Knit Concept Ltd

North Norshingpur, Kashipur, Fatullah, Narayanganj

(23.615004, 90.471749)
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RSC RMG SUSTAINABILITY COUNCIL

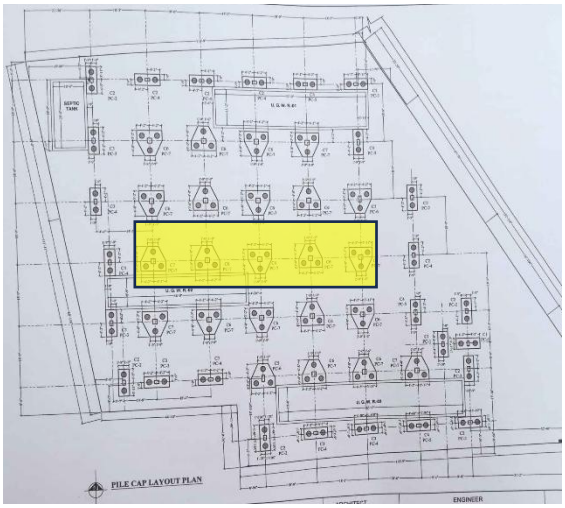
Level 5, Shanta Forum, 187, 188/B,
Bir Uttam Mir Shawkat Sarak, Tejgaon,
Dhaka- 1208, Bangladesh
PABX : +880 2 41081863-6
www.rsc-bd.org

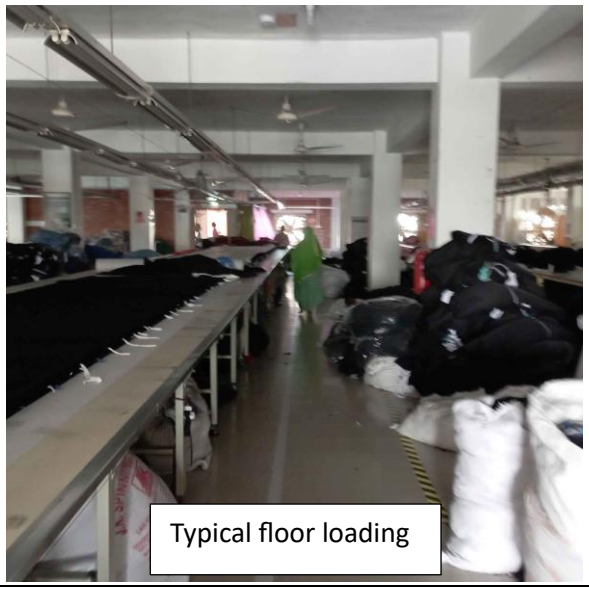
1. Building Information

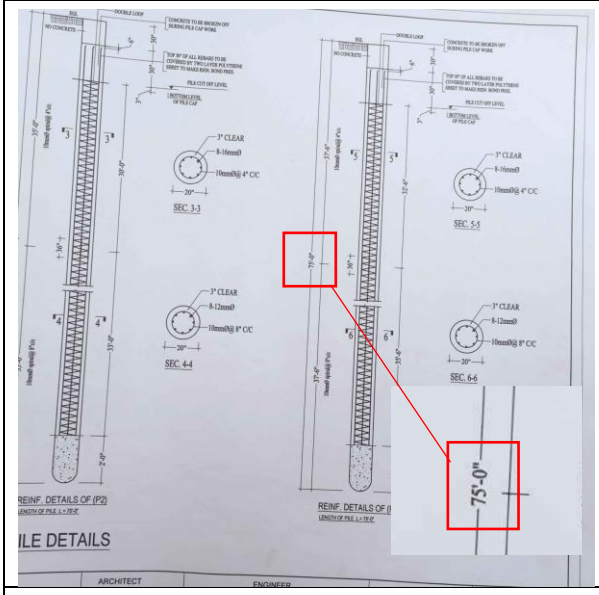
1. Factory Building: The structure is a 6-storied (G+5) reinforced concrete building.
2. Yarn Store Shed: The structure is a single-storied steel shed.
3. Utility Shed: The structure is a single-storied steel shed.

