

Baridhi Garments Ltd. (Extension)

SFB#8, Cumilla EPZ, Cumilla-3500, Cumilla
(23.443694, 91.183057)
25 July 2023

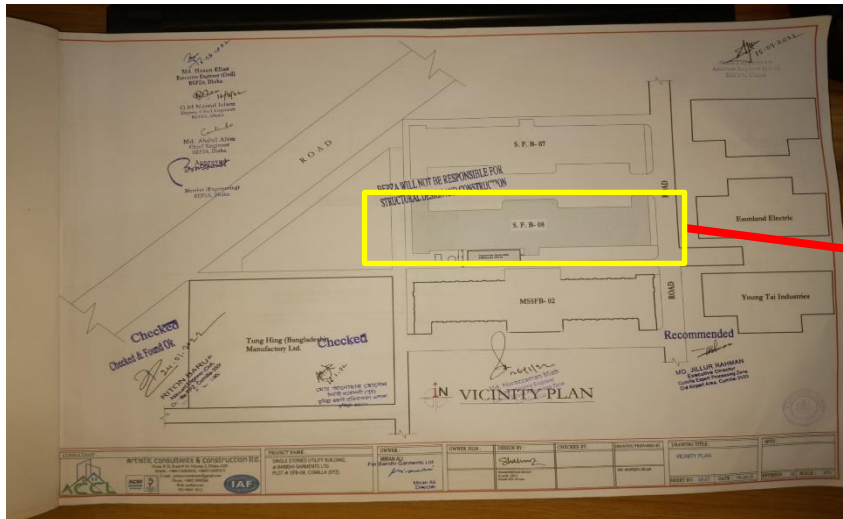


Building Information

1. **Extension Building:** This structure is a six storied (G+5) reinforced concrete (RC) building.
2. **Utility Building:** This structure is a single storied reinforced concrete (RC) building.

Observations

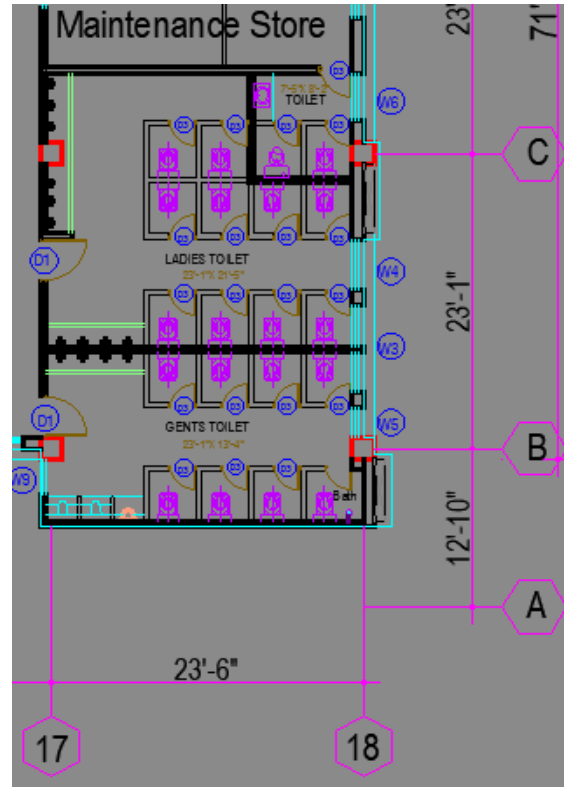
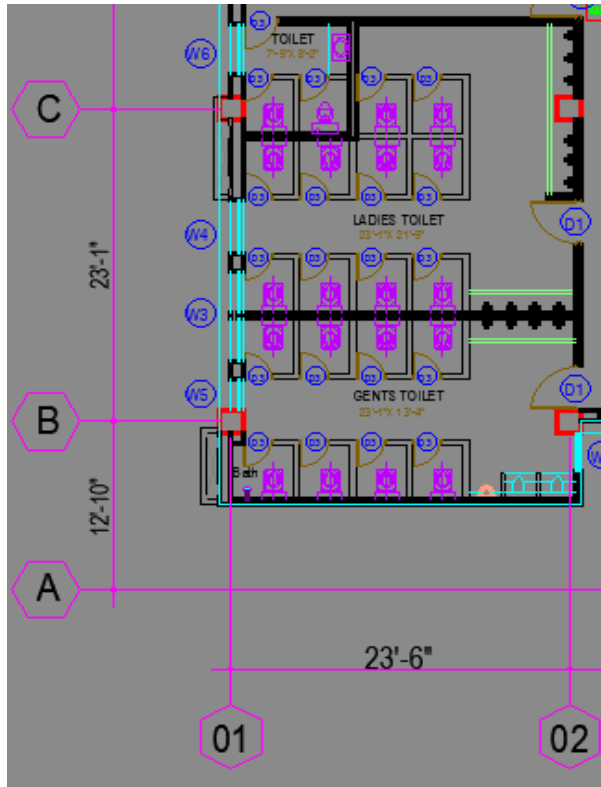
Absence of design Report



