# Ratool Apparels (Extension Sheds)

Ansar Road, Vangnahati, Sreepur Paurosova, Gazipur.
(24.199391N, 90.461407E)
26 September 2021


RSC RMG SUSTAINABILITY COUNCIL

# Building Information

1. Office Building: Three storied (G+2) building.
2. Shed-4 (Bonded Warehouse): A single storied shed.
3. Shed-9 (Sample, Canteen & Dining): A single storied shed.
4. Shed-11: A single storied shed.

# Observations

# Lack of as-built architectural drawings

**Observation: All structures**

Shed-4 (Bonded Warehouse)

Office building

There was no as-built architectural drawings for all of the structures. Building engineer is required to survey the structures and produce as-built architectural drawings.

Shed-9 (Sample, Canteen & Dining)

Shed-11

# Observation: All structures

# Absence of design report

## Observation: All structures

Shed-4 (Bonded Warehouse)

Office building

Shed-9 (Sample, Canteen & Dining)

Shed-11

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 of part-6, BNBC.

However, design report was not available during inspection. The building engineer is required to prepare a design report in compliance with BNBC.

# Observation: All structures

**Floor load plan not available**



## Observation: Office Building

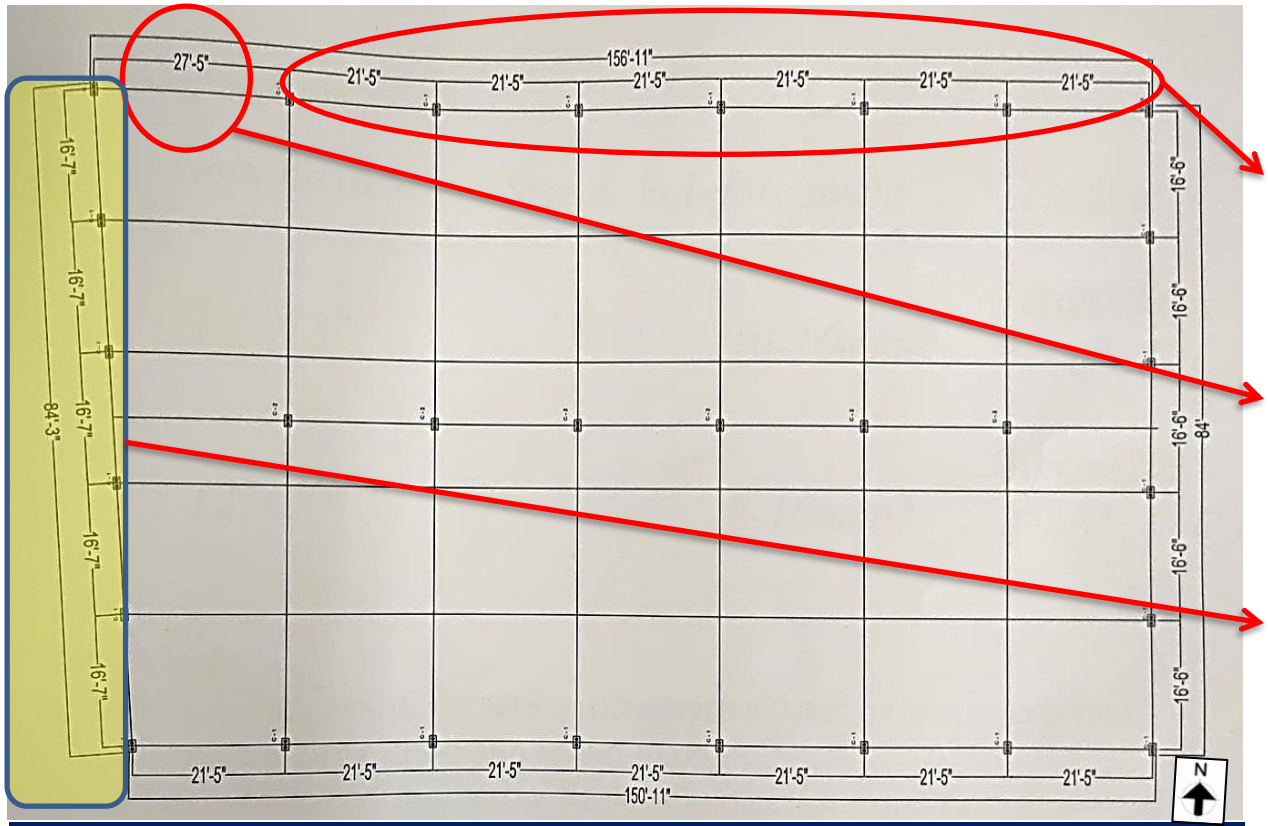

Loading on 2nd floor

No load plan was prepared. Uncontrolled loading was observed on 2nd floor. As part of design report, building engineer is required to produce a set of floor live load plan. Post the floor load plan and maintain the loading accordingly.

