Fullcharm Fashion Knitters Ltd.

Plot # 1175 & 1179, Bashon Sarak, Vogra, National University

(23.908870, 90.207318)

11 February 2025

Structural Inspection Report

RSC RMG SUSTAINABILITY COUNCIL

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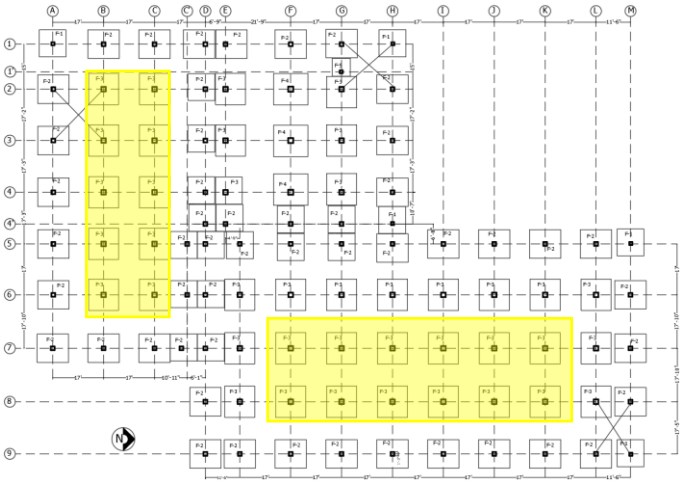
1. Building Information

1. Building 1 (Production Building-01)
2.Building-2 (Production Building-02)
3.Building-3 (Boiler Room)
4.Building-4 (Fire Pump Room)
5. Shed 1: Water Pump-Chemical-Wastage
6. Shed 2: Effluent Treatment Plant (ETP)
7. Water Treatment Plant (WTP)

2. Observations

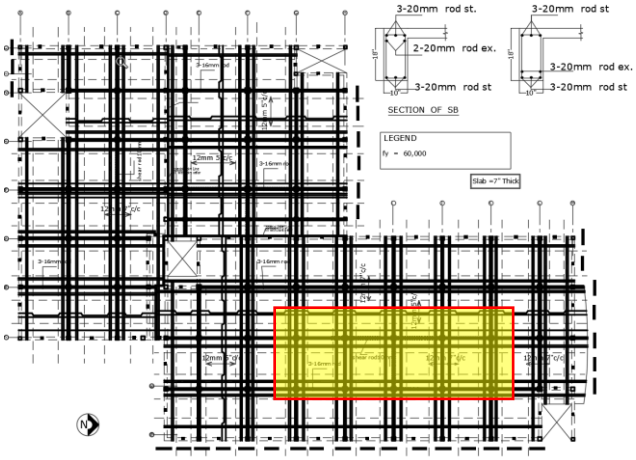
Observation 1: Stress in the foundation exceeds the normal design limit for a partially seven-storied (G+6) structure. [Building-1]

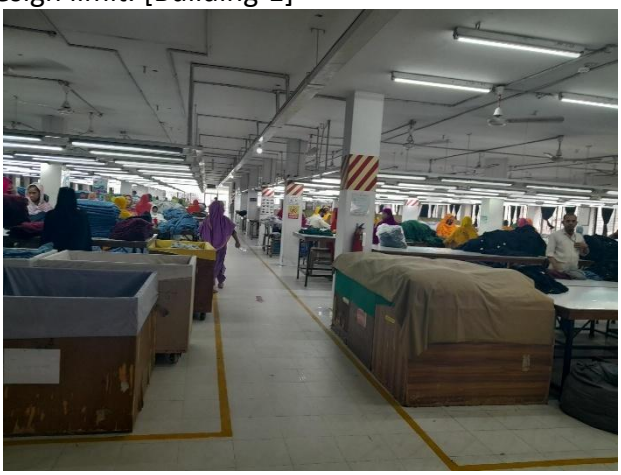


Description: The cursory calculation indicates that foundations are stressed above the normal design limit at the marked locations considering a floor live load of 3 kPa for the typical production floor and 1.5 kPa for the roof.

