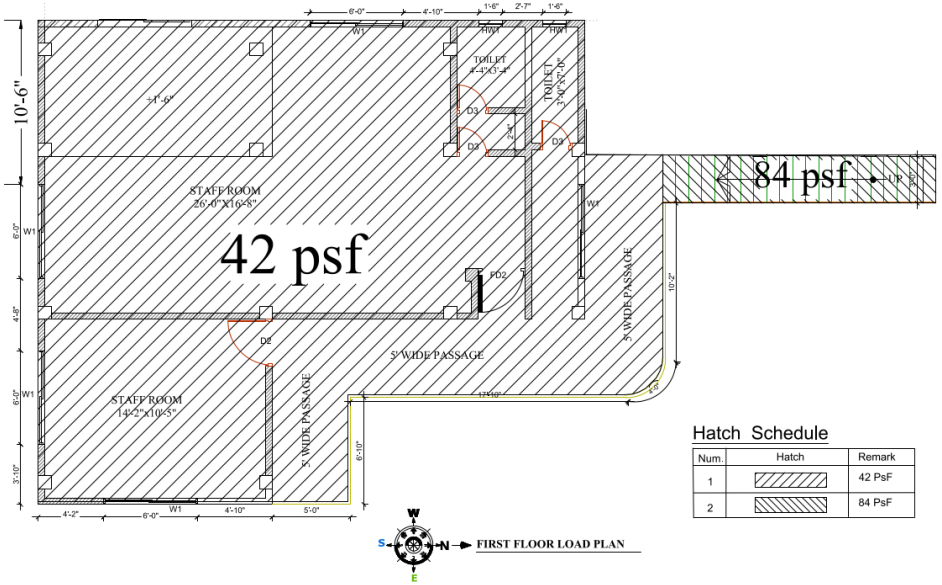
Non-anchored storage rack at first floors

Racks on the first floors are not anchored or braced to resist lateral (earthquake) forces. Building engineer is required to anchor/brace all non-structural elements adequately to resist earthquake forces.

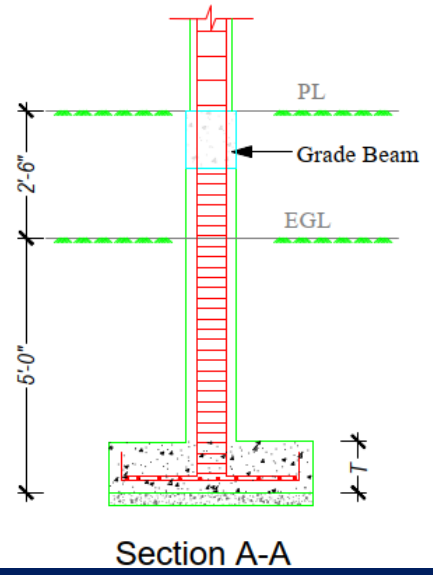
Observation: Building-1 Warehouse

Footing stressed above normal design limit

Observation: Building 07B Main Gate



Load plan with 42 psf (2N/m2) for first floor



Foundation

FOOTING SCHEDULE

FOOTING DESIGNATION	L (ft)	B(ft)	T(in)	Reinforcement	
				Long Direction	Short Direction
F1	4'-0"	4'-0"	12"	16Ømm @ 6" c/c	16Ømm @ 6" c/c

The cursory calculation indicates that internal footing stress exceeds the normal design limit considering a floor live load of 2 kPa, and soil bearing capacity of 2 ksf (FS 2.5). The building engineer is required to review the design, loads, and footing stresses.

Observation: Building 07B Main Gate

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Test Carried Out

Bricks chips in column

Test Carried Out: Building 07B Main Gate

Problems Observed

Building-1 Warehouse:

Item 01: lateral stability system required review.

Item 02: Loose nut and bolt missing.

Item 03: Loose cable bracing.

Item 04: Racks not anchored or braced.

Building 07B Main Gate:

Item 05: Footing stressed above normal design limit.

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Lateral stability system required review. (Building-1 Warehouse)	Building engineer is required to check the lateral stability of the structure.	6-weeks
02	Lateral stability system required review. (Building-1 Warehouse)	Implement remediation work if required.	6-months
03	Loose nut and bolt missing. (Building-1 Warehouse)	Building engineer is required to tighten the loose nut and install the missing bolt where necessary.	6-weeks
04	Loose cable bracing. (Building-1 Warehouse)	Building engineer is required to tighten the loose bracing where necessary.	6-weeks
05	Racks not anchored or braced. (Building-1 Warehouse)	Building is required to adequately anchor/brace all non- structural elements to resist earthquake forces to comply with the BNBC.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
06	Footing stressed above normal design limit. (Building 07B Main Gate)	Building Engineer to review design, loads and footing stresses.	6-weeks
07	Footing stressed above normal design limit. (Building 07B Main Gate)	Produce and actively manage a loading plan for all floor plates within the factory, considering floor, column and foundation capacity.	6-weeks
08	Footing stressed above normal design limit. (Building 07B Main Gate)	Complete implementation of any remedial works.	6-months
09	Footing stressed above normal design limit. (Building 07B Main Gate)	Continue to implement loading plan.	6-months