# Observation: Office Building

# Discrepancy in as-built drawings

## Observation: Shed-4 (Bonded Warehouse)




Column layout plan

Marked grids dimensions were measured 18’-9” instead of 21’-5”.

Marked grids dimensions were measured 18’-9” instead of 27’-5”.

One extra grid was found on west side which was not shown in drawings.

# Observation: Shed-4 (Bonded Warehouse)



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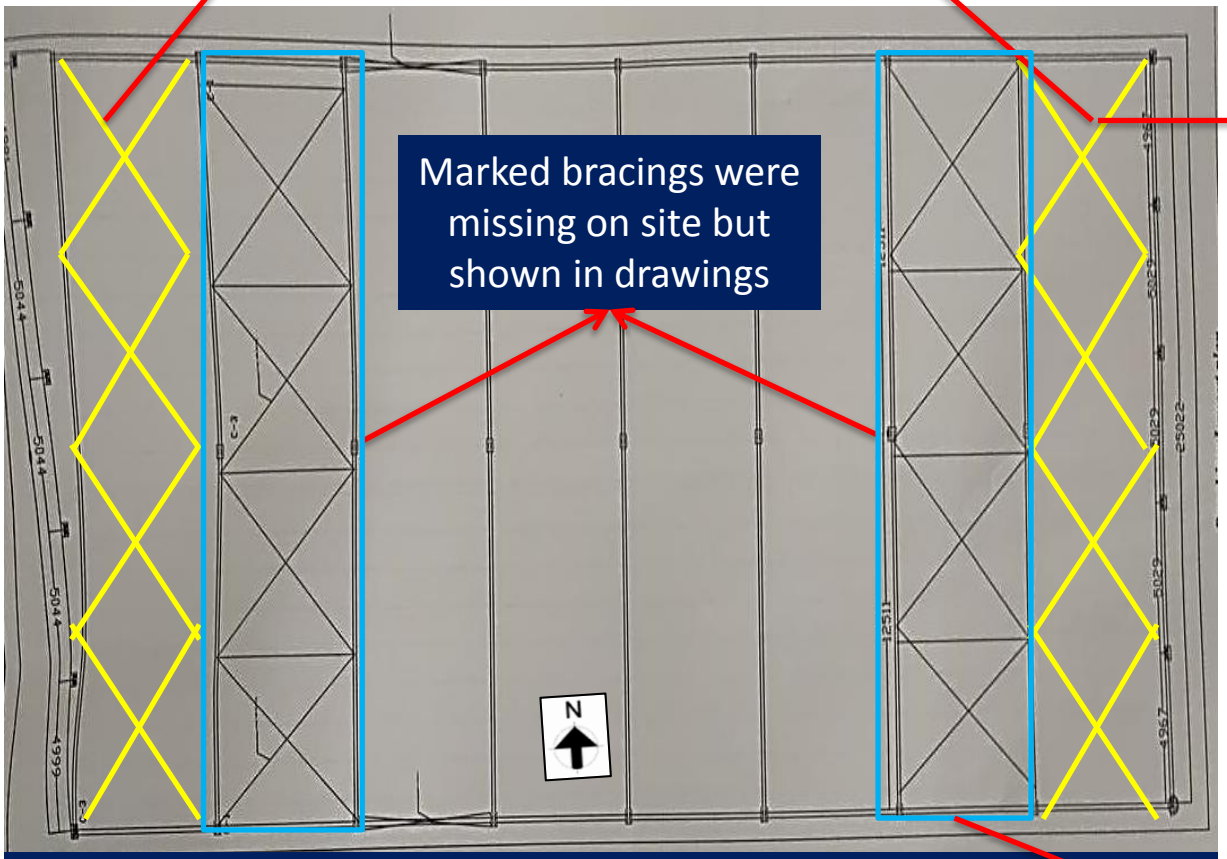
Marked bracings were found on site but not shown in drawings

Marked bracings were missing on site but shown in drawings




Bracing layout plan

Building engineer is required to survey the structure and produce accurate as-built drawings with all structural and architectural details.