SFB 08 (Extension Building)

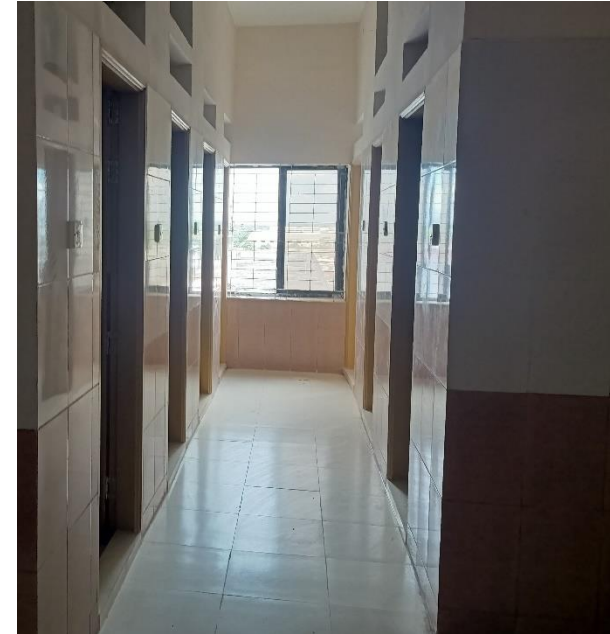
As per BNBC every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC. Design report was not found which is required to be prepared in compliance with section 1.9.1.1 (part-6, BNBC).

Discrepancies in as-built drawing



Architectural layout for toilets

The location and numbers of toilet shown in the drawing are not matching with the site condition. As well as built up and some other occupancies are required to be updated in the drawing. Building engineer is required to survey the whole structure and update the as-built drawing.



Site Condition

Crack and spalling of concrete on third floor ceiling



Cracks and concrete spalling from 3rd floor (Soffit)

Cracks and concrete spalling were observed on floor slab (Soffit). Building engineer is required to investigate the cracks and carry out suitable repair work as per recommendation of investigation report.

**Racks and plastic water tanks not
anchored or braced**



Racks and plastic water tanks not anchored or braced

During inspection lack of anchorage of storage rack and water tank found. Non-structural elements suspended from, attached to, or resting atop the structure shall be adequately anchored and braced to resist earthquake forces.

Corrosion on solar panel supporting structure



Corrosion was observed on steel members of solar panel support's structure. As well as double bolts were missing in some places.

Building engineer is required to replace the damaged steel members and provide rust proof paint on all steel members to protect from corrosion.

