Fortis Garments Ltd

Holding No-100/1, Block B, Saheed Mosarrah Hossain Road, Purbo Chandora, Sofipur, Kaliakoir, Gazipur
(24.035968 N, 90.270959 E)

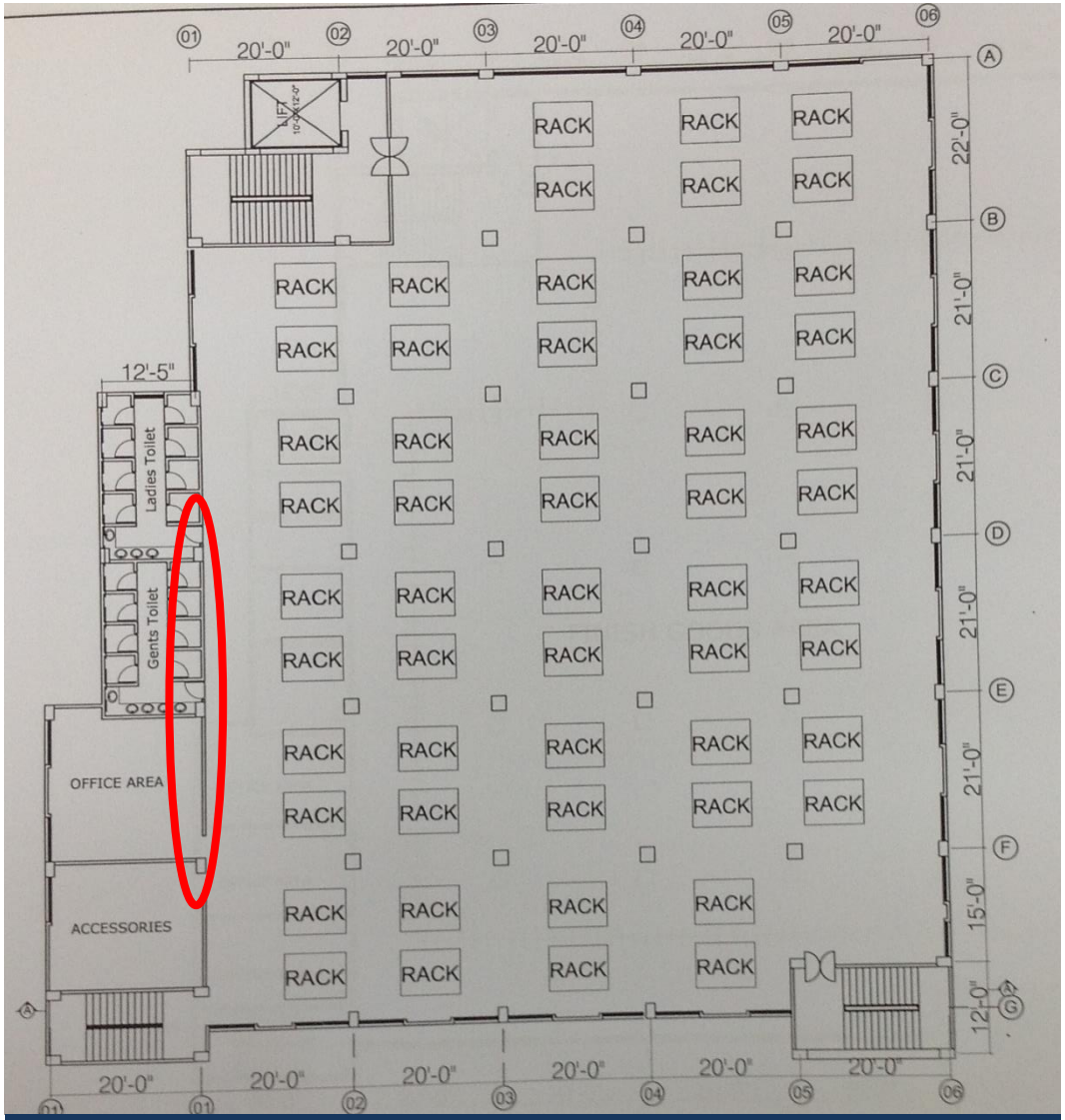
15th April 2014

ACCORD on Fire and Building Safety in Bangladesh

ARUP

Observations

Stress Levels in Columns



Ground floor plan

Outline calculations indicate the circled columns below are highly stressed under their current loading condition.

