

# Minimax Ltd. (Relocated)

Baniarchala, Bhabanipur, Gazipur Sadar, Gazipur-1740

(24.15772769N, 90.42315750E)

20 September 2021



# Building Information

Building-01 (Factory Building): Partial four storied (G+3).

Building-02 (Utility Building): (Single storied).

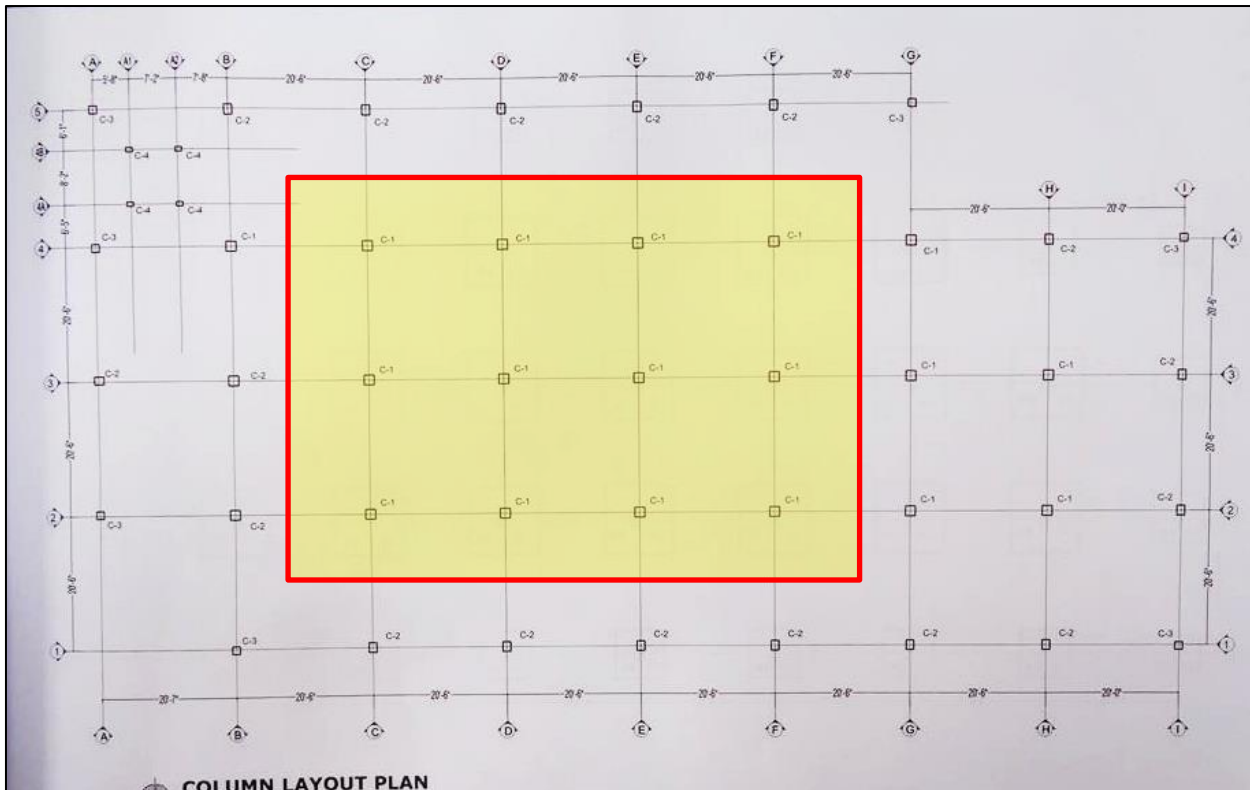
Building-03 (Security Building): (Single storied).

Building-04 (Doctor & Childcare Room): (Single storied).

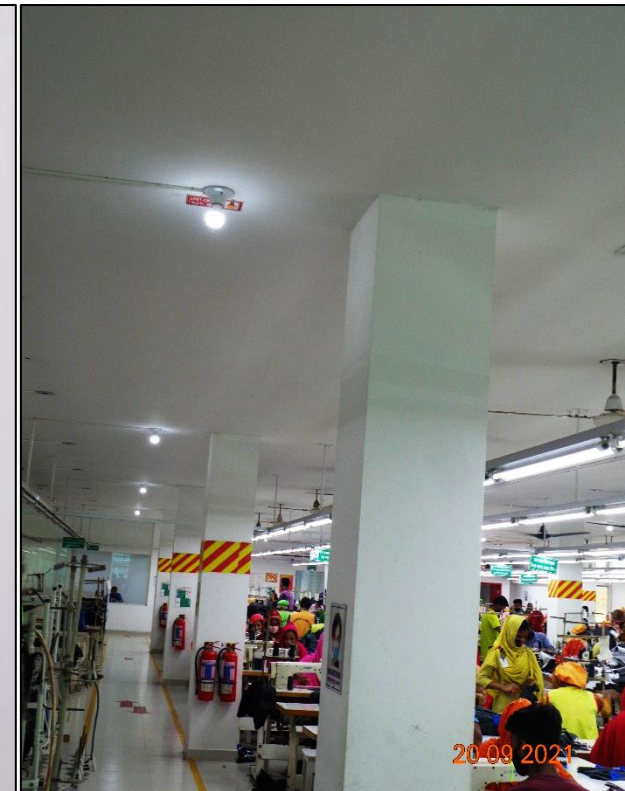
Wastage Shed: (Single storied).

