Knit Plus Limited (Unit-3)

Kolabadha, Mouchak, Kaliakoir, Gazipur

(24.024520, 90.305747)

18 September 2024

Structural Inspection Summary Report

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. Utility Building-01: Single-storied concrete building with a partial basement.
2. Utility Building-02 (Solar Controlling Unit): Single-storied building.
3. Shed-1 (Printing & Embroidery): Single-storied shed.
4. Shed-2 (Fabric Store & Cutting): Two storied (G+1) building.
5. Shed 03 (ETP): Single-storied shed.
6. Shed-4 (Medical & Childcare): Single-storied shed.
7. Shed-5 (Generator & Compressor): Single-storied shed.
8. Shed-6 (Press): Single-storied shed.
9. Shed-7 (Lebel Print): Single-storied shed.
10. Shed-8 (Wastage Godown): Single-storied shed.
11. Shed-9 (Chemical Store): Single-storied shed.
12. Shed-10 (Construction Worker Shed): Single-storied shed.
13. Shed-11 (Electrical Sub-store): Single-storied shed.
14. Shed-12 (Security Guard Room): Single-storied shed.
15. Shed-13 (Canopy Shed): Single-storied shed.
16. 5 toilet blocks on the premises: One two storied building and four single storied buildings.

2. Observation

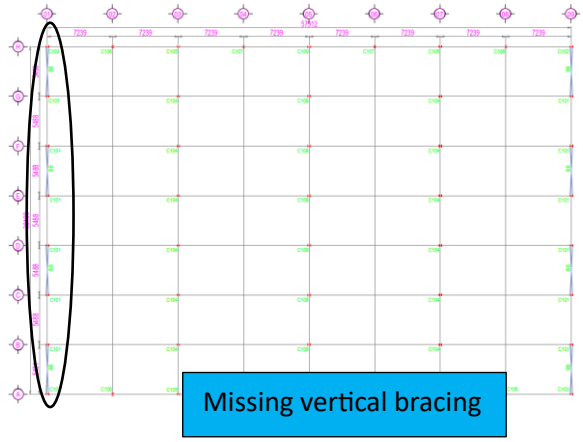
Observation 1: Absence of design documents (Shed-1).

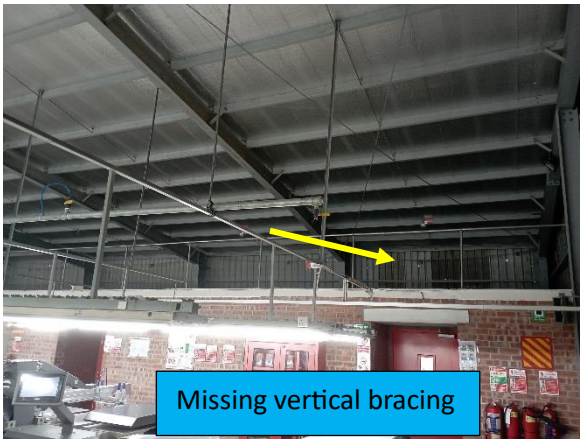
Description: As per BNBC, every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC. At the time of inspection, only a set of construction drawings was available, but the design report and as-built drawing were not available. The building engineer is required to prepare the design report and as-built drawing in compliance with section 1.9.1 (Part 6, BNBC).

Observation 2: Lack of lateral stability (Shed-1).

Description: Lateral load transfer media is not provided to transfer the lateral load. Also, the bracing system is not symmetrical. Vertical bracing is provided at one end but not at the other. The building engineer is required to check the lateral stability of the shed.

Observation 3: Discrepancy in the provided drawing (Shed-1).





Description: Vertical bracing was shown in the marked location but not found on site. The building engineer is required to prepare a set of accurate as-built drawings.

Observation 4: Loose cable bracing (Shed-1)

Description: Vertical/horizontal bracings were found loose at several locations. The building engineer is required to identify the locations and tighten all loose bracings.

Observation 5: Gap in connection (Shed-1).

Description: Gap was found in steel connections at several locations. The building engineer is required to identify the locations and fill the gaps using a suitable method.

Observation 6: Missing load plan/as-built drawing of the Mezzanine floor (Shed-1).

Description: A suspended floor (Mezzanine) was found on the south side, which was accessible, but there was no-load plan and as-built structural drawings were available on site. The building engineer is required to produce a load plan and as-built structural drawing for the mezzanine floor.

Observation 7: Improper railing of the mezzanine floor (Shed-1).

Description: A significant gap was found in the railing over the mezzanine floor. The building engineer is required to install a proper railing to avoid falling hazards.

