Blue Planet Knitwear Ltd.

(24.230773, 90.416636)
Mmawna, Mulaid, Polli Biddutroad, Gazipur, Bangladesh

01 April 2014

ACCORD on Fire and Building Safety in Bangladesh

ARUP

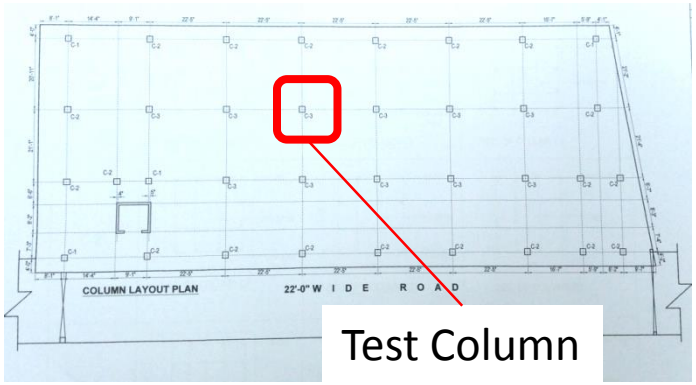
Observations

Highly stressed columns
due to localised areas of high loads

Preliminary calculations indicate that the working stresses in some columns are at a high level.

Concrete strength to be verified by core testing
Stone aggregate observed.

Tested column at ground level- stone aggregate observed in a number of locations



Typical Column Layout

Highly Stress Columns

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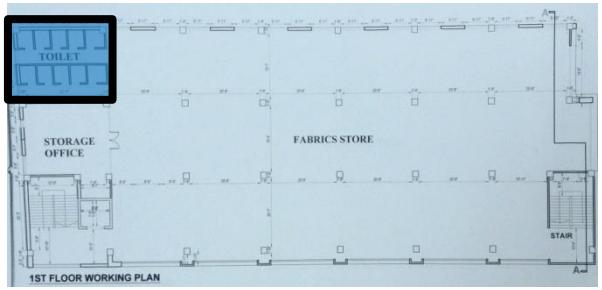
Typical floor buildup in toilet areas.

Toilet blocks typically have increased floor build-ups

~130mm additional floor build up in cubicles with a concrete ceiling slab of approx 110mm.

Brick partition walls separating cubicles.

Unused toilet on 1st floor used for additional storage.



Typical toilet block location.

N

Additional storage loading on the 1st floor.

Local areas of high loading.

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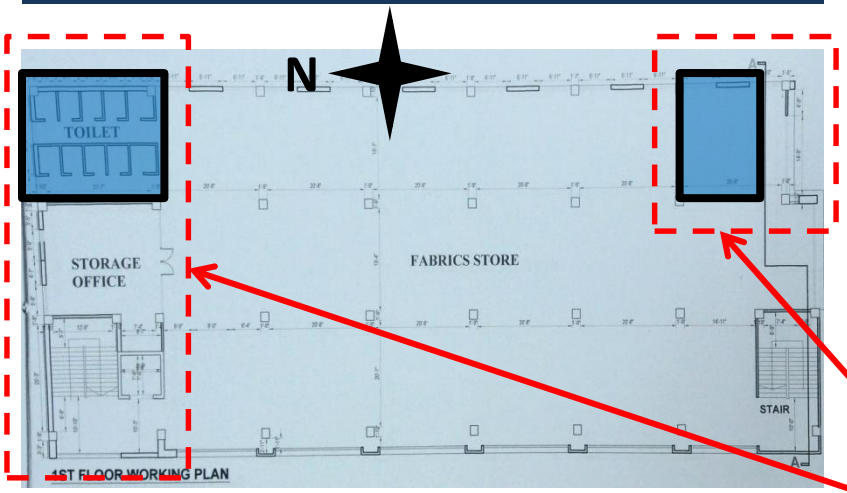
Water tank storage at roof level.

Water tank in north east corner of building located above toilet blocks with heavier loading leading to accumulation of heavy loads in this area.



Water Tank Locations

Water tank at roof level.

Columns in these areas require immediate review due to high loading. Refer to Item 1 action.

Local areas of high loading.