Observations

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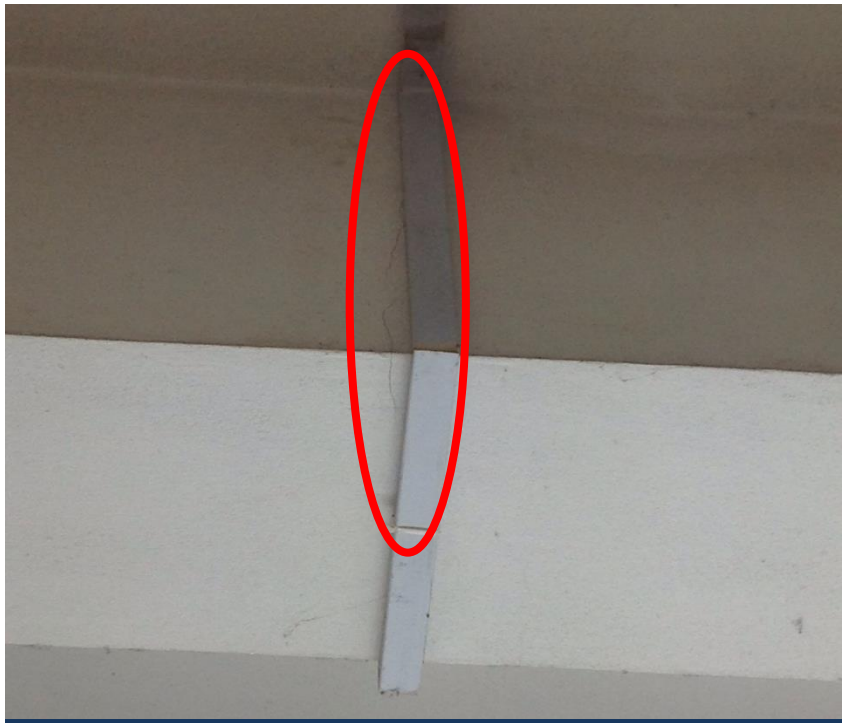
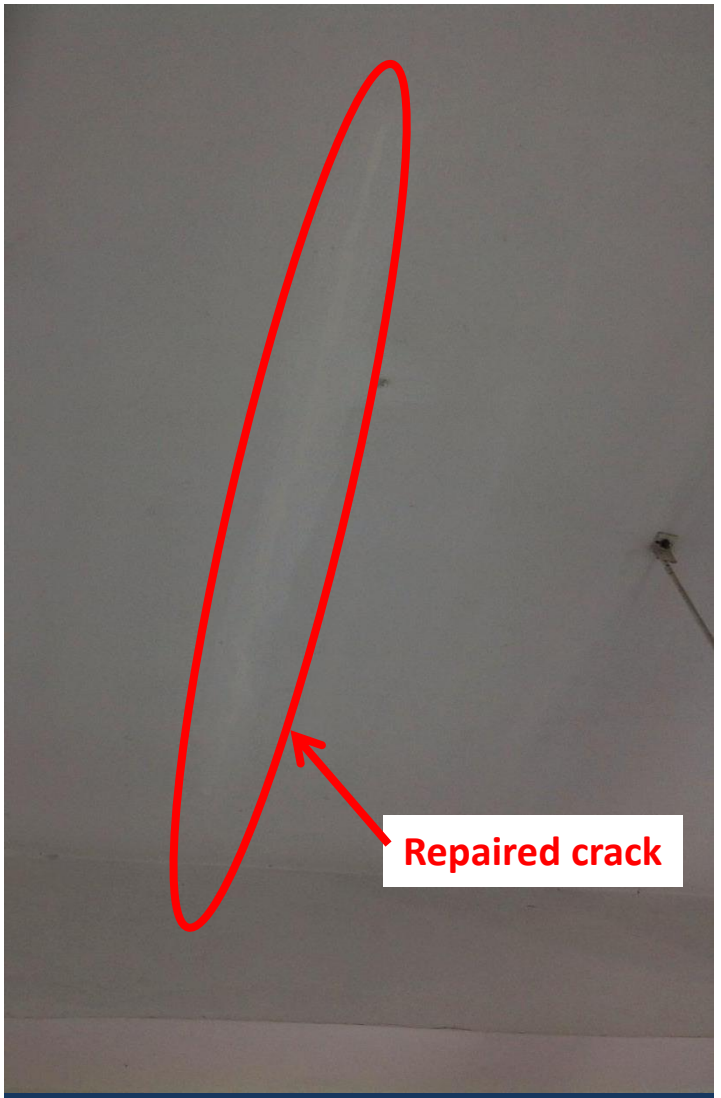
Cracking in Beams and Slabs

