

Masihata Sweaters Ltd (9506)

South Panishail, BKSP, Kashimpur

(+23.993310N, 90.262116E)

09.April.2014



Identified Priority 1 Concerns

Manufacturing building –
columns do not match documentation provided; loading to
be reduced to acceptable stress level



Priority 1 – Major concern

Built in 2002 with brick stone chips , rebar strength was not provided (40ksi assumed)

Column does not reflect information provided on structural drawings which indicated 500mm dia. column with 22-20mm bars.

We surveyed a 450mm dia .column with 14-20mm bars . Two columns were Ferroscored.

Loading on typical column reflects approx 2 kPa, except in one sector where washing machines and other manufacturing equipment may be closer to 3 kPa (min). High brick partitions with plaster on both sides are also found at midspan in certain areas of building

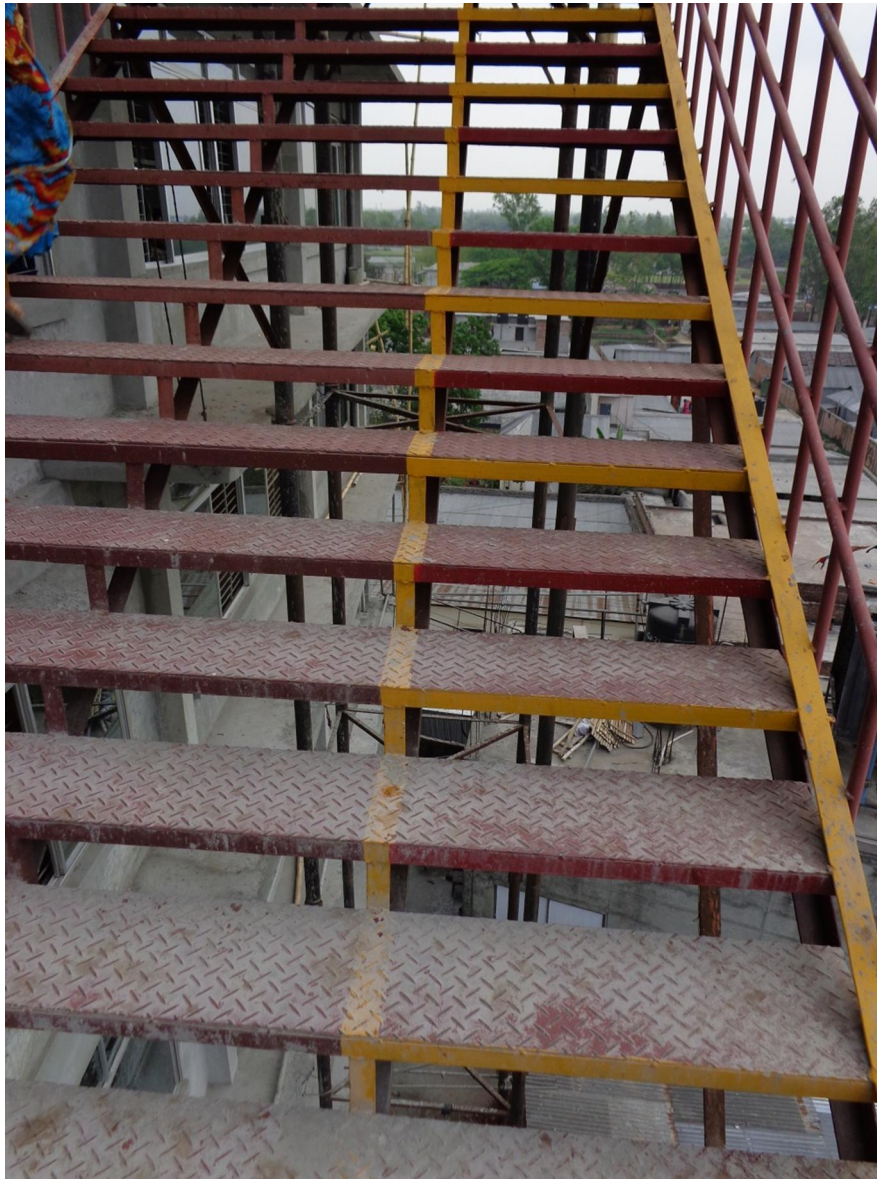
Action is to be taken to reduce loads (Action section)





2nd Priority 1 Concern – Major concern

A stair case is presently being built along side the office building. This staircase is not braced properly and could present signs of instability during high winds. Furthermore, a detail engineering assessment should be carried out to ensure staircase has adequate capacity for live load.



2nd Priority 1 Concern – continued

Structural steel elements of existing staircase seem very slender even though there are restraints. Furthermore, bracing of staircase is to be assessed. The steel kickers do not meet at nodes and may induce unwanted moments.

Identified Priority 2 Concerns



Priority 2 Concern

In the courtyard, there is a shed complex with steel truss roof which, as typically found, are not tied down. Furthermore, lateral stability of these trusses should be assessed. We also found that certain containers were stacked and used as floor space.

Steel work for sheds is to be investigated in a Detail Engineering Assessment

Identified Priority 3 Concerns



No waterproofing membrane was visible on the roof of the building. This means that any cracks in the surface finishes on the roof will allow water to seep into the concrete slab beneath the finishes, and cause long-term soaking of the slab. Same goes for water tanks at roof.

Overall Stability System

Sway stability of building could be expected from rigid frame system (beam and column participation). No ductile detailing is provided in structural plans.

Masonry infill is unrestrained and cannot be considered.

We require that these items be investigated in a Detail Engineering Assessment.

Water Ingress at Roof Level



Priority Actions

Problems Observed Summary

ITEM 1: Priority 1 - Concrete stress due to current loading is greater than 11,2 MPa as per calculation guidelines

ITEM 2: Priority 1 - New exit staircase is poorly detailed and currently unrestrained & existing exit staircase has very slender columns and poor bracing detailing

ITEM 3: Priority 2 - Steel trusses for sheds

ITEM 4: Priority 3 – No waterproofing membrane on the roof

Item 1 and actions

Reduce loading on columns to acceptable stress level

Priority 1 (Immediate – Now)

- the first floor & two others need to be closed down, another floor's load needs to be reduced to just below 2.0kPa and the 5th floor needs to be restricted to no more than 2.0kPa
- Verify in-situ stress and material properties by testing 100mm dia. Concrete cores of 4 columns

Priority 2 (within 6 – weeks)

- Commence Detailed Engineering Assessment
- Create and actively manage loading plan for all floors

Priority 3 (within 6-months)

- none

Item 2 and actions

Steel staircases to be assessed qualified engineer

Priority 1 (Immediate – Now)

- Stabilize new staircase during construction

Priority 2 (within 6 – weeks)

- Carry out a detailed engineering assessment of steel staircases evaluating capacity to gravity and lateral loads

Priority 3 (within 6-months)

- none

Item 3 and actions

Steel works for sheds to be assessed by qualified engineer

Priority 1 (Immediate – Now)

- none

Priority 2 (within 6 – weeks)

- Carry out detailed engineering assessment of steel work for sheds including lateral stability of trusses and tie down details for uplift forces

Priority 3 (within 6-months)

- None

Item 4 and actions

Roof appears not to have any waterproofing system applied.

Priority 1 (Immediate – Now)

- None

Priority 2 (within 6 – weeks)

- None

Priority 3 (within 6-months)

- Consider applying a new waterproofing membrane.