

Summary of Preliminary Assessment on Structural, Fire and Electrical Safety

Name of the Factory	: Capital Fashions Limited
Address of the Factory	: Holding # 6/4, Block # B, Sundor Ali Lane, Tongi Millgate, Gazipur, Bangladesh.
Present Status of the Factory	: Under Operation.
Structural Assessment Conducted by	: VEC
Date of Structural Inspection	: 23 rd January, 2015
Fire Assessment Conducted by	: VEC
Date of Fire Inspection	: 23 rd January, 2015
Electrical Assessment Conducted by	: VEC
Date of Electrical Inspection	: 23 rd January, 2015
BGMEA Membership No.	: 1318

BASIC INFORMATION:

The assessed factory building is a Single-Storey prefabricated shed building. The structural system of the building is steel beam-column frame and roof shed floor system structure. The following general information was noted:

- i. Building Usage Type : Garment factory.
- ii. Structural System : Steel beam column frame system.
- iii. Floor System : Prefabricated shed floor system.
- iv. Floor Area : Total working area of building = 10741 sft.
- v. No. of Stories : Single Storey.
- vi. Construction Year : Building was built in one phases.(2013-2014)
- vii. Foundation Type : Isolated Column footing foundation.
- viii. Design Drawings : Available but some mismatch with field measurement.
- ix. Soil Investigation Report : Available.
- x. Construction Materials : Steel beam column.
- xi. Generator : None.

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:

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| Short Term (Immediate) | : None. |
| Mid Term (6-weeks) | : <ul style="list-style-type: none">• Building engineer to confirm requirement for lateral bracing in long direction. Fixed lateral bracing if required. Need to repair masonry cracks under the supervision of qualified engineer. |
| Long Term (6-months) | : <ul style="list-style-type: none">• Need to prepare As-built structural drawings. |

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

(A): Recommendations for Fire Safety corrective actions:

Immediate	<ul style="list-style-type: none">• None.
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<p><i>(the factory should not continue to be occupied until these non-conformities have been rectified):</i></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>	<ul style="list-style-type: none"> • None.
<p>Mid Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>	<ul style="list-style-type: none"> • Factory need to prepare “As Built Drawing” for each working floor showing machine layout and means of escape with proper dimension • Factory need to have proper testing plan & record of fire safety equipment • Factory need to ensure adequate illuminated emergency lighting in the escape route(In working floor & all the emergency exit route) • Factory need to have emergency backup power for critical fire safety system with sufficient capacity & arrangement according to NTPA Guideline • Factory need to have sufficient water storage capacity to get adequate pressure to feed fire-fighting equipment and at least $1900 \times 75 = 142500$ liters water storage tank.
<p>Long Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>	<ul style="list-style-type: none"> • Factory needs to have a proper pre-plan for fire service & civil department. • Install automatic detection system with proper sitting arrangement. • Factory need to be installed with automatic fire alarm Factory need to install control panel for automatic and centralized fire detection and alarm system • Factory need to be installed with 75mm dia of standpipe system according to NTPA guideline • Ensure the minimum pressure for standpipes supplying a 50mm or larger hose shall be at least 300 kPa. For standpipe supplying first aid hose (38 mm nominal) may have a minimum pressure of 200 kPa. • Ensure Siamese connection for to the standpipe system located outside the building and accessible to the fire department connection

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	<ul style="list-style-type: none"> • Install dedicated fire pump with backup power system & sufficient capacity for achieve required pressure in the remote place of the factory • Factory need to prepare “As Built Drawing” for each working floor showing machine layout and means of escape with proper dimension.
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(B): Recommendations for Electrical 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>	<ul style="list-style-type: none"> • None.
<p>Short Term</p> <p><i>(Actions that must be incorporated into a Fire Safety Management Plan immediately (a week) and should be a regular activity</i></p>	<ul style="list-style-type: none"> • Ensure all switchboards and/or distribution boards (including panel door) are earthed properly. • Provide provision for inspection of all earthing system
<p>Mid Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 weeks)</i></p>	<ul style="list-style-type: none"> • Install appropriate type of rubber mats at required location. • Provide dedicated & adequate size of earthing. • Ensure separate branch circuit is provided at switch-gear. • Ensure cable joints are made through porcelain/PVC connectors with PIB tape. • Ensure all electrical wiring/cable properly terminated. • Connect all metal in the building to the building earthing/grounding system. • Ensure proper earthing connections at all electrical equipment.
<p>Long Term</p> <p><i>(The remedial works indicated must be carried out within a period of 6 months)</i></p>	<ul style="list-style-type: none"> • Have a qualified electrical engineer to develop an as-built single line diagram. • Establish a periodical Insulation and earth Resistance Measurement Program. • Inspect electrical switchgear and panel boards on an annual basis. • Ensure distribution boards have no opening.

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	<ul style="list-style-type: none">• Provide dedicated & adequate size of neutral with proper identification for each circuit.• Ensure the means of identification is obtained.• Provide cable sockets for stranded conductors.• Provide an emergency power generator.• Install lightning protection system on the building.
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