Action Plan: The building engineer is required to review design loads and foundation stresses. Also, produce and actively manage load management plans.

Observation 2: Flat Plate stressed above normal design limit. [Building-1]





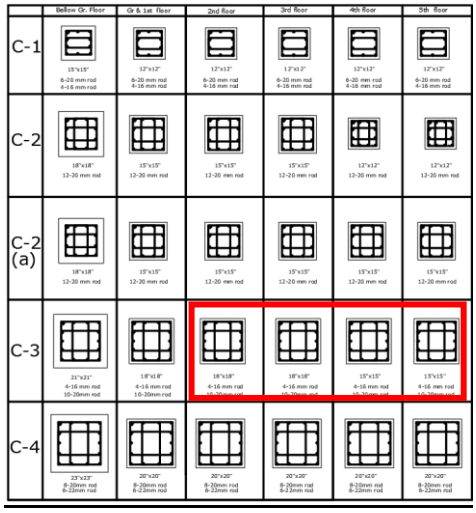
Description: Cursory calculation indicates that the stresses in the slab of the Building 1 (Part A) are above the normal design limit, considering 3 kPa floor live load, minimum concrete strength and 375x375 mm column C3 at upper floor above the 1F. Additionally, no material test report for the flat slab was found during the inspection.

Action Plan: The building engineer is required to carry out Engineering Assessment (EA) as well as suggested remedial works. The building engineer is required to confirm material strength of flat slab and incorporate the test result in EA.

Observation 3: No obvious lateral stability (shear walls, bracing, or a rigid frame system) in the structure. [Building-1]

Description: The structure consists of a reinforced concrete (RC) flat plate system with an edge beam and column frame, incorporating a two-way spanning slab. No apparent lateral stability system (such as shear walls, bracing, or a rigid frame system) was observed during the inspection.
Additionally, a design report for Building 1 (Part A: six story Building) was found on-site. However, no design reports were available for Part B and Part C of the building.
Action Plan: The building engineer is required to check the lateral stability of the structure and suggest proper remedial actions if required.

Observation-4: Mismatch between drawing & onsite condition. [Building-1]



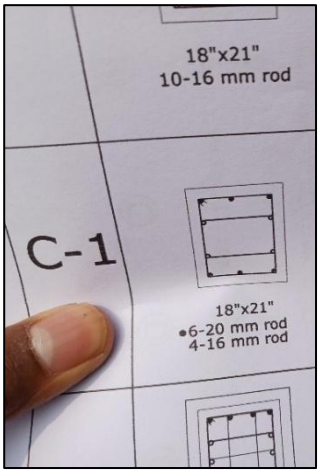
Description: The amount of rebar in columns C1, C2, and C2(a) did not match the drawings. Additionally, the C3 column size was found to be 375x375 mm instead of 450x450 mm from the 1st floor to the roof floor. In columns C2 and C2(a), 8 nos rebars were found instead of the specified 12 nos, and in column C1, 8 nos rebars were found instead of 10 nos.
Action Plan: The building engineer is required to update the drawings based on the as-constructed structure.

Observation-5: Lack of information and discrepancy between the provided drawing and site condition. [Building-2]

Floor and toilet built-ups were not mentioned in the drawing

Undocumented UGWR (55954 gallons)

