

Fakhruddin Textile Mills Ltd. (9290)

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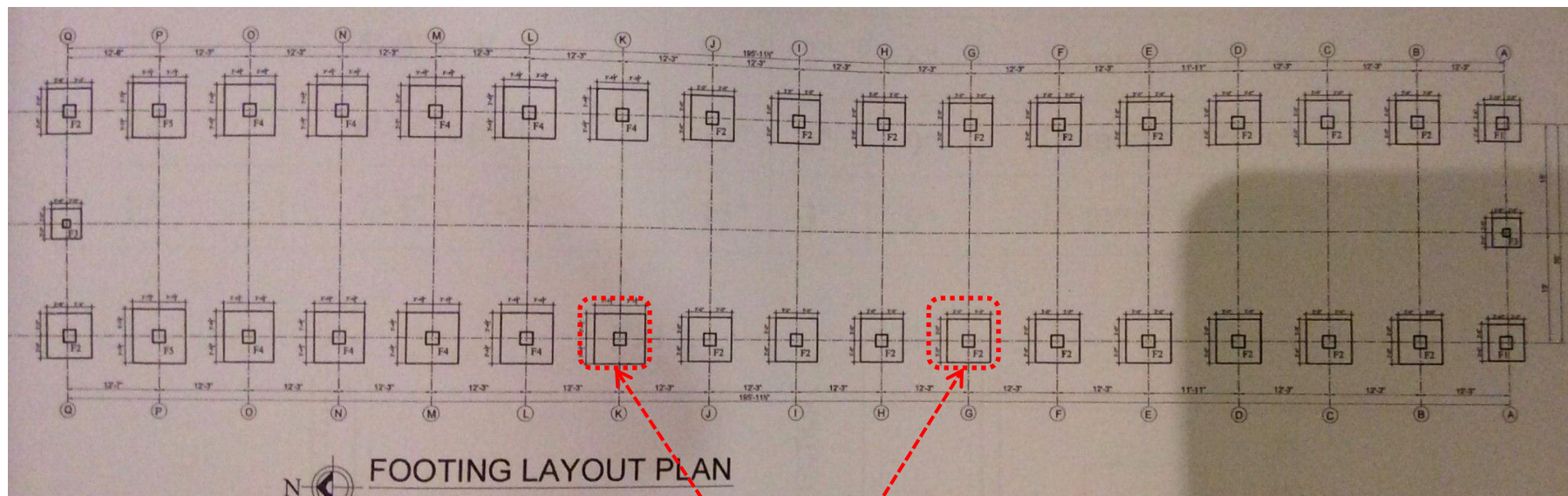
23.AUGUST.2014



Identified Priority 1 Concerns

1st Priority 1 Concern

There is no soil investigation report available for buildings 1, 2, 3, 4 & 6. We suggest that either the reports are located or Soil Investigation work is carried out as soon as possible to confirm the soil capacity of these buildings.



Footing Layout plan

A Structural Engineer needs to review and check the footings of this building. The footings may be under designed in comparison with the soil capacity.

Footings checked

Single pad footings have been used. As per the SI report, the soil capacity is around 144 kPa.

A typical column load in the middle of the building is 578kN. The stress under the footing is 163 kPa which was higher than allowable soil capacity. This foundation needs to be reviewed and checked fully.

Identified Priority 3 Concerns

1st Priority 3 Concern



Building 2



Building 4



Building 3

The As-built drawings for the steel buildings need to be produced.

1st Priority 3 Concern



Building 8



Building 8



Building 8

The As-built drawings for the steel buildings need to be produced.

2nd Priority 3 Concern



Building 2



Building 4



Building 3

The steel columns of all shed buildings need to be provided with eaves tie beams in the longitudinal direction to unify the structural system stability under wind loads.



The steel trusses need to be longitudinally braced to combine these trusses together to help resist wind loads.



The Structural Engineer needs to review the design of the roofs to check the stability of the trusses under lateral wind loads and uplift loads.

4th Priority 3 Concern



Building 2



Building 3

The steel structures have not been protected with fire proofing.

Fire proofing needs to be applied with a minimum 1-2 hours of resistance as per BNBC code requirements.

5th Priority 3 Concern

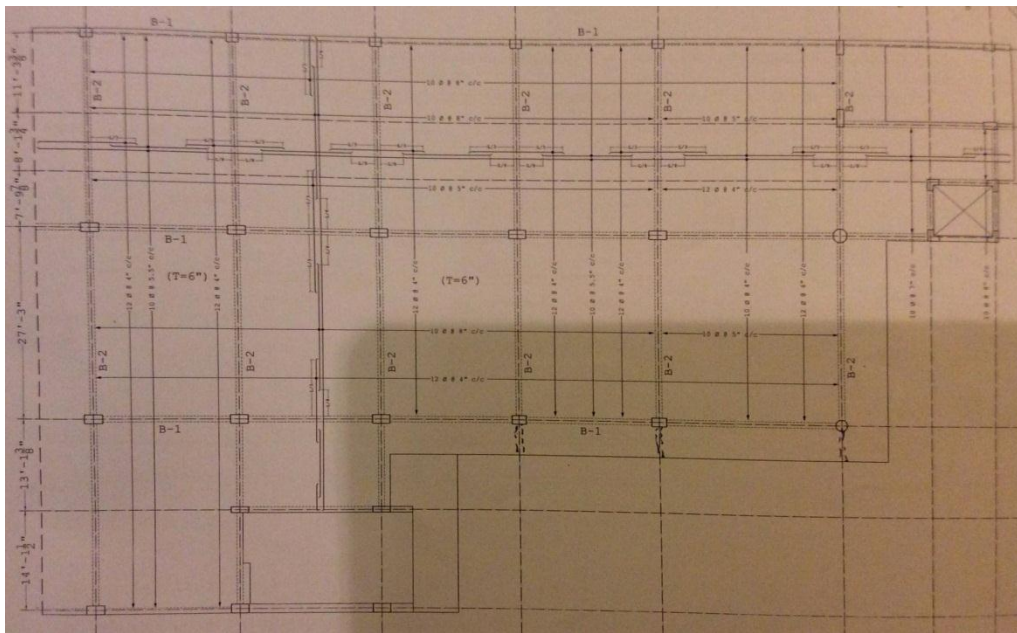
Produce Loading Plans for each floor of each building.