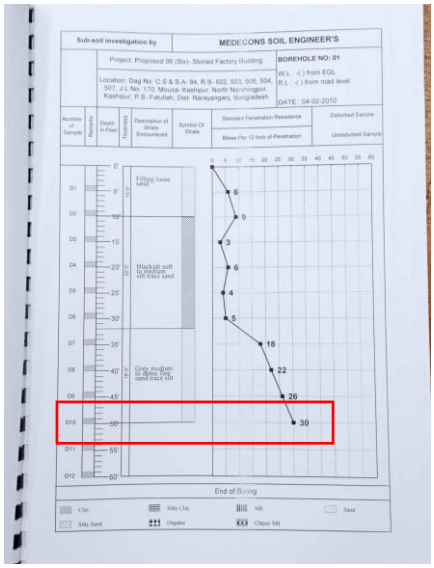
2. Observation:

Observation 1: Stress in the foundation exceeds the normal design limit (Factory Building).




Typical floor loading



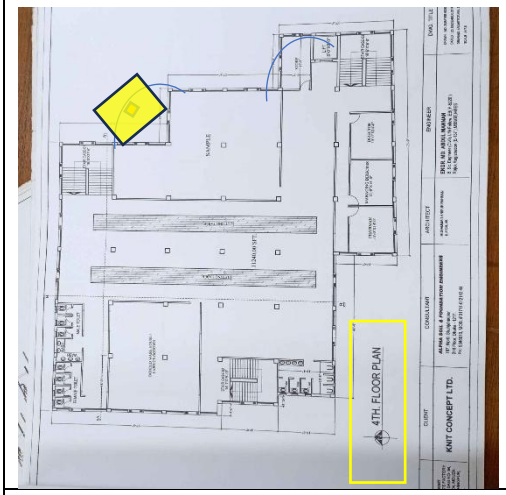


Description: Cursory calculation indicates that stress in the foundation exceeds the normal design limit at marked locations considering the live load 3 kPa and allowable pile capacity 37.5-ton (FoS:2.5) at 14.63 m (48 feet) depth recommended in soil test report. Although as per the provided drawing, the pile depth is 22.86 m (75 feet), borehole data is available only up to 15.28 m (50 feet). A geotechnical engineer is required to prepare a new soil test report to determine the actual pile capacity up to the full depth of the pile. Based on the actual pile capacity, the building engineer is required to check the adequacy of the foundation and prepare a design report as per 1.9.1 BNBC. Submit it to RSC for review.

Observation 2: Lack of material test report (Factory Building).

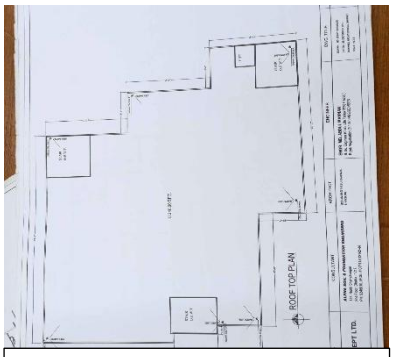
Description: No material test report (concrete/rebar) was available at the time of inspection. The building engineer is required to take a minimum of 4 no of 100 mm diameter concrete core from columns (lower level) to verify the in-situ concrete strength**.**

Observation 3: Stress in flat slab exceeds the normal design limit (Factory Building).

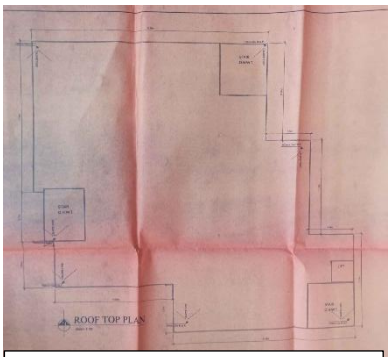


Description: Cursory calculation indicates that stress in flat slab exceeds the normal design limit at marked locations on the 4th floor due to brick partition walls and floor build-up, considering the live load of 2 kPa and minimum concrete strength (16.3 MPa) based on aggregate type. The building engineer is required to check the adequacy of the flat slab as part of the design report.

Observation 4: Discrepancy in construction/local authority approval drawing (Factory Building).



Roof layout (construction drawing)



Roof layout (local authority approval drawing)

Undocumented extension at roof

Shape of the building doesn't match with drawing

Description: The additional floor on the roof was not shown both in the as-built drawing and layout from the local authority approval drawing. Also, the shape of the building on the east side is slightly different from both the as-built drawing and the layout from the local authority's approval drawing. The building engineer is required to produce an accurate as-built drawing as per on-site conditions. Also, collect a revised permit drawing/layout from the local authority for the additional floor at the roof and reflect the onsite condition. Otherwise, remove the undocumented floor at the roof.

Observation 5: Lack of lateral stability (Utility Shed).