# Observations

**Punching stress in flat slab exceeds  
normal design limit**



Column Layout plan



Column Layout plan

Cursory calculation indicates that the punching stress in flat slab of the highlighted area exceeds normal design limit. Considering 3 kPa live load on typical floor, 1.5 kPa on roof and equivalent concrete strength for brick chips, flat slab have been found stressed in excess of normal design limit. Factory Engineer to review design, loads and punching stresses in area identified above. Verify in-situ concrete strength by 100mm dia. cores from existing flat slab. Produce and actively manage a live loading plan for all floor plates within the factory considering floor capacity.

**DEA report needs to be reviewed by RSC**

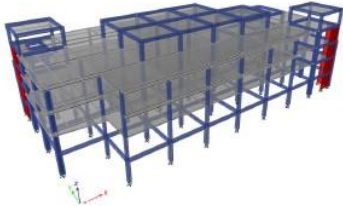
## DETAILED ENGINEERING ASSESSMENT REPORT

### NAME OF THE PROJECT:

EXISTING THREE STORED MS.COSMO SWEATERS LTD. AT KHATIAN NO. CS-407, SA-73, RS-451, PLOT NO.-CS-6338 1884, SA-633, RS-2738 MOUZA MAHNA BHABANIPUR, P.S. GAZIPUR SADAR, DISTRICT GAZIPUR.

### NAME OF THE CLIENT

MS.COSMO SWEATERS LTD.



Date of Submission: 08.03.2021

Name of the Submitting Engineer  
Engr. Abdul Quddus  
B.Sc. Engrg(Civil, BUET),  
DMIN/ICE-0231  
MIEB-21384

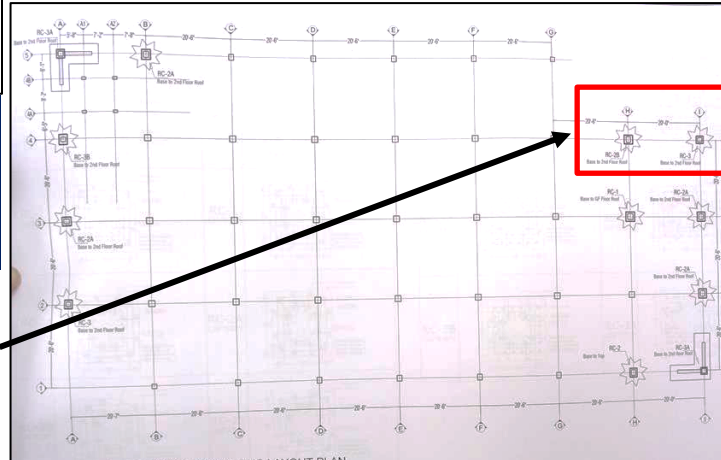
## 10. CONCLUSION & RECOMMENDATION:

- As built drawing has been prepared by site investigations, re-bar scanning of various members.
- Lateral displacement is controlled.
- According to BNBC-2006, considering 63 psf live load in working space columns at ten columns are required to strengthening. Details retrofitting drawing has been provided in attachment (part-
- Proposed loading plans are provided in cad drawing.
- Steel Shed on chili khota is replaced by rcc slab.
- Proposed shear wall are incorporate in two corner.
- Dining and Prayer room are proposed on roof.
- According to BNBC-2006 all footings are adequate.

As per recommendation of Detail Engineering Assessment (DEA), factory was required to complete the retrofitting works by strengthening the RC columns and construction of shear wall in corner of stair zone.

Cover page of Detail Engineering Assessment report

Retrofitting of these two column was not completed at 2<sup>nd</sup> floor as per retrofitting drawing.



