

Armana Apparels Ltd Armana Fashions Ltd

232-234 Tejgaon I/A, Dhaka
(23.77170N, 90.40255E)
19th March 2014



North Elevation

Observations



Underside of Water Tank at
Roof Level



General Sewing Floor



General Storage



Storage Denim Rolls

Column Stresses



Building Engineer to verify effective concrete stresses



Priority Actions

- **Item 1 High Column Loads**
- **Item 2 Column Sizes**
- **Slab thickness Assessment**

| Item No. | Observation | Recommended Action Plan | Recommended Timeline |
|----------|-------------------|---|----------------------|
| 1 | High Column Loads | Reduce floor loads to 2.0 kN/m ² including all storage areas. Do not change use or increase occupation, either of which could increase loading. | Immediate - Now |
| 2 | High Column Loads | Building Engineer to review design, loads and columns stresses for all levels | Immediate - Now |
| 3 | High Column Loads | Verify insitu concrete strength either by cores or existing cylinder strength data | Immediate - Now |
| 4 | High Column Loads | A Detail Engineering Assessment of Factory to be commenced, see attached Scope | Immediate - Now |
| 5 | High Column Loads | Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity. | 6-weeks |
| 6 | High Column Loads | Install Loading Plans at all levels of the building and ensure that operatives understand plans. | 6-weeks |
| 7 | Column Sizes | Column sizes indicated on Structural Drawings are not consistent with column sizes measured on site. Building engineer to survey building and update drawings to accurately reflect structural sizes as part of the Detailed Engineering Assessment | 6-weeks |
| 8 | Slab Thickness | Detail Engineering Assessment to comment 180mm thick slab spanning >6.0m | 6-weeks |

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. This 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 Elevational 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