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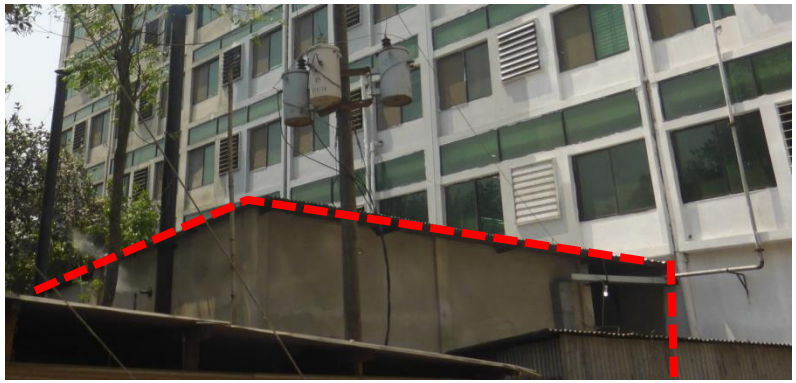
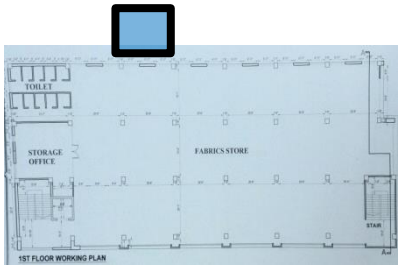
Undocumented single story plant room annex building.

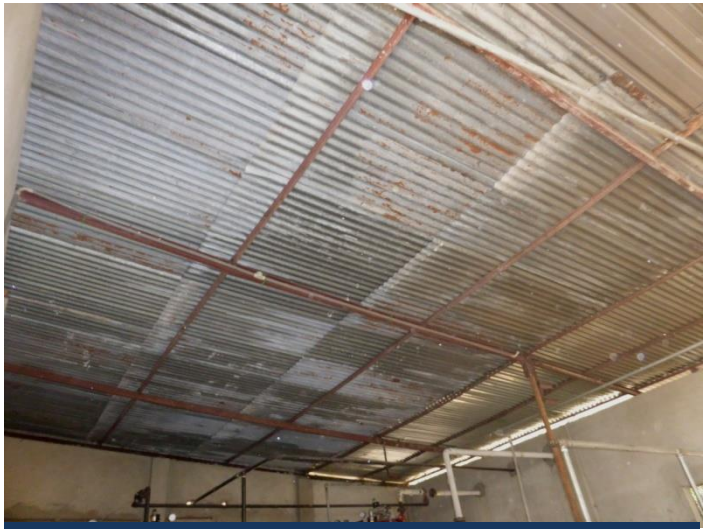


Undocumented single storey plan annex building connected to main production building.

Roof structure appears not to be engineered and is likely to be subject to uplift.



Location of plant building



Roof structure of building.

Connection to main building

Purlin connection detail

Priority Actions

Problems Observed

ITEM 1: Highly stressed columns

ITEM 2: Undocumented single storey plant room structure.

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Highly stressed columns under toilets and water tanks Verify concrete strengths in columns	Maintain current use of the floors in each building and don´t change use or increase occupation pending engineering assessment of highly loaded columns	**Immediate - Now**
2	Highly stressed columns under toilets and water tanks Verify concrete strengths in columns	Factory Engineer to review design, loads and columns stresses particularly for areas of high loading identified.	**Immediate - Now**
3	Highly stressed columns under toilets and water tanks Verify concrete strengths in columns	Verify in situ concrete strength either by 100mm diameter cores (cores from a minimum of 4 columns) of or existing cylinder strength data.	**Immediate - Now**
4	Highly stressed columns under toilets and water tanks Verify concrete strengths in columns	Current loading plans to be reviewed based on engineering assessment. Actively manage loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.	**6-weeks**
5	Highly stressed columns under toilets and water tanks Verify concrete strengths in columns	Continue to implement load plan	**6-months**
6	Undocumented single storey plant room structure.	Building engineer to assess light weight roof structure and confirm its ability to withstand all wind loading pressure, suctions and uplift forces.	**6-weeks**
7	Undocumented single storey plant room structure.	Additional loading to main production building to be identified and incorporated in building assessment.	**6-weeks**
8	Undocumented single storey plant room structure.	Carry out remedial work if required.	**6-months**