Design report required to be revised

2.3 MATERIAL PROPERTY

The principal material of construction is reinforced concrete. As per investigation and design drawings, the following material properties has been used:

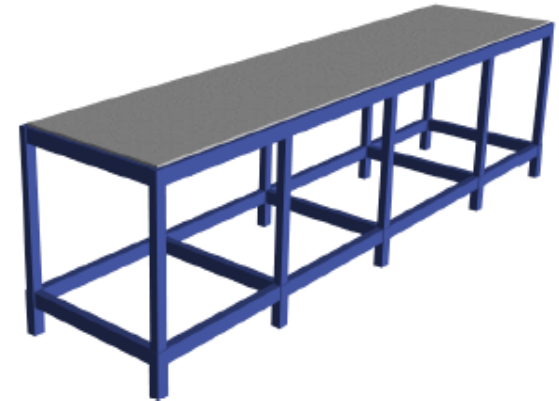
- ❖ Yield strength of Rebar, f_y = 60,000 lb/in²
- ❖ Compressive strength of concrete for Column, f'_c = 3,500 lb/in²
- ❖ Compressive strength of concrete for beam, f'_c = 3,000 lb/in²
- ❖ Young's modulus of concrete, E_c (Stone Chips) = 57,000√ f'_c



DESIGN REPORT OF PROPOSED SINGLE STORIED UTILITY BUILDING FOR BARIDHI GARMENTS LTD.

Project Type: Single Storied RCC building
Location: Plot # SFB-08 Comilla (EPZ)

CLIENT: BARIDHI GARMENTS LTD



Assessed by

SANJOY ROY CHOWDHURY

Lead Structural Engineer
M.Engg. in Structural Engineering (BUET)
B.Sc. in Civil Engineering (BUET)
MIEB (M-27325)

Submitted by



House-2A, Road-4, Nikunja-2, Dhaka-1229, Bangladesh.
Contact No: 991 0170 587 672, +88 039000266

E-mail: asdiscon@gmail.com, haulpo@rakoo.com

Strength of concrete and rebar considered in design report as 3500 psi and 60000 psi. But no test report was provided in this regards. Moreover, software-based analysis file were not found. Building engineer is required to revised the design report providing all required documents and test reports.

Exposed corroded rebar



Column exposed reinforcement got rusty



Lintel exposed reinforcement got corroded

Exposed reinforcement is left which was prone to corrosion. Building engineer is required to provide rust proof paint on exposed reinforcement to protect from corrosion.

Problems Observed

Extension Building:

Item 01: Absence of design Report.

Item 02: Discrepancies in as-built drawing.

Item 03: Crack and spalling of concrete on third floor ceiling.

Item 04: Racks and plastic water tanks not anchored or braced.

Item 05: Corrosion on solar panel support's structure.

Utility Building:

Item 06: Design report required to be revised.

Item 07: Exposed corroded rebar.

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Absence of design Report (Extension Building)	Building engineer is required to prepare design report as per BNBC.	6-weeks
02	Absence of design Report (Extension Building)	Produce and actively manage the floor loading plan following BNBC.	6-weeks
03	Absence of design Report (Extension Building)	Complete implementation of any remedial works deemed necessary by design report.	6-months
04	Absence of design Report (Extension Building)	Implement floor load plan.	6-months
05	Discrepancies in as-built drawing (Extension Building)	Building engineer is required to survey the full structure and update the as-built drawing accordingly.	6-weeks
06	Crack and spalling of concrete on third floor ceiling (Extension Building)	The building engineer is required to investigate the causes of crack and repair with a suitable method immediately.	6-weeks
07	Racks and plastic water tanks not anchored or braced (Extension Building)	Building engineer is required to take proper measure to provide adequate anchorage and bracing.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
08	Corrosion on solar panel support's structure (Extension Building)	Building engineer is required to remove the rust and provide anti corrosive paint.	6-weeks
09	Design report required to be revised (Utility Building)	Building engineer is required revise the design report considering actual size and strength of concrete & steel materials.	6-weeks
10	Design report required to be revised (Utility Building)	Carry out remedial works (if any) after review by RSC.	6-months
11	Exposed corroded rebar (Utility Building)	Building engineer is required to remove the rust and provide anti corrosive paint.	6-weeks