Utah Knitting & Dyeing Ltd #9533

Boran, Monipur, Mirzapur, Gazipur

03.May.2014

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Identified Priority 2 Concerns

Chemical & Sewing Buildings – No loading plan in effect.

Washing Building – Cracks in upstand beams at roof.

1st Priority 2 Concern

As no structural drawings were made available for the Chemical Building and no loading plan is in place for any floors to ensure compliance with actual design loads. Live load should be limited to 2 kPa until an assessment is completed and a loading plan is developed for every floor.

Chemical and Sewing Buildings

2nd Priority 2 Concern

In several upstand beams, cracks are present close to the columns. The capacity of these beams must be checked for flexure and shear by the design engineer

Washing Building

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Identified Priority 3 Concerns

Knitting & Dyeing Building –Bridges between Knitting & Dyeing and Washing Buildings.

Sheds – Roof made of structural steel

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1st Priority 3 Concern

Located between Knitting & Dyeing and Washing Buildings, there are 2 bridges for which we were not provided with drawings. Both bridges do not allow for horizontal movement. Furthermore, the lower bridge seams to frame in the masonry. Factory engineer could not confirm that there was a concrete beam.

Knitting & Dyeing and Washing Buildings

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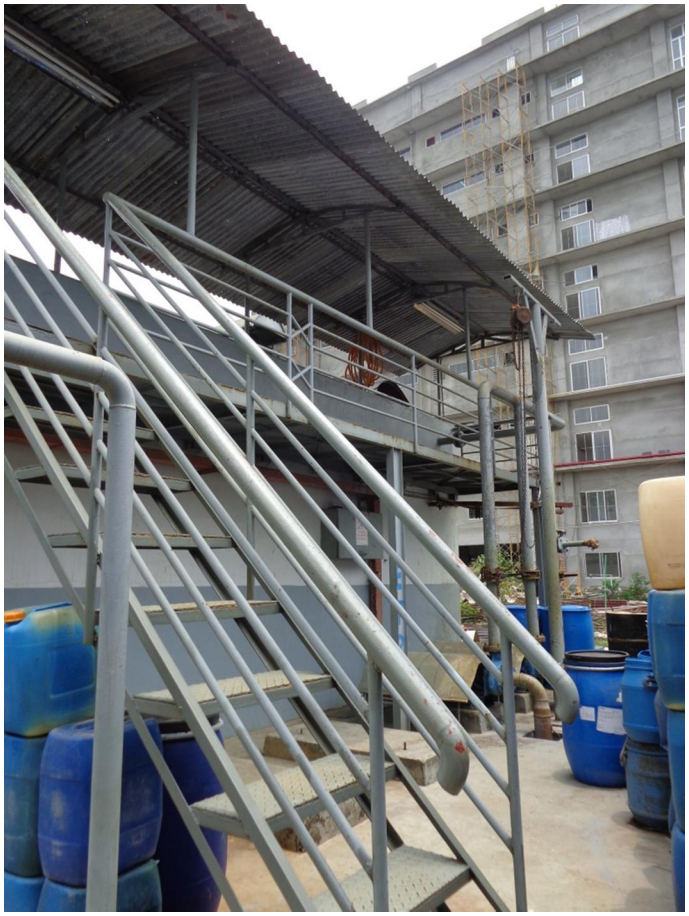
2nd Priority 3 Concern



No drawings were provided for the sheds covering the ETP and Boiler/Generator elements.
A Detailed Engineering Assessment is required for the steel elements of the sheds. This assessment must include lateral stability of the buildings.

Sheds Buildings

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Overall Stability System

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Expected shear concentration at the top of the columns

During our visit, we found that the 4 storey Chemical Storage Building had only one bay, spanning roughly 10m. **We have reasonable doubt that the columns at the ground floor cannot take the added stress due to lateral loads**.

Another important element that can be seen in this photo is the short column condition because of the windows only at the top.

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

Lateral Restraint System
Chemical Building

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For all the other buildings, sway stability of building could probably be expected from rigid frame system (beam and column participation) although 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 immediately

Lateral Restraint System
Other Concrete Buildings

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Water Ingress at Roof Level

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No waterproofing membrane was visible on these roofs. This means that any cracks in the surface finishes on the roof will allow water to seep into the concrete slab and cause long-term soaking of the slab.

Roof Waterproofing System

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Priority Actions

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Problems Observed Summary

ITEM 1: Priority 2 – Washing Building – Cracks in inverted beams at roof.

ITEM 2: Priority 2 – Chemical and Sewing Buildings – There was no loading plan in effect and some moderately heavy storage was observed within the factory.

ITEM 3: Priority 3 – Sheds – Roof made of structural steel.

ITEM 4: Priority 3 – Knitting & Dyeing Building – Bridges between Knitting & Dyeing and Washing Buildings.

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Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Washing Building – Cracks in inverted beams at roof.	Engineer to evaluate flexural and shear capacity of inverted beams at the roof	Immediate – Now
2	Washing Building – Cracks in inverted beams at roof.	Begin any corrective works deemed necessary by the engineering assessment.	6-weeks
3	Chemical and Sewing Buildings – There was no loading plan in effect and some moderately heavy storage was observed within the factory.	Factory engineer to produce and actively manage a loading plan for all floor plates within the factory giving consideration to slab beam, column and foundation capacity	6-weeks
4	Chemical and Sewing Buildings – There was no loading plan in effect and some moderately heavy storage was observed within the factory.	Maintain and manage Loading Plan.	6-months
5	Sheds – Roof made of structural steel.	Carry out a Detail Engineering Assessment of the steel shed structures including lateral stability	6-weeks
6	Sheds – Roof made of structural steel.	Carry out any remedial works deemed necessary by the factory engineer.	6-months
7	Knitting & Dyeing Building – Bridges between Knitting & Dyeing and Washing Buildings.	Carry out a Detail Engineering Assessment of the steel bridges between buildings.	6-weeks
8	Knitting & Dyeing Building – Bridges between Knitting & Dyeing and Washing Buildings.	Carry out any remedial works deemed necessary by the factory engineer.	6-months