

## **Summary of Preliminary Assessment on Structural, Fire and Electrical Safety**

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Name of the Factory	: Designer Line Fashion Ltd.
Address of the Factory	: Gohaibari, Shimulia, Ashulia, Savar, Dhaka
Present Status of the Factory	: Under operation.
Structural Assessment Conducted by	: VEC
Date of Structural Inspection	: 28 July, 2015
Fire Assessment Conducted by	: VEC
Date of Fire Inspection	: 28 July, 2015
Electrical Assessment Conducted by	: VEC
Date of Electrical Inspection	: 28 July, 2015
BGMEA Membership No.	: 6062

### **BASIC INFORMATION:**

The factory building is a three storied RCC building with beam and column system and flat slab system. The following information was noted:

i. Building Usage Type	: Garment Factory.
ii. Structural System	: RCC beam column system.
iii. Floor System	: RCC Beam slab.
iv. Floor Area	: 420,000 sft
v. No. of Stories	: 6 Storied
vi. Construction Year	: 2013 to Continue
vii. Foundation Type	: Isolated Column Footing
viii. Design Drawings	: Available document: Approval plan, Architectural design drawing, structural design drawing, Machine layout plan, soil test report and material test report
ix. Soil Investigation Report	: Available
x. Construction Materials	: Stone Chips.
xi. Generator	: Ground Floor.

### **RECOMMENDATIONS FOR CORRECTIVE ACTION:**

The recommendations of corrective action for both Structural and Fire & Electrical Safety comprises in Short Term, Mid Term and Long Term basis.

The recommendations for **Structural Safety** corrective action are:

Short Term (Immediate)	: None
Mid Term (6-weeks)	: None
Long Term (6-months)	: 1. Engineer to inspect whether waterproofing material is applied or where it can be maintained. For both durability and serviceability, waterproofing on the roof slab is recommended. Moreover the roof slab drainage system and slope should be investigated. 2. Structural engineer to prepare floor load plan and prepare/update calculations showing the structural adequacy of the floor system taking into account the factory design imposed loading and the as built structure.

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The recommendations for **Fire & Electrical Safety** corrective action are:

**(A): Recommendations for Fire Safety Corrective Actions:**

<p>Immediate</p> <p><i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i></p>	<p>None</p>
<p>Short Term</p> <p><i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (1 ~ 2 weeks) and should be a regular activity</i></p>	<p>Ensure adequate numbers of fire drills under the Fire Safety Plan.</p> <p>Factory needs to have marked aisles in all working floor according to 0.9m for one side seat and 1.0m for both side seat. Factory needs to be installed with adequate illuminated emergency lighting in floors, exits &amp; stairs.(Escape route).</p> <p>All required means of exit or exit access in buildings or areas requiring more than one exit shall be signposted. The signs shall be clearly visible at all times,</p> <p>where necessary supplemented by directional signs. Need to Portable fire extinguishers at all floors</p>
<p>Mid Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>	<p>Factory needs to prepare as built drawing with floor machine layout showing means of escape with proper dimension.</p> <p>Factory need to fire license with area mention of full factory Fire manager/Director need to have safety training from proper authority &amp; worker of the factory should as far as possible be trained for use fire extinguisher.</p> <p>All the firefighting equipment need to be tested with proper documents.</p> <p>All the exit doors need to be install side swinging so that un-lockable doors can be opened easily in the direction of evacuation without the use of a key Provide handrail on both sides of stairways.</p> <p>Need to be install intermediate handrail. Factory need to Emergency backup power for critical fire safety system (signage, fire alarm &amp; detection system, emergency lighting, AFD and Alarm systems etc.)</p>
<p>Long Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>	<p>Factory needs to have a proper pre-plan for fire department. Stairs need to be protected with 2 hour fire rated and smoke resistant lobby and enclosure, also having 1.5 hour rated opening or door and provide a protected route from all through the stairway to the final exits.</p>

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	<p>Factory needs to protect the lift with 2 hours rated enclosure &amp; 1hour rated auto closing fire door</p> <p>Factory need to install centralized and automatic fire detection &amp; alarm system on all occupied floors, including other tenanted floors of the building as per NTPA Guideline.</p> <p>The factory need to install manually operated electrical fire alarm system and automatic fire alarm system with single or multiple call boxes on all occupied floors, including other tenanted floors of the building.</p> <p>Factory needs to install control panel for centralized automatic smoke detection &amp; fire alarm system according to NTPA Guideline</p> <p>Factory need to install suitable public address system having communication to all floors as well as facilities to receive messages from all floors.</p> <p>Factory needs to install proper standpipe system with having at least 100 mm dia of riser.</p> <p>Install 1 riser per 1000 m2 of floor area &amp; Install adequate number of hose in floor area and the minimum hose diameter is 38 mm, or 1.5" preferably fabric hose with variable nozzle to be used in both of the stairways covering the floor area.</p> <p>Factory need to ensure the minimum pressure for standpipes supplying a 50mm or larger hose shall be at least 300 kPa and standpipe supplying first aid hose (38mm nominal) may have a minimum pressure of 200 kPa.</p> <p>Factory needs to be installed with Siamese connection for to the standpipe system located outside the building and accessible to the fire department connection.</p> <p>Need to be install Standby generator with required backup power</p> <p>Factory needs to have dedicated fire pump with backup power system &amp; sufficient capacity for achieve required pressure in the remote place of the factory.</p>
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### **(B): Recommendations for Electrical Safety Corrective Actions:**

Immediate <i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i>	None
Short Term <i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity</i>	None
Mid Term <i>(The remedial works indicated must be carried out within a period of 6 weeks)</i>	None
Long Term <i>(The remedial works indicated must be carried out within a period of 6 months)</i>	None