# Observation: Shed-4 (Bonded Warehouse)



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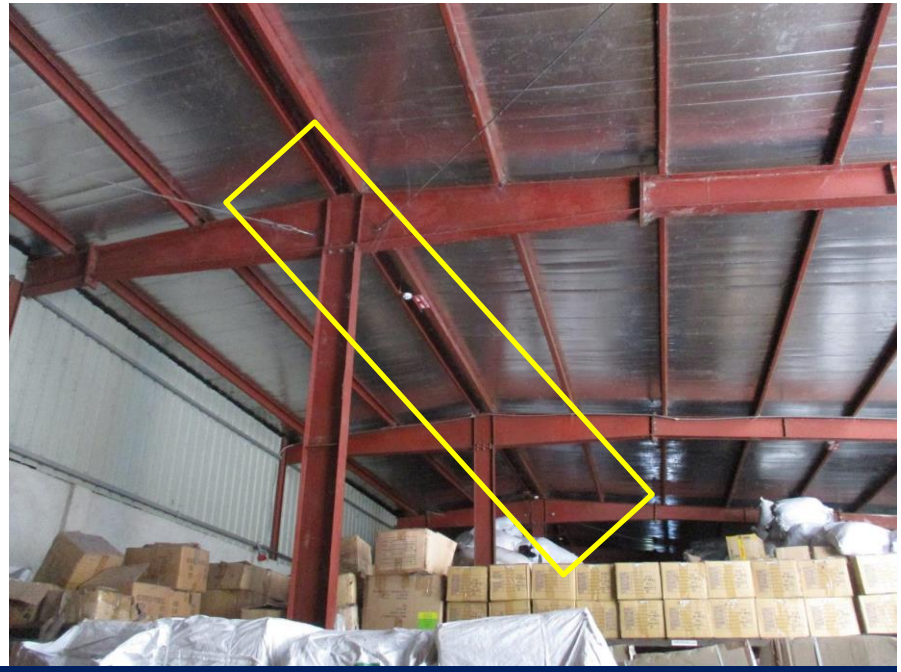
# Lack of lateral stability

## Observation: Shed-4 (Bonded Warehouse)



Absence of lateral load transfer media (compression strut) along the eave and ridge

Bracing system has no compression element

Lack of lateral stability system observed along the eave and ridge. Building engineer is required to check the lateral stability of the structure and suggest proper remedial actions accordingly.

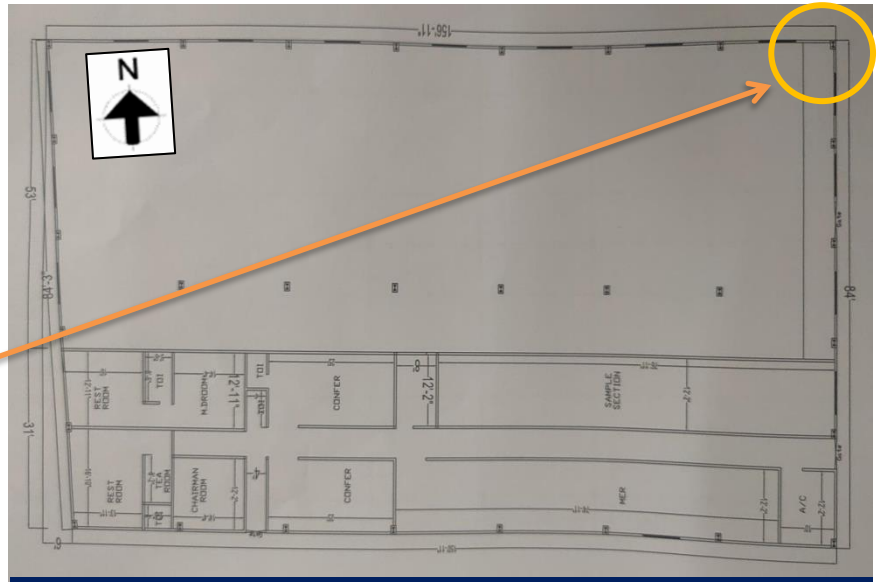
# Observation: Shed-4 (Bonded Warehouse)

**Distorted steel column**



## Observation: Shed-4 (Bonded Warehouse)


Distorted steel column




Steel column layout plan

A steel column in the marked location was found distorted. Building engineer is required to repair the distorted column.