Column C1 (grid H-5) 10Ø16 re-bar found instead of 4Ø16+6Ø20

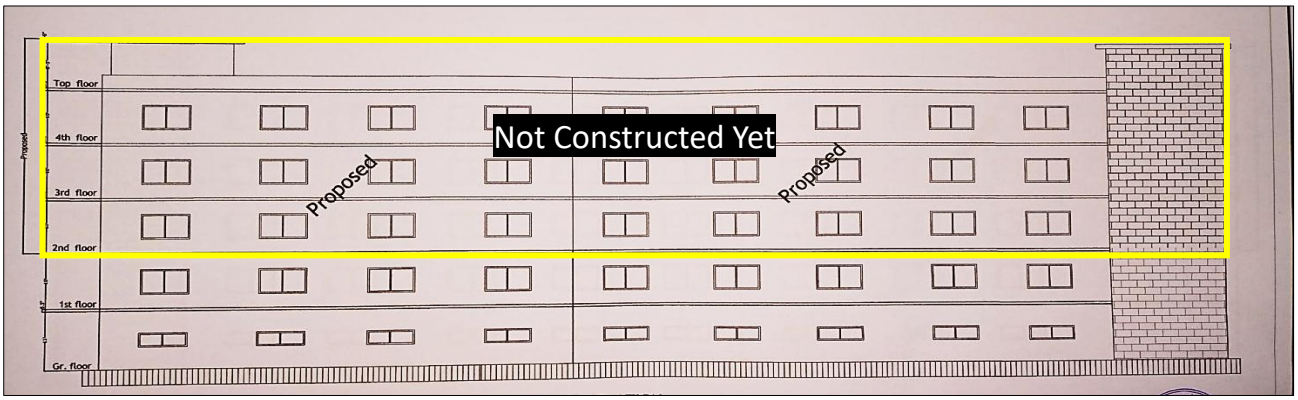


Column C1 (grid I-7) 12 no's re-bar found instead of 10 no's

Description: During the inspection, lack of information and discrepancy was found between the provided as-built drawing and the actual site condition.

Action Plan: The building engineer is required to survey the structure and update the as-built drawing along with the design report as per the actual site condition.

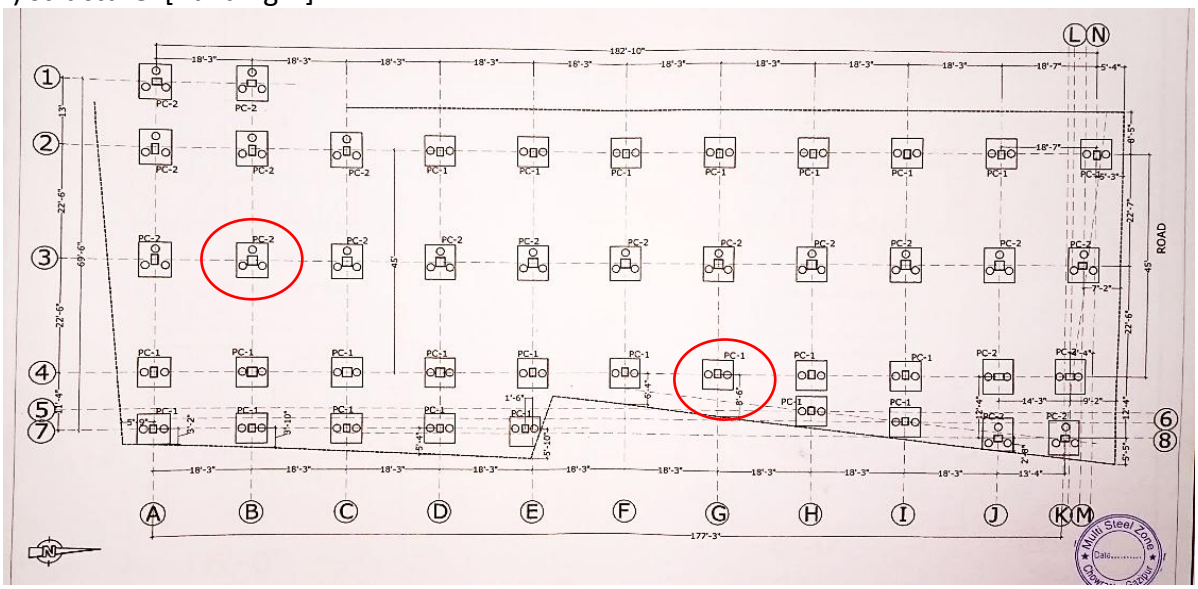
Observation-6: Lack of local authority approval and future vertical extension. [Building-2]



Description: The building is an existing two-storied (G+1) and proposed five-storied (G+4) reinforced concrete (RC) structure. But no local authority was available. However, the factory has a plan for future vertical extension. Projected rebar left on the roof.