Cracking was observed in beams and/or floor slabs at some levels.



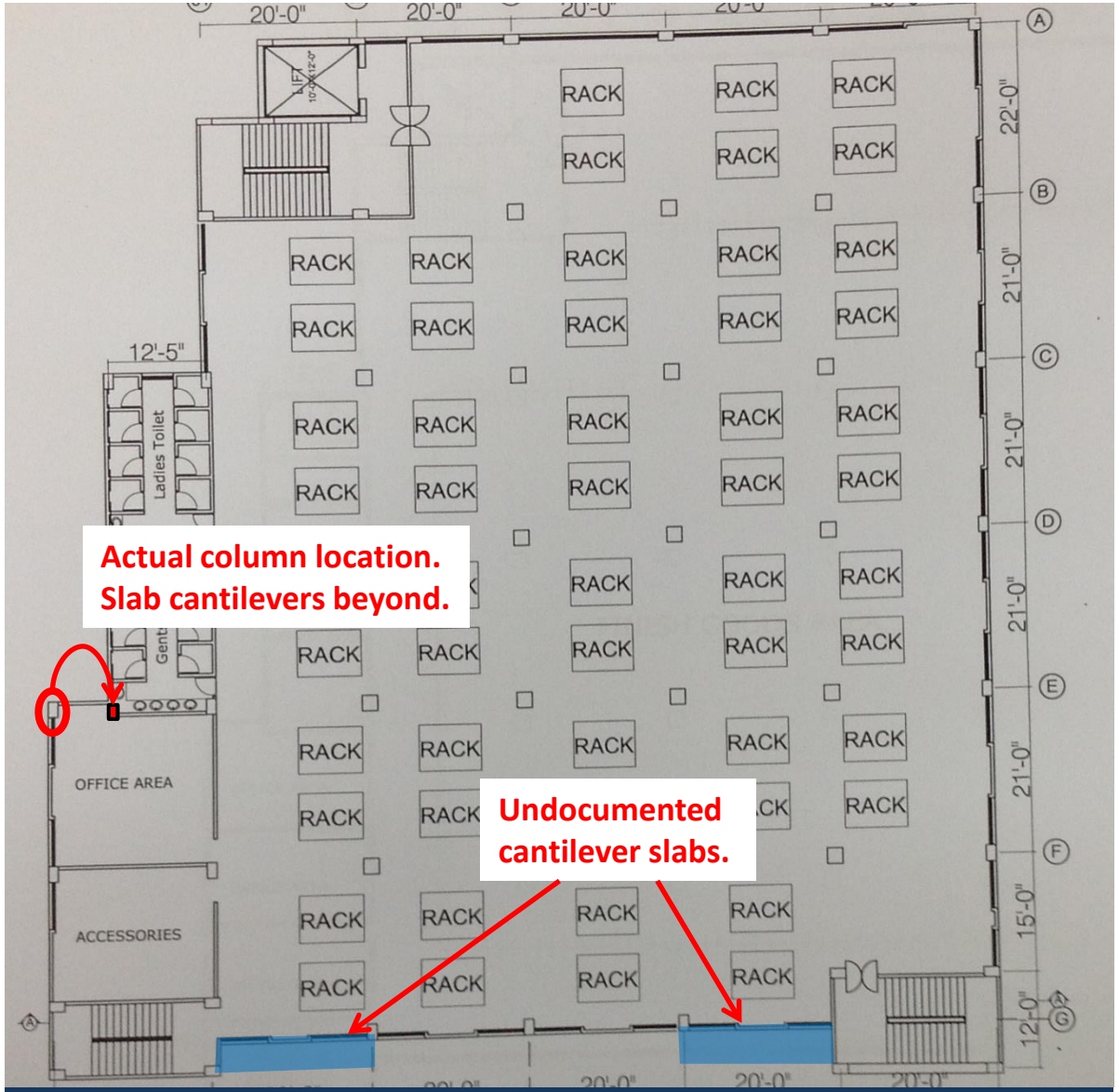
Cracking in beam



Cracking in slab

Observations

Discrepancies between Drawings and Actual Observations



Typical floor plan

Several observations in the main factory building did not coordinate with the information presented in the structural drawings.

A non-exhaustive list of discrepancies include:

- **Cantilever slabs**
- **Column locations**

Undocumented cantilever

Observations

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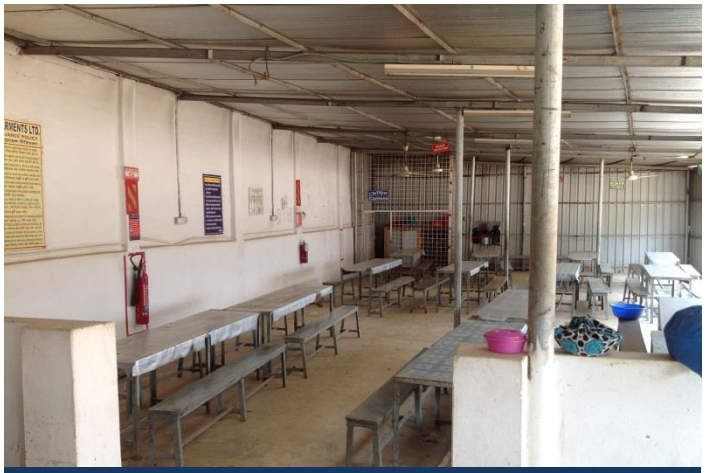
Apparently Non-Engineered Structures

Apparently Non-Engineered Structures

Cracking in masonry wall supporting roof beam



Lack of roof bracing

Many structures on site appeared to be non-engineered.

A non-exhaustive list of observations includes:

- Cracking in masonry walls supporting roof beams
- Lack of roof bracing
- Lack of truss diagonals
- Non-engineered connections

Apparently Non-Engineered Structures

Lack of truss diagonals

Non-engineered connection

Non-engineered connection

Observations

Priority Actions

Problems Observed

ITEM 1: Stress levels in Columns
ITEM 2: Hairline cracking on beams and some slab soffit areas
ITEM 3: Differences between actual construction and information on design drawings
ITEM 4: Apparently non engineered shed roof structures

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Stress levels in Columns	Building Engineer to review design, loads and stresses in columns in the area noted.	**6-weeks**
2	Stress levels in Columns	Building Engineer to verify insitu concrete strength by taking 100mm diameter cores from 4 columns .	**6-weeks**
3	Stress levels in Columns	Building Engineer to verify grade of steel reinforcement and diameter of main column bars.	**6-weeks**
4	Stress levels in Columns	Make structural alterations as advised by Engineer.	**6-months**
5	Hairline cracking on beams and some slab soffit areas	Monitor cracks on beams. Building Engineer to investigate if cracks are only in the plastering.	**6-months**
6	Hairline cracking on beams and some slab soffit areas	Building Engineer to advise on load reduction and repair and strengthening if required.	**6-months**
7	Differences between actual construction and information on design drawings.	Building Engineer to survey the structure and prepare a full set of "as-constructed" drawings.	**6-months**
8	Apparently non engineered shed roof structures	Building Engineer to check the capacity of the lightweight roofs and make any necessary alterations.	**6-months**