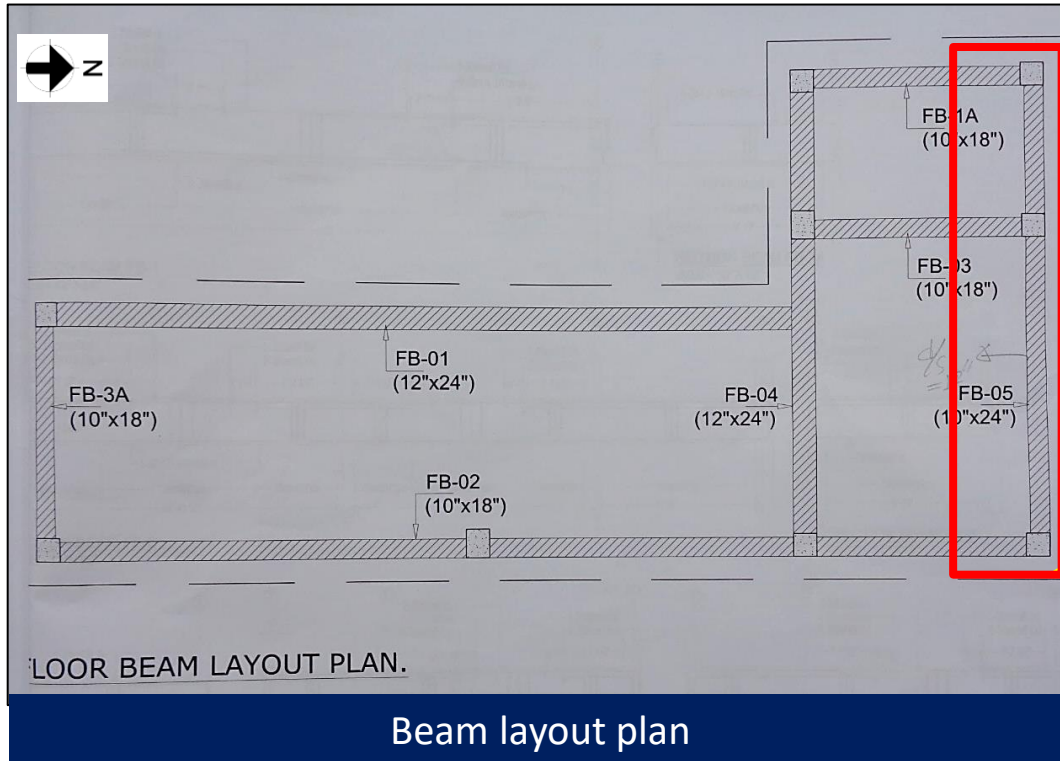
Column retrofitting & shear wall layout plan



These two column has not been retrofitted

Factory engineer is required to check the requirement of strengthening of these two columns and revise the Detail Engineering Assessment (DEA) report accordingly. Submit DEA report to RSC for further review.

# Discrepancies in as-built drawings



Down-stand depth of the beam was found 300 mm

During inspection, down-stand depth of the beam was found 300 instead of 465 mm (considering 135 mm slab thickness).

Factory engineer is required to survey the whole structure and update the as-built drawing in compliance with the article 1.9.1 of BNBC 2006 (part-6)

# Priority Actions

# Problems Observed

## **Building -1 (Factory Building):**

Item 1: Punching stress in flat slab exceeds normal design limit.

Item 2: DEA report needs to be reviewed by RSC.

## **Building-4 (Doctor & Childcare Room):**

Item 3: Discrepancies in as-built drawings.

| Item No. | Observation                                                            | Recommended Action Plan                                                                                                                                                            | Recommended Timeline |
|----------|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 01       | Punching stress in flat slab exceeds normal design limit. (Building-1) | As part of Detail Engineering Assessment (DEA), factory engineer to review design, loads and punching stresses of flat slab.                                                       | 6-weeks              |
| 02       | Punching stress in flat slab exceeds normal design limit. (Building-1) | Verify in-situ concrete strength by 100mm dia. cores from existing flat slab.                                                                                                      | 6-weeks              |
| 03       | Punching stress in flat slab exceeds normal design limit. (Building-1) | Produce and actively manage a loading plan for all floor plates within the factory considering floor capacity.                                                                     | 6-weeks              |
| 04       | Punching stress in flat slab exceeds normal design limit. (Building-1) | Implement floor loading plan (posting load plan, marking storage height and monitoring live loads).                                                                                | 6-months             |
| 05       | DEA report needs to be reviewed by RSC (Building-1)                    | Factory engineer to revise the DEA documents including a DEA report, load plan and a set of structural drawings in compliance with BNBC-2006 and submit to RSC for further review. | 6-weeks              |
| 06       | DEA report needs to be reviewed by RSC (Building-1)                    | Carry out remedial/alteration works if necessary.                                                                                                                                  | 6-months             |
| 07       | Discrepancies in as-built drawings (Building-4)                        | Building Engineer is to survey the whole structure and update as-built drawings representing accurate site condition.                                                              | 6-weeks              |