

Radisson Casual Wear (Extension)

Sreerampur, Kalampur, Dhamrai, Dhaka.

(23.920301 ,90.132788)

2 March 2025



1. Building Information

1. New Building.
2. Multipurpose Shed.
3. Fabric Shed.
4. Wastage Shed.
5. Leftover Storage Shed.
6. Staff Dining & Kitchen Shed.

2. Observation

Observation 1: Lack of information in design report. (New Building).

Table 2.1-5: Seismic Design Category according to BNBC-2020						
Seismic Force-Resisting System	Response Reduction Factor, R	System Overstrength Factor, Ω_s	Deflection Amplification Factor, C_d	Seismic Design Category B	Seismic Design Category C	Seismic Design Category D
Height limit (m)						
C. MOMENT RESISTING FRAME SYSTEMS (no shear wall)						
1. Special steel moment frames	8	3	5.5	NL	NL	NL
2. Intermediate steel moment frames	4.5	3	4	NL	NL	3S
3. Ordinary steel moment frames	3.5	3	3	NL	NL	NP
4. Special reinforced concrete moment frames	8	3	5.5	NL	NL	NL
5. Intermediate reinforced concrete moment frames	5	3	4.5	NL	NL	NP
5. Ordinary reinforced concrete moment frames	3	3	2.5	NL	NP	NP

Structures assigned to the seismic design category SDC-D, and for SDC-D RCC SMRF has Permission. So, RCC SMRF is used for SDC-D as per BNBC-2020.

2.2 CODES AND PRACTICES:

For the present project, relevant sections of the Bangladesh National Building Code (BNBC 2020) have been used for analysis. For the reinforced concrete design check, American Concrete Institute (ACI 318-08) code has been consulted as and when it became necessary to complement the BNBC.

2.3 MATERIAL PROPERTY

Following material properties has been used for design:

1	Yield strength of Rebar, f_y	= 60,000 lb/in ²
2	Compressive strength of concrete, f'_c (For column)	= 3,500 lb/in ²
3	Compressive strength of concrete, f'_c (For beam)	= 3,000 lb/in ²
4	Young's modulus of concrete, E_c	= 57,000√ f'_c

The above concrete, rebar, and structural steel strength have been used in the design of different frames of the building. A sufficient amount of Concrete cylinder tests has been carried out to confirm the concrete design strength.

2.4 LOADS

The loads that may act upon the structure are as follows:

2.4.1 Dead Loads

Description: SMRF is considered as a framing system, but no supporting calculation or justification is provided. Besides, concrete strength is considered as 24.13 MPa (3500 psi) without any test report. Also, no sample calculation is provided for punching shear for the foundation. The building engineer is required to update the design reports based on in situ concrete strength in compliance with section 1.9.1 (part-6, BNBC).

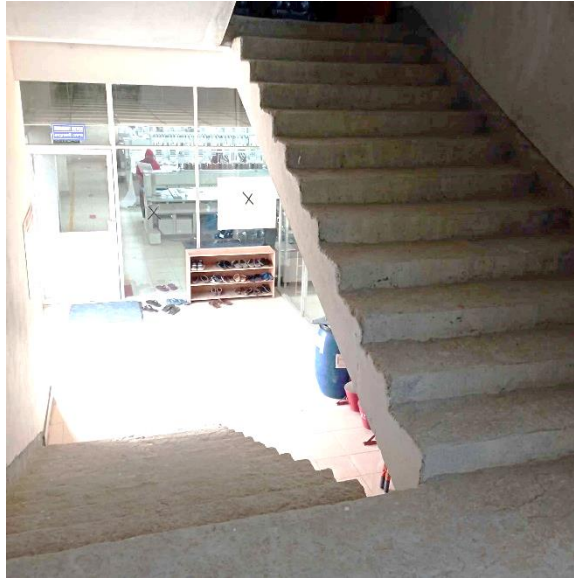
Observation-2: Discrepancy in provided drawing (New Building).

LOADING FOR THIS FLOOR				
NO.	TYPE	ITEM	MAX. LOAD IN PSF	DESCRIPTION
01	LOAD	OPEN TO SKY	20	TYPICAL OPEN ROOF
02	LOAD	STAIR	100	TYPICAL STAIR

ALLOWABLE LOAD LAYOUT PLAN (ROOF FLOOR)			
CONSULTANTS	DESIGNER	CLIENT	PROJECT
PROJECT ADDRESS			

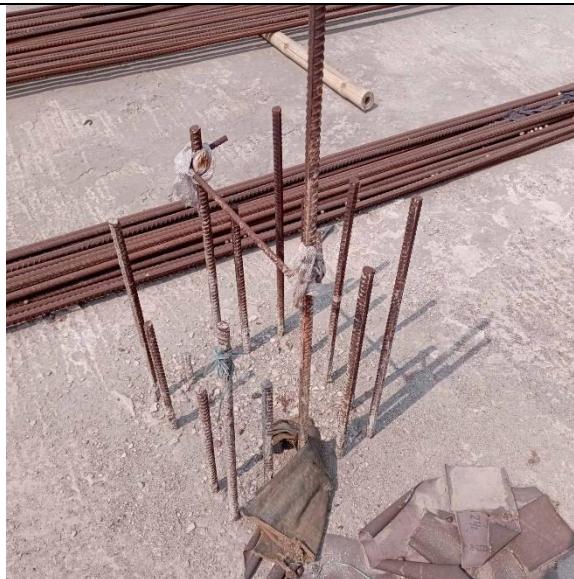
Description: 2 plastic tanks were found (capacity 2000 liters each) but no tank was shown in the drawing. The building engineer is required to update the as-built drawing.