Action Plan: The factory is required to collect the local authority approval. The building engineer is required to follow the construction safety measures during the commencement of further extension work.

Observation-7: Stress in the foundation exceeds the normal design limit for the proposed five-storied (G+4) structure. [Building-2]



Description: The cursory calculation indicates that foundations are stressed above the normal design limit at the marked locations considering floor live load of 3 kPa for the typical production floor, 1.5 kPa for the roof, and 6 kPa for ground suspended floor storage.

Action Plan: The building engineer is required to review design loads and foundation stresses. Also, produce and actively manage load management plans.

Observation-8: Lack of lateral stability. [Building-2 (Staircase Roof)]

Description: lack of lateral stability in the steel roof of both staircases was observed.

Action Plan: The building engineer is required to check the lateral stability and suggest adequate size of steel members.

Observation-9: Potential falling hazard at the Roof. [Building-2]

Description: During the inspection, it was noted that toilet zone peripheral lacked barriers at its edges, creating a potential falling hazard.

Action Plan: The factory is required to install appropriate safety barriers to mitigate the risk of falls and ensure compliance with safety standards.

Observation-10: Exposed re-bar and corrosion on steel member. [Building-2]

Description: During the inspection, exposed re-bar corrosion was observed on the roof.

Action Plan: The factory is required to repair/replace the corroded member and apply anti-corrosive coating on the steel member & re-bar.

Observation-11: Dampness on beam-slab and brick wall. [Building-2]

Description: During the inspection, dampness was observed on beam-slab and brick wall.

Action Plan: The building engineer is required to investigate the extent of the dampness & repair accordingly.

Observation-12: Lack of water proofing layer on roof. [Building-2]

Description: During the inspection, the waterproofing and drainage system was not observed on the roof.

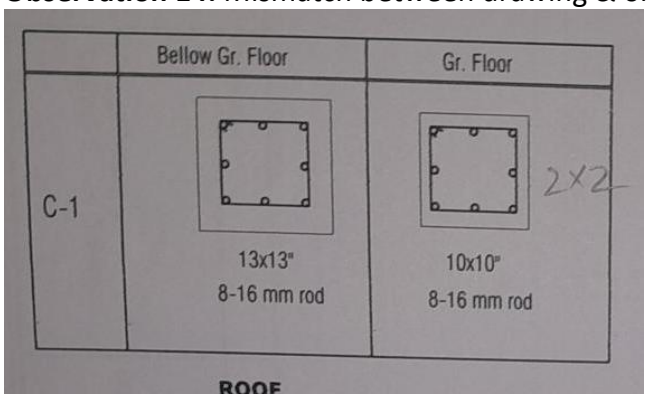
Action Plan: The factory is required to develop the roof drainage system and apply water proofing membrane on the roof.

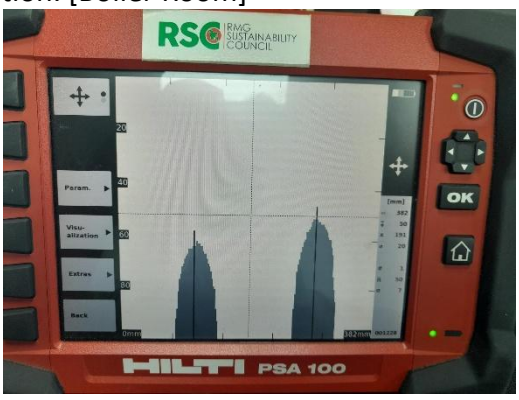
Observation-13: Trolley impact on columns surface. [Building-2]

Description: The cover of the floor columns was damaged due to the trolley impact.

