Aliza Fashions Ltd.
Aliza Fashion Trousers Ltd.

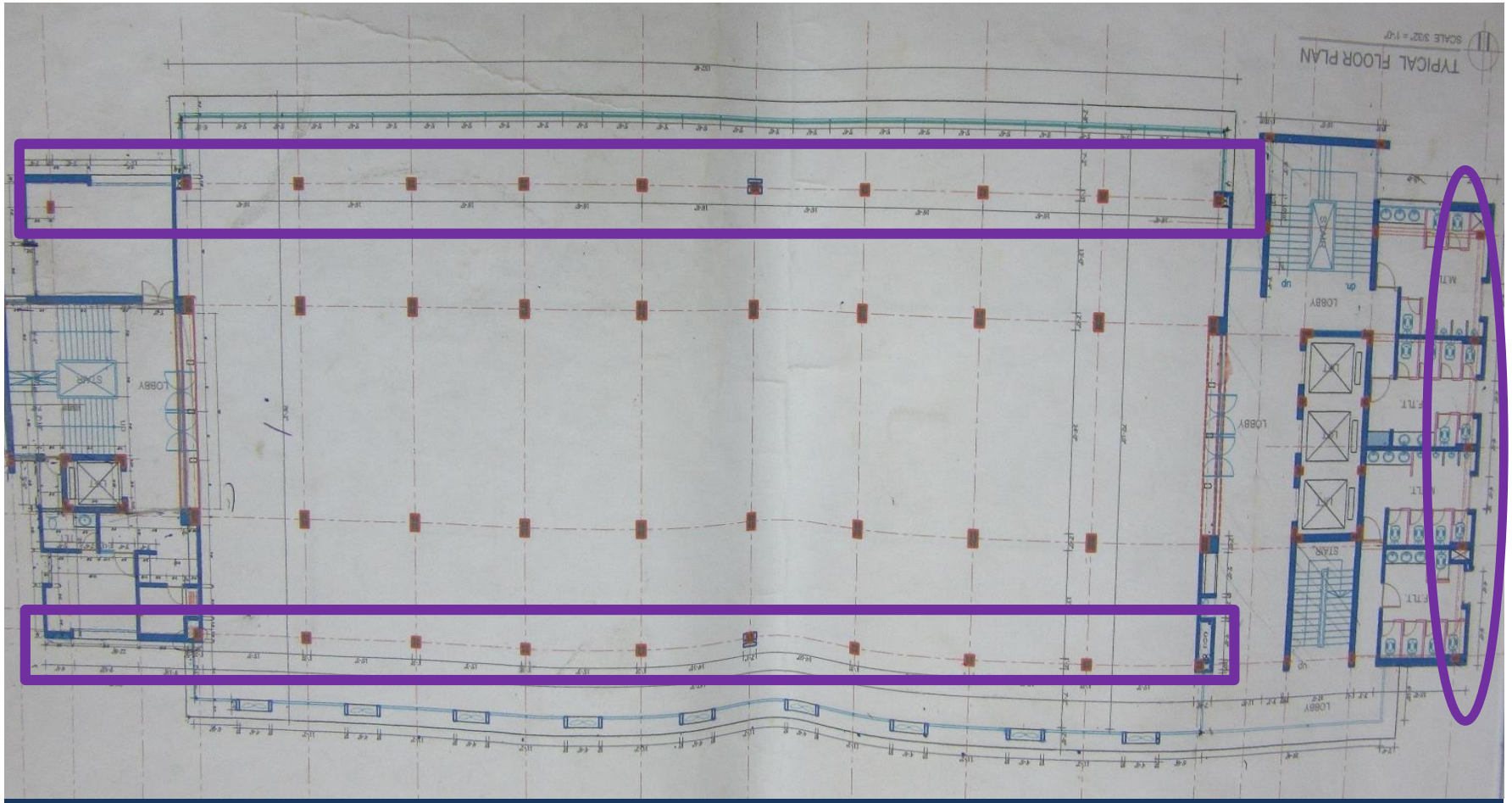
Chaydana, National University, Gazipur
(23.957721N, 90.378621E)
29th March 2015

ACCORD on Fire and Building Safety in Bangladesh

ARUP

Observations

High stress levels in columns



Cursory calculations indicate that certain columns at Ground Floor are highly stressed under the current loading condition