Observation-3: Falling hazard at the staircase (New Building).



Description: No railing was found at the staircase, which is prone to a falling hazard. The building engineer is required to install railing to avoid a falling hazard.

Observation 4: Exposed rebar at roof Level (New Building).



Description: Exposed reinforcement is left at roof level, which was prone to corrosion. The building engineer is required to provide rust-proof paint on exposed reinforcement to protect from corrosion.

Observation-5: Lack of lateral stability and foundation details (Multipurpose Shed, Staff Dining & Kitchen).



Multipurpose Shed



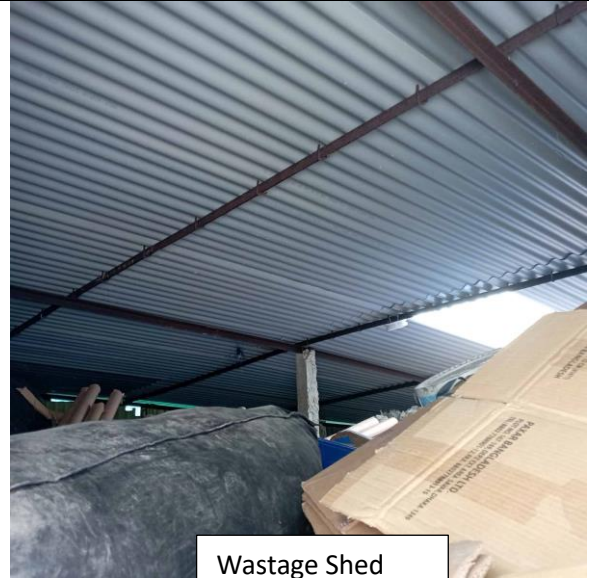
Staff Dining & Kitchen

Description: No bracing system is provided for these structures (strut, vertical & horizontal bracing). Also, poor connection was observed. Also, no foundation detail and as-built drawing was available. The building engineer is required to check the lateral stability with connection adequacy check and prepare a design report as per 1.9.1 BNBC.

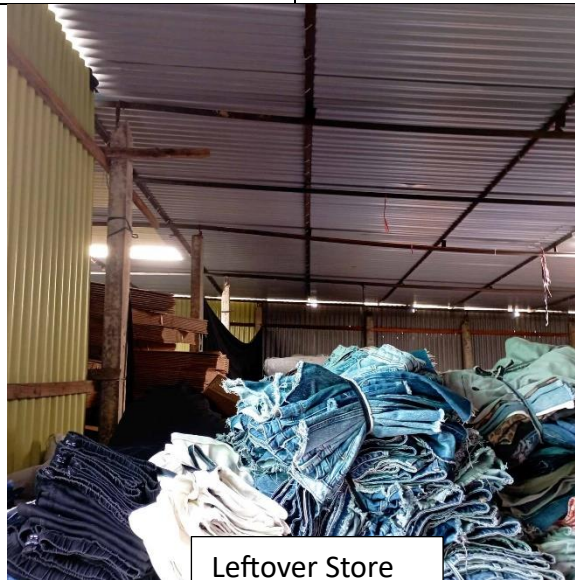
Observation-6: Absence of bracing system and foundation details (Fabric Shed, Wastage Shed, Leftover Store Shed).



Fabric Shed



Wastage Shed



Leftover Store

Description: No bracing system is provided for these structures (strut, vertical & horizontal bracing). Poor connection was observed. Also, no foundation detail and as-built drawing was available. The building engineer is required to check the bracing requirement with connection adequacy check and prepare a safety check report.

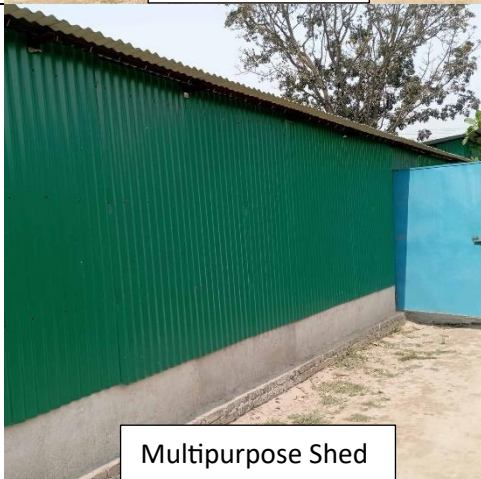
Observation 7: Lack of building permit layout/drawing from local authority. (All structures).