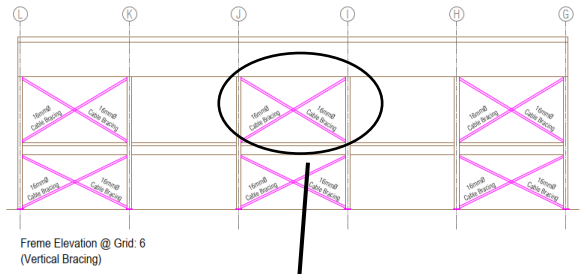
Observation 8: Lack of logical load path/connection of steel stair (Shed-1).

Description: The vertical load is transferred through the knee bracing only which is connected to a brick wall. The building engineer is required to check the vertical load path as well as the connection adequacy of the steel stair.

Observation 9: Absence of design documents (Shed-2).

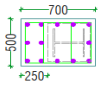
Description: As per BNBC, every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC. At the time of inspection, only a set of construction drawings was available, but the design report, load plan, and as-built drawing were not available. The building engineer is required to prepare the design report and as-built drawing in compliance with section 1.9.1 (Part 6, BNBC).

Observation 10: Missing information and discrepancy in the provided drawing (Shed-2).



Freme Elevation @ Grid: 6
(Vertical Bracing)

STEEL COLUMN SCHEDULE

Column Number		R.c.c Column Foundation to Plinth Level	R.c.c Column Plinth to Level Roof
C2			
	Column Size	700X500	250X500
	Number of Bars	13-20mm Ø	6-16mm Ø
	Column number	2 pcs	
C3			Nill
		4-16mmØ	
	Column Size	500X450	

Description: Column details for the above plinth are not found in the provided drawing. Besides, the bracing system was not found symmetrical as some vertical bracings were missing at several places. The building engineer is required to produce a complete and accurate as-built drawing. Also, check the lateral stability of the structure.

Observation 11: Loose cable bracing (Shed-2)

Description: Vertical bracings were found loose at several locations. The building engineer is required to identify the locations and tighten all loose bracings.

Observation-12: Crack on a brick wall (Utility Building-1).

Description: A crack was found on the brick wall. The building engineer is required to **i**nvestigate the cracked area and repair the crack with a suitable method.

Observation-13: Deflected tread and corrosion on the steel stair (Utility Building-1).

Description: Deflected tread and corrosion were found on the steel stair in the basement (underground pump room). The building engineer is required to replace the deflected tread and provide rust-proof paint on steel members.

Observation-14: Nonstructural elements found not anchored/braced (Shed-1, Shed-2, Utility Building-1).

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

Observation-15: Absence of design documents (Shed-8, Shed-9, Toilet Block-5).

Description: 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. At the time of inspection the design report, load plan, soil test report, and as-built drawing were not available. The building engineer is required to prepare the design report and as-built drawing in compliance with section 1.9.1 (Part 6, BNBC).

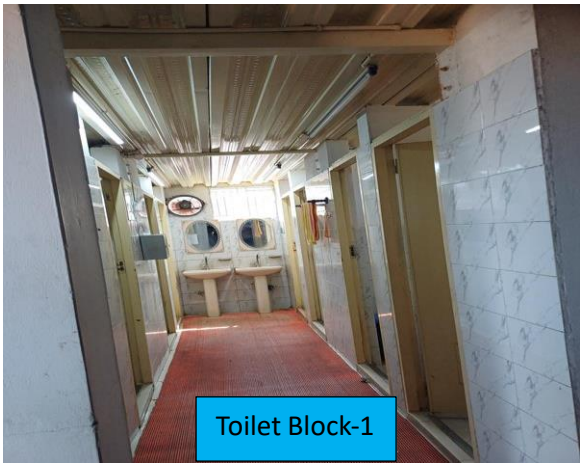
Observation-16: Lack of lateral stability (Shed-8, Shed-9).

Description: In both sheds no load transfer media is provided to transfer the lateral load, and no horizontal/vertical bracing is provided to resist the lateral load. Also, poor connection between steel members was observed. The building engineer is required to check the lateral stability of the sheds with the connection adequacy of the sheds.

Observation-17: Lack of bracing system with poor connection (Shed-3, Shed-5, Shed-6, Shed-7, Shed-11).

Description: No bracing system (strut, horizontal/vertical bracing) is provided to transfer and resist the lateral load. Also, poor connection was observed between steel members. The building engineer is required to prepare a safety check report including a set of as-built drawings, member/ connection adequacy check, and the requirement of the bracing system.

Observation-18: Lack of as-built drawing (Toilet Block-1, 2, 3, 4, Shed-4, Shed-12, Shed-13).



Description: As-built drawings were not available for any of the structures. The building engineer is required to produce as-built drawings for all the structures.