Based on our calculation for the column load rundowns, the allowable live load for Building 1, 2, 3, 6 is around 3.0kPa.

Buildings 5 and 7 appear to have a floor capacity of 7.5kPa (for machines ?). However, a Structural Engineer needs to review and check the full beam and slab system to assess the loading.

Building 3

Overall Stability System



Typical framing floor plan



Building 01

R.C Beam and column frame with a 2-way solid slab
Stability provided by moment frame action.

Slab Thickness 152.4mm
Column Size 381x762mm (typ.)
Beam Size 254x609mm (typ.)

Grid 7.04m x 8.31m.

This type of structural framing is appropriate for buildings lower than 10 storeys high and with large plan areas.

We require that these items be investigated by a Structural Engineer.



Building 02

The structure of the 1st, 2nd and 3rd floor levels consist of steel beams and a 1-way composite slab.

The main beam are 620x200x6x8. The secondary beams are 350x150x5x6. The slab thickness is 85mm (average).



Moment frames in the transverse direction provide stability. A cross bracing system in longitudinal direction.

We require a Structural Engineer to review and check the lateral deflection and storey drift under wind and seismic loading.

We require that these items be investigated.

Priority Actions

Problems Observed Summary

- ITEM 1: (1st Priority 1)** There is no soil investigation report available for buildings 1, 2, 3, 4 & 6. We suggest that either the reports are located or Soil Investigation work is carried out as soon as possible to confirm the soil capacity of these buildings.
- ITEM 2: (2nd Priority 1)** A Structural Engineer needs to review and check the footings of building 5. The footings may be under designed in comparison with the soil capacity.
- ITEM 3: (1st Priority 3)** The As-built drawings of the steel buildings 2, 3, 4 & 8 need to be produced.
- ITEM 4: (2nd Priority 3)** The steel columns of all shed buildings need to be provided with eaves tie beams in the longitudinal direction to unify the structural system stability under wind loads.
- ITEM 5: (3rd Priority 3)** The steel trusses need to be longitudinally braced to combine the these trusses together to help resist wind loads.

Problems Observed Summary

ITEM 6: (4th Priority 3) The steel structures have not been protected with fire proofing. Buildings 2 & 3.

ITEM 7: (5th Priority 3) Produce Loading Plans for each floor of each building.

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	1st Priority 1 - There is no soil investigation report available for buildings 1, 2, 3, 4 & 6. We suggest that either the reports are located or Soil Investigation work is carried out as soon as possible to confirm the soil capacity of these buildings.	Either find and review the original SI reports, or. Carry out new soil Investigation work for these buildings and confirm the soil capacities of all building.	6-weeks
2	1st Priority 1 - There is no soil investigation report available for buildings 1, 2, 3, 4 & 6. We suggest that either the reports are located or Soil Investigation work is carried out as soon as possible to confirm the soil capacity of these buildings.	A Structural Engineer should review the new SI reports and check all foundations.	6-months
3	2nd Priority 1 - A Structural Engineer needs to review and check the footings of building 5. The footings may be under designed in comparison with the soil capacity.	A Structural Engineer needs to review and check the footings of this building. The footing may be under designed. The soil bearing capacity needs to be reviewed and confirmed.	6-weeks
4	2nd Priority 1 - A Structural Engineer needs to review and check the footings of building 5. The footings may be under designed in comparison with the soil capacity.	Consider strengthening work depending on the result of the above checks.	6-months
5	1st Priority 3 - The As-built drawings of the steel buildings 2, 3, 4 & 8 need to be produced.	An Engineer should survey the actual conditions and produce the drawings as early as possible.	6-months
6	2nd Priority 3 - The steel columns of all shed buildings need to be provided with eaves tie beams in the longitudinal direction to unify the structural system stability under wind loads.	Insert eaves tie beams at all column-beam joints.	6-months
7	3rd Priority 3 - The steel trusses need to be longitudinally braced to combine the these trusses together to help resist wind loads.	The detailed design of building 8 needs be reviewed to verify the structural stability under wind loads. Bracing will need to be provided in the longitudinal direction.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
8	4th Priority 3 - The steel structures have not been protected with fire proofing. Buildings 2 & 3.	Fire proofing needs to be applied with a minimum of 1-2 hours of resistance, as per the BNBC code requirements.	6-months
9	5th Priority 3 - Produce Loading Plans for each floor of each building.	Produce the Loading plans for each floors of each building.	6-weeks
10	5th Priority 3 - Produce Loading Plans for each floor of each building.	Maintain and enforce the Loading Plans.	6-months