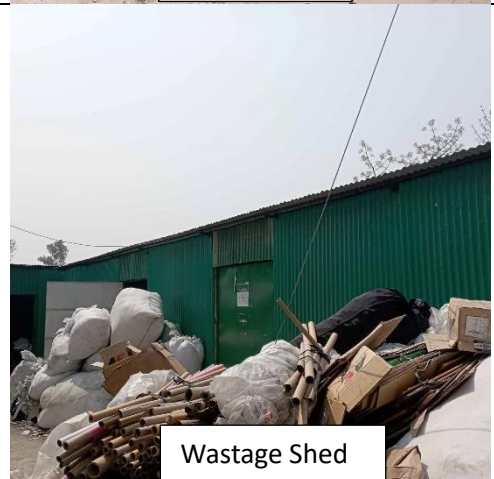
New Building



Fabric Shed



Multipurpose Shed



Wastage Shed



Leftover Store Shed



Staff Dining & Kitchen

Description: No permit drawing was available from the local authority for any of the structure. The factory is required to collect building permits from the relevant local authority for all structures within the factory.

3. Action Plan

Item No.	Observation	Action Plan	Timeline
1.	Lack of information in the design report. (New Building).	The building engineer is required to update the design reports based on in situ concrete strength in compliance with section 1.9.1 (part-6, BNBC).	within 6 weeks
2.		Take a minimum 4 (100mm diameter) concrete core from column (lower level) to verify the in-situ concrete strength.	within 6 weeks
3.		Implement remediation work if required.	within 6 months
4.	Discrepancy in provided drawing (New Building).	The building engineer is required to update the as-built drawing.	within 6 weeks
5.	Falling hazard at the staircase (New Building).	The building engineer is required to install railing to avoid a falling hazard.	Immediate
6.	Exposed rebar at roof Level (New Building).	The building engineer is required to provide rust-proof paint on exposed reinforcement to protect from corrosion.	within 6 months
7.	Lack of lateral stability and foundation detail details (Multipurpose Shed, Staff Dining & Kitchen).	The building engineer is required to check the lateral stability with connection adequacy check and prepare a design report as per 1.9.1 BNBC.	within 6 weeks
8.		Prepare as-built drawing with foundation and connection details.	within 6 weeks
9.		Implement remediation work if required.	within 6 months
10.	Absence of bracing system and foundation details (Fabric Shed, Wastage Shed, Leftover Store Shed).	The building engineer is required to check the bracing requirement, connection & foundation adequacy and prepare a safety check report.	within 6 weeks
11.		Prepare as-built drawing with foundation and connection details.	within 6 weeks
12.		Implement remediation work if required.	within 6 months
13.	Lack of building permit layout/drawing from the local authority. (All structures).	The factory is required to collect building permit layout/drawing from the relevant local authority for all structures within the factory.	within 6 months

Survey Limitations and Assumptions

This report is for the private and confidential use of RSC for whom it was prepared together with their professional advisors as appropriate. It should not be reproduced in whole or in part or relied upon by third parties for any use without the express written permission of RSC.

This report can be used in discussion with the supplier or factory owner as a means to rectify or address any observations made. The report is not comprehensive and is limited to what could be observed during a visual inspection of the building.

This Report is not intended to be treated as a generalized inspection and does not cover the deterioration of structural members through dampness, fungal or insect attack, nor does it deal with problems and defects of a non-structural nature. Other non-structural aspects of the building such as fire safety have not been assessed in this survey.

Except as otherwise noted, drains and other services were not viewed or tested during our inspection and are therefore similarly excluded from this Report. We have not inspected any parts of the structure which are covered, unexposed or inaccessible and we are therefore unable to report that any such part of the property is free from defect.

External inspection of the façade walls has generally been carried out from ground level only by visual sighting. No opening up works were carried out (except as noted) and we rely on the Architects and Engineers drawings provided to us for our views on concealed parts of the structure and in particular foundations. Strengths of materials and components are untested and we recommend that the factory owners Building Engineer carries out in situ testing over and above those suggested to satisfy themselves with the material strengths and component details.

Recommendations, where given, are for the purpose of providing indicative advice only, are not exhaustive, relate solely to identifying key and obvious structural defects as identified in this presentation, and do not take the form of or constitute a specification for works. We take no responsibility for the works as constructed. This report does not interfere with the factory owners Building Engineers responsibility for the structural performance of this building, The Building Engineer remains fully responsible for the structural adequacy of the building.

This report does not comment in detail on the future seismic performance of the building and only highlights the fact that the building may experience significant damage or collapse in a seismic event along with many others in the Dhaka region.

The observations in this report are based on the Engineering Judgement of the lead surveyor/engineer at the time of the survey. We assume in making these observations that no covering up of faults defects, filling or plastering over cracking or significant repair work has been carried out by the building owner. Any future alteration or additional work by the building owner will void this report.