

Fashion Flash Ltd

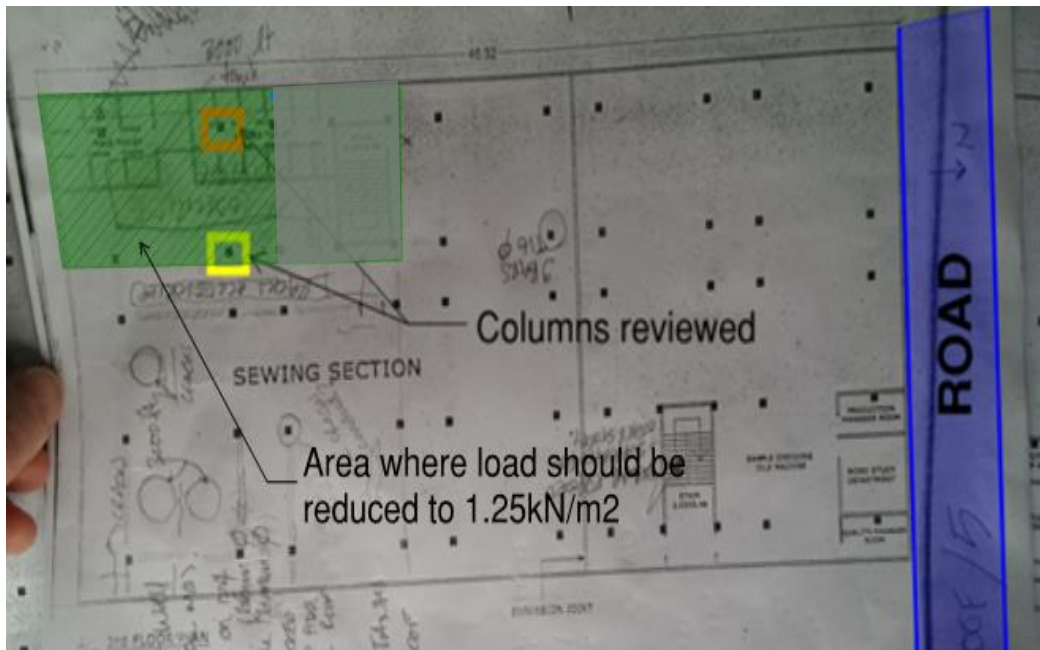
149, Shah Kabir Mazar Road, Dakkin Khan, Azampur, Uttara, Dhaka
(23.86819N, 90.41251E)

5th April 2014



Observations

Highly stressed Columns



Preliminary calculations indicate that columns in toilet area working stress is at a high level.

Engineer is to perform detailed calculations on columns in area highlighted based on as constructed dimensions and concrete tests to prove column size and (if required) :

- Reduce loads by vacating floors and removing additional structures
- Reinforce columns

Loading in Area highlighted green (toilet and adjacent area) to be reduced to 1.25kN/m^2

Construction Joint



Construction Joint

Construction joint generally covered and cannot be inspected. Structural drawings show beams are continuous through joint. Engineer to confirm that beams and slab are designed and detailed separate as cantilevers

First floor cantilever beam at movement joint (observed from ground floor level) cracking observed.

Remove plaster and concrete locally to inspect concrete condition.