Description: No load transfer media, horizontal bracing, or vertical bracing are provided to transfer and resist the lateral load. The building engineer is required to check the lateral stability of the shed and prepare an Engineering Assessment (EA) report as per 1.9.1 BNBC.

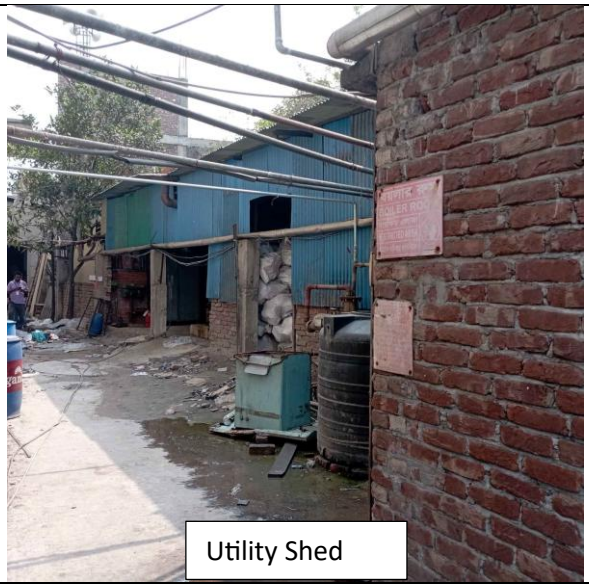
Observation 6: Absence of bracing system (Yarn Store Shed).

Description: No load transfer media, horizontal bracing, or vertical bracing are provided to transfer and resist the lateral load. The building engineer is required to prepare a safety check report with a remediation plan.

Observation-7: Nonstructural elements found not anchored/braced (Yarn Store Shed).

Description: Nonstructural elements (storage racks) were found not anchored/braced. The building engineer is required to anchor/brace all nonstructural elements within the factory.

Observation 8: Lack of approval layout/drawing from local authority. (Yarn Store Shed, Utility Shed).



Utility Shed

Yarn Store Shed

Description: No approval layout/drawing was available from the local authority for any of the structures. The factory is required to collect approval layout/drawing from the relevant local authority for all structures within the factory.

3. Action Plan

Item No.	Observation	Action Plan	Timeline
1.	Stress in the foundation exceeds the normal design limit (Factory Building).	A geotechnical engineer is required to prepare a new soil test report to determine the actual pile capacity up to the full depth of the pile.	within 6 weeks
2.		Based on the actual pile capacity, the building engineer is required to check the adequacy of the foundation and prepare a design report as per 1.9.1 BNBC. Submit it to RSC for review.	within 6 weeks
3.		Produce and actively manage a floor load plan.	within 6 weeks
4.		Implement remediation work if required.	within 6 months
5.		Implement floor load plan.	within 6 months
6.	Lack of material test report (Factory Building).	Take a minimum of 4 no of 100 mm diameter concrete core from columns (lower level) to verify the in-situ concrete strength**.**	within 6 weeks
7.	Stress in flat slabs exceeds the normal design limit (Factory Building).	The building engineer is required to check the adequacy of the flat slab as part of the design report.	within 6 weeks
8.		Take a minimum of 2 no of concrete core from the slab to verify the in-situ concrete strength**.**	within 6 weeks
9.	Discrepancy in construction/local authority approval drawing (Factory Building).	The factory is required to collect a revised permit drawing/layout from the local authority for the additional floor at the roof and reflect the onsite condition. Otherwise, remove the undocumented floor from the roof.	within 6 months
10.		Also, prepare an accurate as-built drawing as per the onsite condition.	within 6 weeks
11.	Lack of lateral stability (Utility Shed).	The building engineer is required to check the lateral stability of the shed and prepare an Engineering Assessment (EA) report as per 1.9.1 BNBC.	within 6 weeks
12.		Implement remediation work if required.	within 6 months

13.	Absence of bracing system (Yarn Store Shed).	The building engineer is required to prepare a safety check report with a remediation plan incorporating a bracing system.	within 6 weeks
14.		Implement remediation work where required.	within 6 months
15.	Nonstructural elements found not anchored/braced (Yarn Store Shed).	The building engineer is required to anchor/brace all nonstructural elements within the factory.	within 6 months
16.	Lack of approval layout/drawing from local authority. (Yarn Store Shed, Utility Shed).	The factory is required to collect approval layout/drawing from the relevant local authority for all structures within the factory.	within 6 months