# Observation: Shed-4 (Bonded Warehouse)



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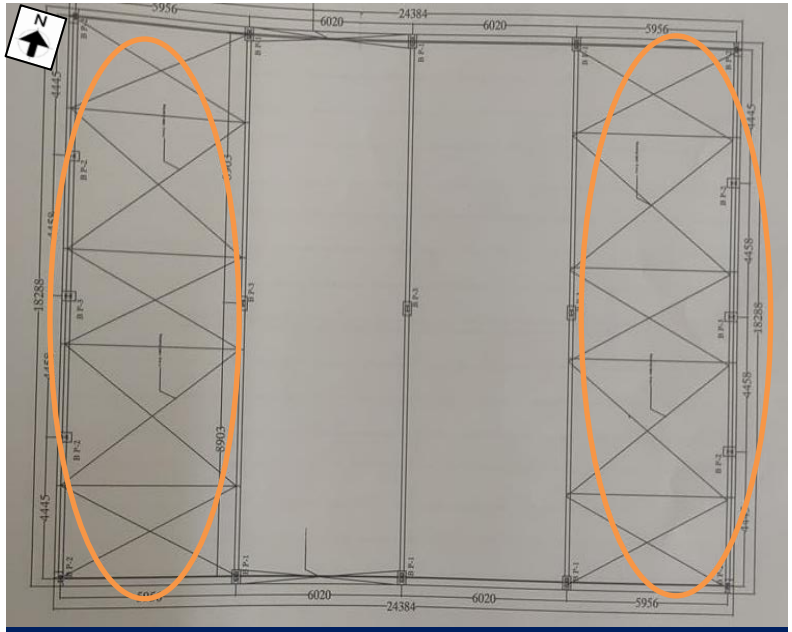
# Discrepancy in as-built drawings

## Observation: Shed-9 (Sample, Canteen & Dining)




Bracing layout plan.

No bracing at roof and wall

Bracings were shown in drawing but not found on site. Building engineer is required to survey the structure and produce accurate as-built drawings with all structural and architectural details.

# Observation: Shed-9 (Sample, Canteen & Dining)

# Lack of lateral stability



**Observation: Shed-9 (Sample, Canteen & Dining)**


Absence of lateral load transfer media (compression strut) along the eave and ridge

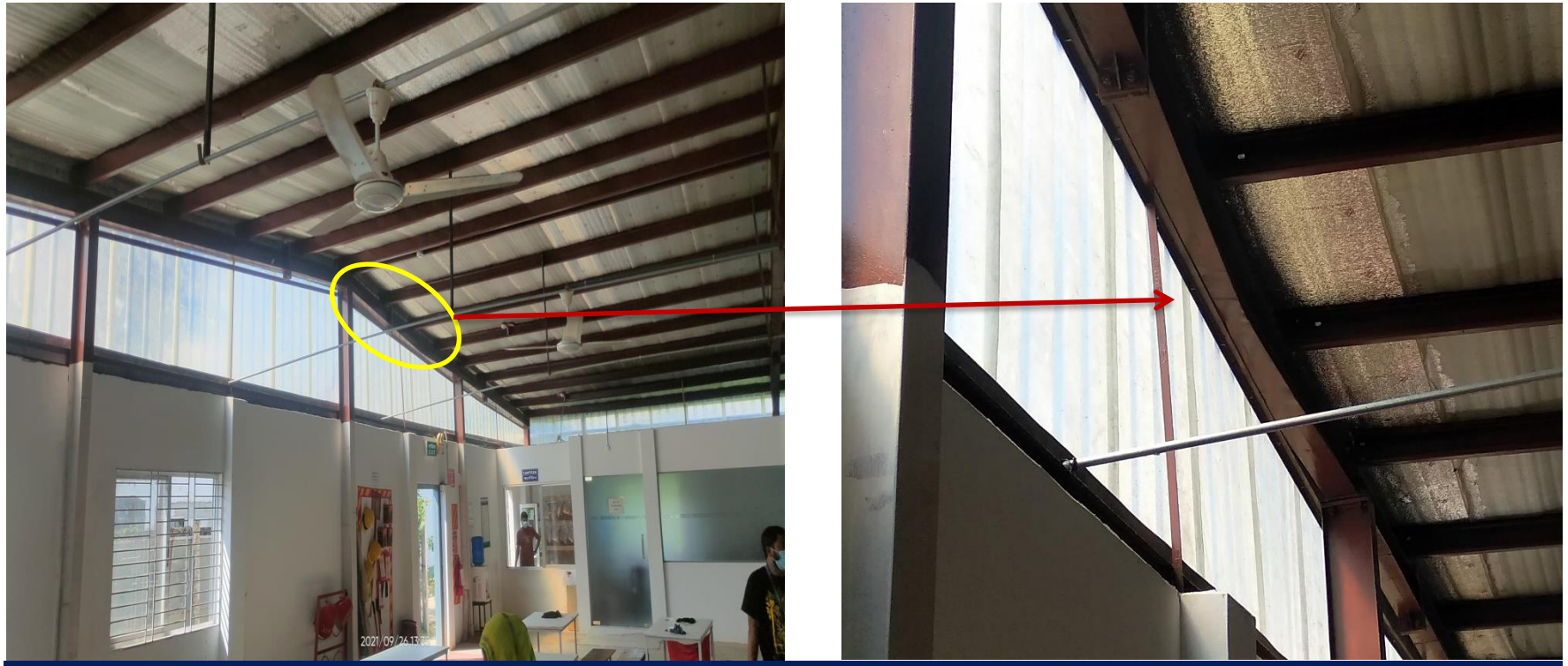
Lack of lateral stability system observed along the eave and ridge. Building engineer is required to check the lateral stability of the structure and suggest proper remedial actions accordingly.