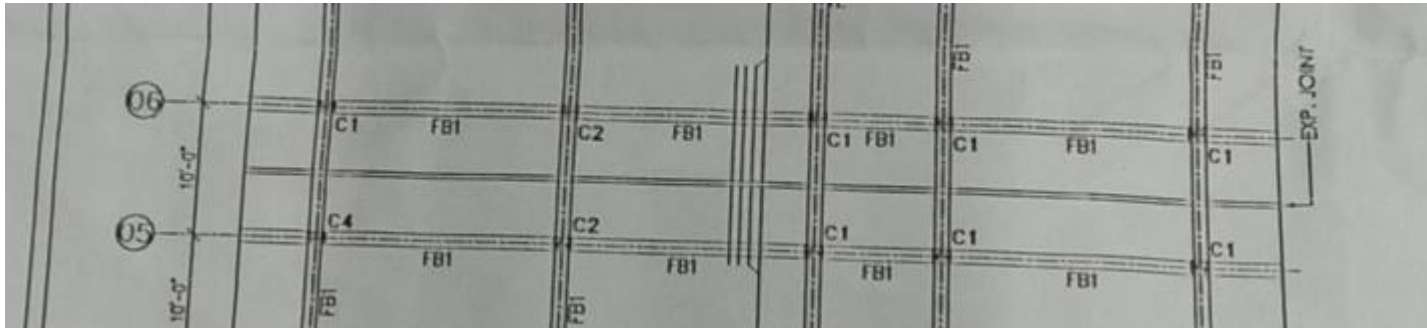
Construction Joint



Construction Joint

Construction joint generally covered and cannot be inspected. Structural drawings show beams are continuous through joint. Engineer to confirm that beams and slab are designed and detailed separate as cantilevers

Ensure joint is sealed at roof level to prevent water ingress



Movement Joint

Cantilever Slab Supporting Heavy Floor Loading in Toilet areas

The cantilever floor slabs in the toilet areas at each level are supporting up to 280mm of additional floor build up.

The extent of plinth loading within toilet areas to be surveyed and the capacity of floor slab should be assessed by the building Engineer



Partially constructed fifth floor



Building permit has been granted for six storey, currently fifth floor is only partially built.

Preliminary calculations indicate that column stresses are high for existing structure. Further construction should not be carried out until a Detailed engineering assessment is carried out to prove that the structure is capable of carrying additional loads prior to construction of additional storey.

Reinforcement for future columns to be adequately fixed / lapped with existing structure. In some case, fixing to existing bars will not provide sufficient anchorage and mechanical couplers will be required.

Partially constructed fifth floor

Cracking to fifth floor slab



Cracking observed on soffit of fifth floor slab below water tanks (3no. 1000l tanks).

- Engineering assessment to confirm roof slab capacity.
- Building owner to reduce water level to meet design loading.
- Reposition water tanks so they are located over column heads (subject to shear checks being carried out by factory engineer)



Cracking to fifth floor slab

Cracking at beam ends



Cracking observed at beam supports throughout the building.

Engineering check required to confirm shear capacity of beams.