Observations

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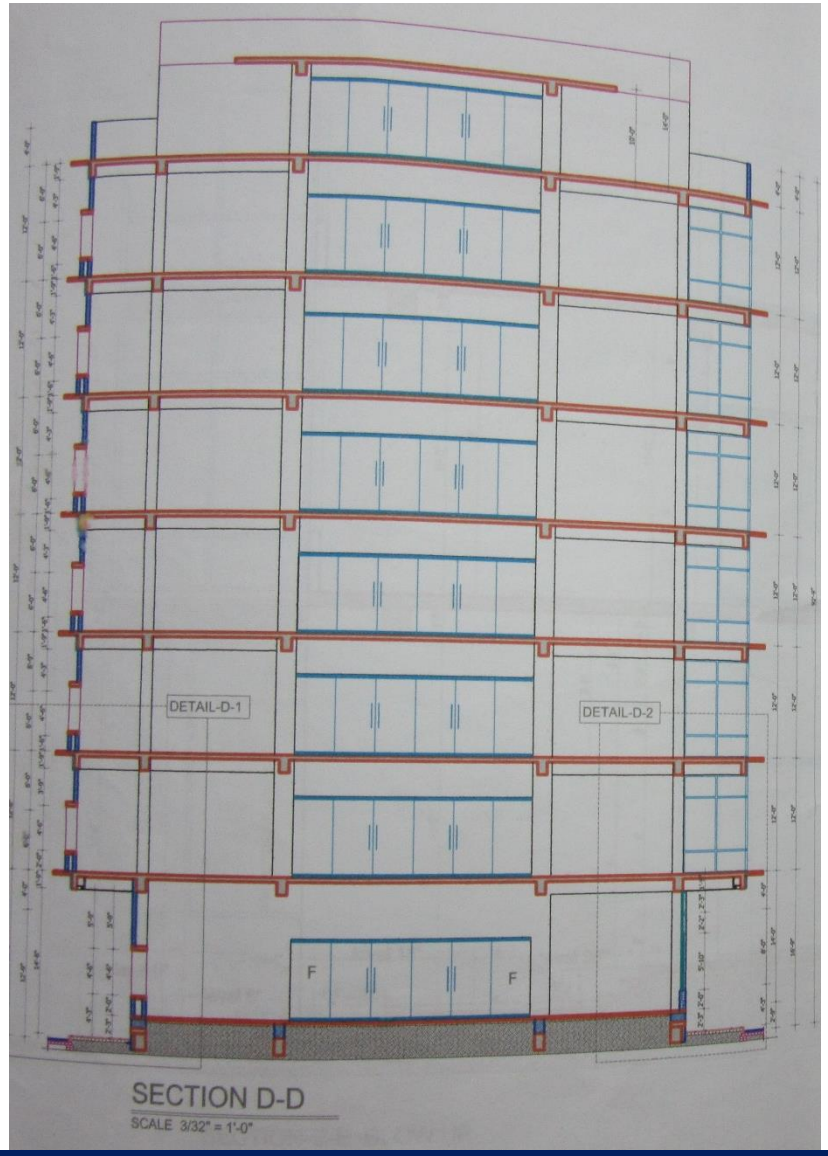
Cantilever slabs to all levels at north and south elevations



Long cantilevers at all floors.

Observations

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Heavily loaded areas

Heavy uncontrolled loading is observed on 7th floor, 6th floor and 5th floor.

Observations

Water tanks are positioned in one line

Observations

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Priority Actions

Problems Observed

1. High stress levels in columns
2. Cantilever slabs to all levels at north and south elevations
3. Heavily loaded areas

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	High stress levels in columns	Building Engineer to review design, loads and column stresses in all the columns in the toilet area	**Immediate - Now**
2	High stress levels in columns	A Detail Engineering Assessment (DEA) of Building 5 is to be commenced, see attached Scope.	**Immediate - Now**
3	High stress levels in columns	Verify in-situ concrete stresses by taking 100mm dia. cores from a min. of 4 columns at Ground Floor and verify grade/number of and diameter of reinforcement used.	**Immediate - Now**
4	High stress levels in columns	Detail Engineering Assessment to be completed	**6-weeks**
5	High stress levels in columns	Produce and actively manage a loading plan for all floor plates within the Building, giving consideration to floor capacity and column capacity.	**6-weeks**
6	High stress levels in columns	Actions identified in the Detail Engineering Assessment to be implemented.	**6-months**
7	High stress levels in columns	Continue to implement the load management plan.	**6-months**

Detail Engineering Assessment

This Schedule develops a minimum level of information, Analysis and testing expected as part of a Detail Engineering Assessment.
The Building(s) have been visually assessed and it is deemed necessary that a detailed engineering assessment be carried out by a competent Engineering Team employed by the factory Owner.
This Request should be read in conjunction with the BUET developed Tripartite Guideline document for Assessment of Structural Integrity of Existing RMG Factory Buildings in Bangladesh (Tripartite Document), the latest version of this document should be referenced. T his document also gives guidance on required competency of Engineering Team.

We expect that the following will be carried out:

1. Development of Full Engineering As-Built Drawings showing Structure, loading, elements, dimensions , levels, foundations and framing on Plan, Section and Elevation drawings .
2. The Engineering team are to carry out supporting calculations with a model based design check to assess the safety and serviceability of the building against loading as set out in BNBC-2006, Lower rate provisions can be applied in accordance with the Tripartite Guidelines following international engineering practice, justification for these lower rate provisions must be made.
3. A geotechnical Report describing ground conditions and commenting on foundation systems used/proposed.
4. A report on Engineering tests carried out to justify material strengths and reinforcement content in all key elements studied.
5. Detailed load plans shall be prepared for each level showing current and potential future loading with all key equipment items shown with associated loads.
6. The Engineering team will prepare an assessment report that covers the following:
    - As-Built drawings including
        - Plans at each level calling up and dimensioning all structural components
        - Cross sectional drawings showing structural beams, slabs, floor to floor heights, roof build-ups and Basic design information of the structure
    - Highlight any variation between As-built compared to the designed structure
    - Results of testing for strength and materials
    - Results of geotechnical assessment and testing/investigation
    - Details of loading, inputs and results of computer modelling
    - Commentary on adequacy/inadequacy of elements of the structure
    - Schedule of any required retrofitting required for safety or performance of Structure

Any proposals for Retrofitting to follow guidance developed in the Tripartite Document

Item No.	Observation	Recommended Action Plan	Recommended Timeline
8	Cantilever slabs to all levels at north and south elevations	As part of the DEA, Building Engineer to carry out a design check of the cantilevers to ensure structural integrity of the slabs and beams.	**6-weeks**
9	Cantilever slabs to all levels at north and south elevations	Implement any actions arising from design check.	**6-months**
10	Heavily loaded areas	As part of the DEA, Building Engineer to confirm design loading of slabs and incorporate it into the loading plan for all floor plates.	**6-weeks**
11	Heavily loaded areas	Produce a loading plan and actively manage the floor loading for all floor plates giving consideration to floor capacity and column capacity.	**6-weeks**
12	Heavily loaded areas	Continue to implement the loading plan.	**6-months**