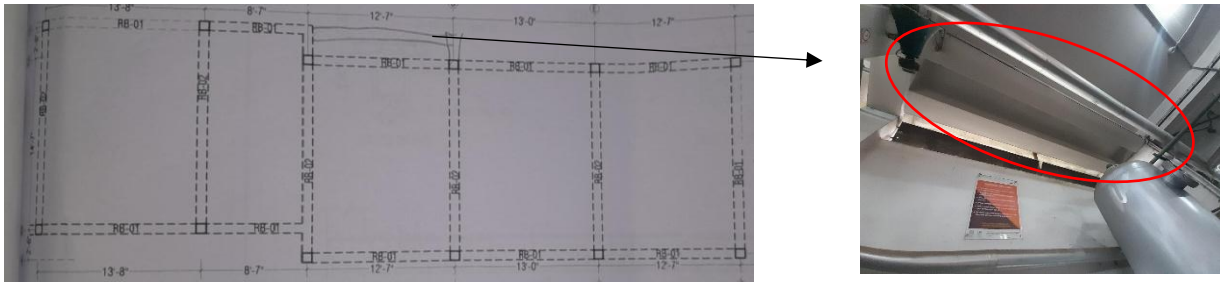
Action Plan: The factory is required to provide column guards to protect the trolley impact.

Observation 14: Mismatch between drawing & onsite condition. [Boiler Room]





C1 Column schedule



Beam layout

Description: The amount of rebar in columns C1 did not match the drawings. In columns C1 4 nos rebars were found instead of the specified 8. Also the beam layout doesn't matched onsite conditions.

Action Plan: The building engineer is required to update the drawings based on the as-constructed structure.

Observation-15: Hairline crack on RC column. [Boiler Room]

Description: During the inspection, a hairline crack was observed in the RC column of the Boiler Room.

Action Plan: The building engineer is required to produce a crack investigation report, identifying the cause of the crack and providing the repair methodology.

Observation-16: Absence of design report. [Building 4, Shed 2, and Water Treatment Plant (WTP)]

Description: The design report was not prepared for Building 4 (Fire Pump Room), Shed 2: Effluent Treatment Plant (ETP), and Water Treatment Plant (WTP).

Action Plan: The building engineer is required to prepare a design report following BNBC (Part-6, section 1.9.1).

Observation-17: Lack of lateral load transfer media and load resisting system. [Shed 1]


Description: Lack of lateral load transfer media and load resisting system of the shed was observed in Shed 1: Water Pump-Chemical-Wastage.

Action Plan: The building engineer is required to check the lateral stability and suggest adequate size of steel members. Prepare a safety check report as per the Accord Building Standard and submit to RSC for review.

Observation-18: Crack in brick wall. [Shed 1]


Description: Several cracks in brick walls were observed in the cantilever stair portion of the building.

Action Plan: The building engineer is required to investigate the reason for the crack and repair the cracks following suitable repair methodology.

Observation-19: Severe corrosion on steel member. [Shed 1]


Description: During the inspection, severe corrosion was observed on the steel member.

Action Plan: The factory is required to repair/replace the corroded member and apply anti-corrosive coating.

Observation-20: Dampness on brick wall. [Shed 1]


Description: During the inspection, dampness was observed on the brick wall.

Action Plan: The building engineer is required to investigate the extent of the dampness & repair accordingly.