Cracking at beam ends

Unrestrained roof parapet

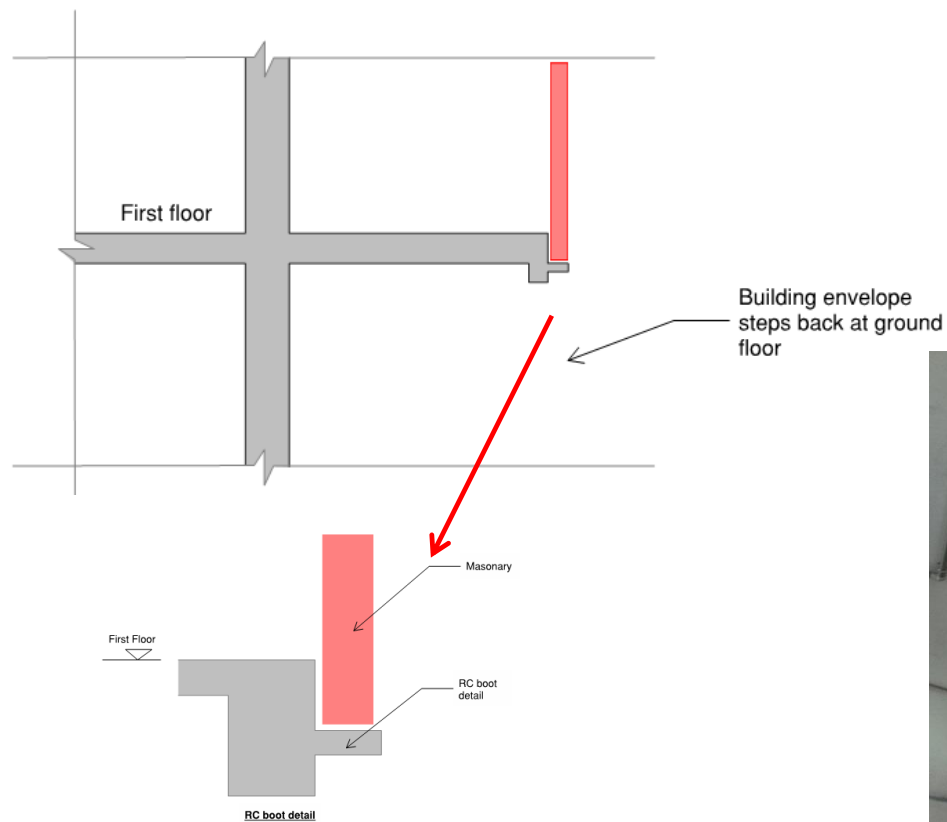


**Single leaf masonry parapet wall
unrestrained at roof level.**

Design check required to confirm lateral
stability under wind load.



Support to brick façade at first floor level



In one location nib has been broken out to allow service penetration from generator room below.



First floor façade support

Single leaf masonry façade to first floor appears to be supported by hanging boot with shallow nib to support brickwork. In one location nib has been broken out to allow service penetration from generator room below. Engineering assessment required to check that nib can support masonry

Facade Support

Non-engineered steel roof



At ground floor a lightweight, non-engineered steel roof spans between the edge of the cantilever and wall to the adjacent building. This is not shown on engineering drawings.

Design check required for steel roof and supporting wall. Engineering drawings to be updated to suit as built layout



Non engineered steel roof

Problems Observed – Main Factory Building

ITEM 1; Columns appear to be stressed to levels that require immediate review

ITEM 2; Cracking in Slabs at Construction Joint

ITEM 3; Design check required for cantilever slab under loading in toilet areas to confirm slab load capacity

ITEM 4; Cracking to slab soffits and beam

ITEM 5; Design check required on unrestrained brickwork parapet at roof level.

ITEM 6; As-built condition does not match structural drawings – cantilevers.

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Verify the structural adequacy of columns at all levels based on as built dimensions, material properties and verified reinforcement content	Loading to be reduced to 1.25kN/m ² , pending verification of column capacity by the Building Engineer, in toilet areas highlighted previously	Immediate - Now
2	Verify the structural adequacy of columns at all levels based on as built dimensions, material properties and verified reinforcement content	Factory Engineer to review design, loads and column stresses in area highlighted	Immediate - Now
3	Verify the structural adequacy of columns at all levels based on as built dimensions, material properties and verified reinforcement content	Verify in situ concrete strength either by cores or existing cylinder strength data	Immediate - Now
4	Verify the structural adequacy of columns at all levels based on as built dimensions, material properties and verified reinforcement content	Implement recommendations of review of highlighted columns	6-weeks
5	Verify the structural adequacy of columns at all levels based on as built dimensions, material properties and verified reinforcement content	Produce and actively manage a loading plan for all floor plates within the Main Factory Building giving consideration to floor capacity and column capacity	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
6	Cracking in Slabs at Construction Joint	Engineer to check existing structure and confirm that beams and slab are designed and detailed as cantilevers each side of the joint on each level	6-weeks
7	Design check required for plinth loading in toilet areas to confirm slab load capacity	Extent of plinth loading within toilet areas to be surveyed and capacity of floor slab to be assessed	6-weeks
8	Design check required for plinth loading in toilet areas to confirm slab load capacity	Implement Recommendations of Building Engineer	6-weeks
9	Cracking to slab soffits and beams	Sections of plaster to be removed to investigate if cracks penetrate the building structure	6-weeks
10	Cracking to slab soffits and beams	Building Engineer to check storage and water tank support to ensure the structure is not loaded beyond capacity	6-weeks
11	Cracking to slab soffits and beams	Produce and actively manage a loading plan for all floor plates within the Main Building giving consideration to floor capacity and column capacity	6-weeks
12	Cracking to slab soffits and beams	Continue to implement load plan	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
13	Unrestrained Parapet at Roof Level	Building Engineer to check the Parapet to ensure lateral stability under wind load or imposed lateral load	6-weeks
14	Inconsistent information provided on structural design drawings	Building Engineer to commence re-survey of as-built structure and update drawings including location of all beams/columns and cantilever structures	6-months
15	Inconsistent information provided on structural design drawings	Design check required for steel roof and supporting wall at ground floor and Engineering drawings to be updated to suit as built layout	6-months