3. Action Plan

Item No.	Observation	Action Plan	Timeline
1.	Absence of design documents (Shed-1).	The building engineer is required to prepare the design report and as-built drawing in compliance with section 1.9.1 (Part 6, BNBC).	within 6 weeks
2.	Lack of lateral stability (Shed-1).	The building engineer is required to check the lateral stability of the structure.	within 6 weeks
		Implement remediation work if required.	within 6 months
3.	Discrepancy in the provided drawing (Shed-1).	The building engineer is required to prepare a set of accurate as-built drawings.	within 6 weeks
4.	Loose cable bracing (Shed-1)	The building engineer is required to identify the locations and tighten all loose bracings.	within 6 weeks
5.	Gap in connection (Shed-1).	The building engineer is required to identify the locations and fill the gaps using a suitable method.	within 6 weeks
6.	Missing load plan/as-built drawing of the Mezzanine floor (Shed-1).	The building engineer is required to produce a load plan and as-built structural drawing for the mezzanine floor.	within 6 weeks
7.	The improper railing of the mezzanine floor (Shed-1).	The building engineer is required to install a proper railing to avoid falling hazards.	within 6 weeks
8.	Lack of logical Load path/connection of steel stair (Shed-1).	The building engineer is required to check the vertical load path as well as the connection adequacy of the steel stair.	within 6 weeks
9.	Absence of design documents (Shed-2).	The building engineer is required to prepare the design report and as-built drawing in compliance with section 1.9.1 (Part 6, BNBC).	within 6 weeks
		Implement remediation work if required.	within 6 months
10.	Missing information and discrepancy in the provided drawing (Shed-2).	The building engineer is required to prepare a set of accurate as-built drawings.	within 6 weeks
		Also, check the lateral stability of the structure.	within 6 weeks

11.	Loose cable bracing (Shed-2)	The building engineer is required to identify the locations and tighten all loose bracings.	within 6 weeks
12.	Lack of bracing system with poor connection (Shed-3)	The building engineer is required to prepare a safety check report including a set of as-built drawings, member/ connection adequacy check, and the requirement of the bracing system.	within 6 weeks
		Implement remediation work where required.	within 6 months
13.	Lack of bracing system with poor connection (Shed-5).	The building engineer is required to prepare a safety check report including a set of as-built drawings, member/ connection adequacy check, and the requirement of the bracing system.	within 6 weeks
		Implement remediation work where required.	within 6 months
14.	Lack of bracing system with poor connection (Shed-6).	The building engineer is required to prepare a safety check report including a set of as-built drawings, member/ connection adequacy check, and the requirement of the bracing system.	within 6 weeks
		Implement remediation work where required.	within 6 months
15.	Lack of bracing system with poor connection (Shed-7).	The building engineer is required to prepare a safety check report including a set of as-built drawings, member/ connection adequacy check, and the requirement of the bracing system.	within 6 weeks
		Implement remediation work where required.	within 6 months
16.	Absence of design documents (Shed-8).	The building engineer is required to prepare the design report and as-built drawing in compliance with section 1.9.1 (Part 6, BNBC).	within 6 weeks
17.	Lack of lateral stability (Shed-8).	The building engineer is required to check the lateral stability of the sheds with the connection adequacy of the sheds.	within 6 weeks
		Implement remediation work if required.	within 6 months
18.	Absence of design documents (Shed-9).	The building engineer is required to prepare the design report and as-built drawing in compliance with section 1.9.1 (Part 6, BNBC).	within 6 weeks

19.	Lack of lateral stability (Shed-9).	The building engineer is required to check the lateral stability of the sheds with the connection adequacy of the sheds.	within 6 weeks
		Implement remediation work if required.	within 6 months
20.	Lack of bracing system with poor connection (Shed 11).	The building engineer is required to prepare a safety check report including a set of as-built drawings, member/ connection adequacy check, and the requirement of the bracing system.	within 6 weeks
		Implement remediation work where required.	within 6 months
21.	Absence of design documents (Toilet Block-5).	The building engineer is required to prepare the design report and as-built drawing in compliance with section 1.9.1 (Part 6, BNBC).	within 6 weeks
		Implement remediation work if required.	within 6 months
22.	Lack of as-built drawing (Toilet Block-1, 2, 3, 4, Shed-4, Shed-12, Shed-13).	The building engineer is required to produce as-built drawings for all the structures.	within 6 weeks
23.	Crack on a brick wall (Utility Building-1).	The building engineer is required to Investigate the cracked area and repair the crack with a suitable method.	within 6 weeks
24.	Deflected tread and corrosion on the steel stair (Utility Building-1).	The building engineer is required to replace the deflected tread and provide rust-proof paint on steel members.	within 6 weeks
25.	Nonstructural elements found not anchored/braced (Shed-1, Shed-2, Utility Building-1).	The building engineer is required to anchor/brace all nonstructural elements within the factory.	within 6 weeks