# Observation: Shed-9 (Sample, Canteen & Dining)

**Distorted steel rafter**



**Observation: Shed-9 (Sample, Canteen & Dining)**



Distorted structural member

A steel rafter in the marked location was found distorted. Building engineer is required to repair the distorted rafter.

# Observation: Shed-9 (Sample, Canteen & Dining)

**Gap between connection plates and bolt missing**

**Observation: Shed-9 (Sample, Canteen & Dining)**

Gap between connection plates

Gap between connection plates observed in several locations. Also, some connections have and missing bolt. Building engineer is required to check all the connections, fill the gap between plates and install missing bolt.

Bolt missing in column-pedestal and column-rafter connections

# Observation: Shed-9 (Sample, Canteen & Dining)

# Problems Observed

**All structures:**

Item-01: Lack of as-built architectural drawings

Item-02: Absence of design report

**Office Building:**

Item-03: Floor load plan not available.

**Shed-4:**

Item-04: Lack of lateral stability.

Item-05: Discrepancy in as-built drawings.

Item-06: Distorted steel column.

**Shed-9:**

Item-07: Lack of lateral stability.

Item-08: Discrepancy in as-built drawings.

Item-09: Distorted steel rafter.

Item-10: Gap between connection plates and bolt missing.

| Item No. | Observation | Recommended Action Plan | Recommended Timeline |
|---|---|---|---|
| 01 | Lack of as-built architectural drawings. (All structures) | The building engineer is required to survey the structure and produce accurate as-built architectural drawings. | 6-weeks |
| 02 | Absence of design report. (All structures) | Prepare a set of design documents including Engineering Assessment (EA) report as per BNBC (part-6, section 1.9.1). | 6-weeks |
| 03 | Absence of design report. (All structures) | The building engineer to review the design of all structural members as a part of Engineering Assessment. | 6-weeks |
| 04 | Absence of design report. (All structures) | Carry out remedial works as per the recommendation of EA report. | 6-month |
| 05 | Floor load plan not available. (Office Building) | Produce and actively manage of floor live loading plan for the building considering the floor, column & foundations capacity. | 6-weeks |
| 06 | Floor load plan not available. (Office Building) | Implement the floor loading plan (by posting in each floor level, providing signage and maintaining loadings) | 6-month |

| Item No. | Observation | Recommended Action Plan | Recommended Timeline |
|---|---|---|---|
| 07 | Lack of lateral stability. (Shed-4) | As part of EA, building engineer is required to check the lateral stability of the structure and suggest proper remedial actions accordingly. | 6-weeks |
| 08 | Lack of lateral stability. (Shed-4) | Carry out remedial works suggested in EA report. | 6-month |
| 09 | Discrepancy in as-built drawings. (Shed-4) | The building engineer is required to survey the structural components and produce accurate as-built structural details. | 6-weeks |
| 10 | Distorted steel column. (Shed-4) | The building engineer is required to carryout suitable repair works to the distorted steel member. | 6-weeks |
| 11 | Lack of lateral stability. (Shed-9) | As part of EA, building engineer is required to check the lateral stability of the structure and suggest proper remedial actions accordingly. | 6-weeks |
| 12 | Lack of lateral stability. (Shed-9) | Carry out remedial works suggested in EA report. | 6-month |

| Item No. | Observation | Recommended Action Plan | Recommended Timeline |
|---|---|---|---|
| 13 | Discrepancy in as-built drawings. (Shed-9) | The building engineer is required to survey the structural components and produce accurate as-built structural details. | 6-weeks |
| 14 | Distorted steel rafter. (Shed-9) | The building engineer is required to carryout suitable repair works to the distorted steel member. | 6-weeks |
| 15 | Gap between connection plates and bolt missing. (Shed-9) | Building engineer is required to check all the joint and fill the gap between connection plates with suitable materials. | 6-weeks |
| 16 | Gap between connection plates and bolt missing. (Shed-9) | Install missing bolt where required. | 6-month |