3. Action Plan:

Item No	Observation	Action Plan	Timeline
1.	Stress in the foundation exceeds the normal design limit for partially seven-storied (G+6) structure. [Building-1]	The building engineer is required to review the design and foundation stresses.	within 6 weeks
2.		Produce and actively manage load management plans.	within 6 weeks
3.		Implement remediation work if required.	within 6 months
4.		Implement a load management plan.	within 6 months
5.	Flat Plate stressed above normal design limit. [Building-1]	The building engineer is required to carry out Engineering Assessment (EA) as well as suggested remedial works. The building engineer is required to confirm material strength of flat slab and incorporate the test result in EA.	within 6 weeks
6.		Implement remediation work if required.	within 6 months
7.	No obvious lateral stability (shear walls, bracing, or a rigid frame system) in the structure. [Building-1]	The building engineer is required to check the lateral stability of the structure and suggest proper remedial actions if required.	within 6 weeks
8.		Implement remediation work if required.	within 6 months
9.	Mismatch between the drawing & onsite condition. [Building-1]	The building engineer is required to update the drawings based on the as-constructed structure.	within 6 weeks
10.	Lack of information and discrepancy between the provided drawing and site condition. [Building-2]	The building engineer is required to survey the structure and update the as-built drawing along with the design report as per the actual site condition.	within 6 weeks
11.		Carry out remedial work if required.	within 6 months
12.	Lack of local authority approval and future vertical extension. [Building-2]	The factory is required to collect the local authority approval.	within 6 weeks
13.		The building engineer is required to follow the construction safety measures during commencement of further extension work.	within 6 months
14.	Stress in the foundation exceeds the normal design limit for proposed five-storied (G+4) structure. [Building-2]	The building engineer is required to review the design and foundation stresses.	within 6 weeks
15.		Produce and actively manage load management plans.	within 6 weeks
16.		Implement remediation work if required.	within 6 months

17.		Implement a load management plan.	within 6 months
18.	Lack of lateral stability. [Building-2 (Staircase Roof)]	The building engineer is required to check the lateral stability and suggest adequate size of steel member.	within 6 weeks
19.		Carry out remedial work if required.	within 6 months
20.	Potential falling hazard at the Roof. [Building-2]	The factory is required to install appropriate safety barriers to mitigate the risk of falls and ensure compliance with safety standards.	within 6 weeks
21.	Exposed re-bar and corrosion on steel member. [Building-2]	The factory is required to repair/replace the corroded member and apply anti-corrosive coating on the steel member & re-bar.	within 6 weeks
22.	Dampness on beam-slab and brick wall. [Building-2]	The building engineer is required to investigate the extent of the dampness & repair accordingly.	within 6 weeks
23.	Lack of waterproofing layers on the roof. [Building-2]	The factory is required to develop the roof drainage system and apply waterproofing membrane on the roof.	within 6 weeks
24.	Trolley impact on columns surface. [Building-2]	The factory is required to provide column guards to protect the trolley impact.	within 6 months
25.	Mismatch between the drawing & onsite condition. [Boiler Room]	The building engineer is required to update the drawings based on the as-constructed structure.	within 6 weeks
26.	Hairline crack on RC column. [Boiler Room]	The building engineer is required to produce a crack investigation report, identifying the cause of the crack and provide the repair methodology.	within 6 weeks
27.		Carry out remedial work if required.	within 6 weeks
28.	Absence of design report. [Building 4]	The building engineer is required to prepare a design report following BNBC (Part-6, section 1.9.1).	within 6 weeks
29.		Carry out remedial work if required.	within 6 months
30.	Absence of design report. [Shed 2]	The building engineer is required to preparea accurate as-built drawings as per site condition.	within 6 weeks
31.		The building engineer is required to prepare design report following BNBC (Part-6, section 1.9.1).	within 6 weeks
32.		Carry out remedial work if required.	within 6 months

33.	Absence of design report. [Water Treatment Plant (WTP)]	The building engineer is required to prepare a design report following BNBC (Part-6, section 1.9.1).	within 6 weeks
34.		Carry out remedial work if required.	within 6 months
35.	Lack of lateral load transfer media and load resisting system. [Shed 1]	The building engineer is required to check the lateral stability and suggest adequate size of steel members. Prepare a safety check report as per the Accord Building Standard and submit it to RSC for review.	within 6 weeks
36.		Carry out remedial work if required.	within 6 months
37.	Crack in brick wall. [Shed 1]	The building engineer is required to investigate the reason for the crack and repair the cracks following suitable repair methodology.	within 6 weeks
38.	Severe corrosion on steel member. [Shed 1]	The factory is required to repair/replace the corroded member and apply anti-corrosive coating.	within 6 weeks
39.	Dampness on brick wall. [Shed 1]	The building engineer is required to investigate the extent of the dampness & repair accordingly.	within 6 weeks