T Design Sweaters Ltd.(11247)

Jarun, Konabari, Gazipur

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24.AUGUST.2014

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Identified Priority 1 Concerns

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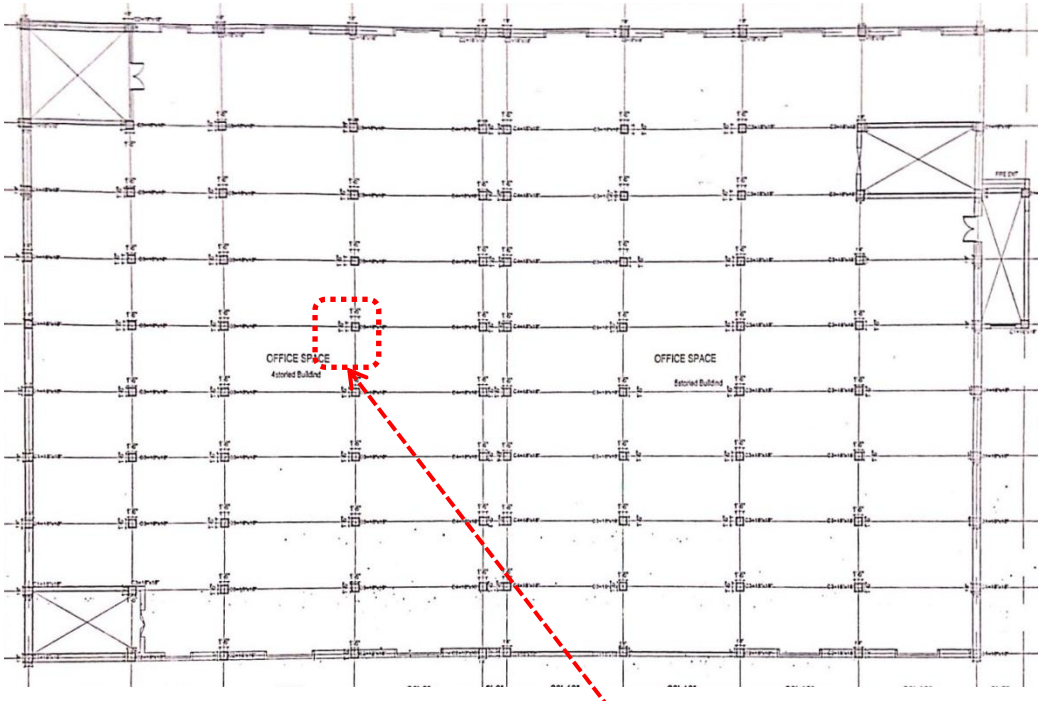
1st Priority 1 Concern



There were no details of the strengthening work (column jacketing) available to review. There appeared to be some confusing aspects; the original column was a stone aggregate concrete column, the jacketing used brick chip aggregate. The jacketed columns need to be checked for full BNBC code compliance as part of a DEA.

Column to be checked

The structural capacity of the columns needs to be careful assessed based on the exact as-built detailed drawings.

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

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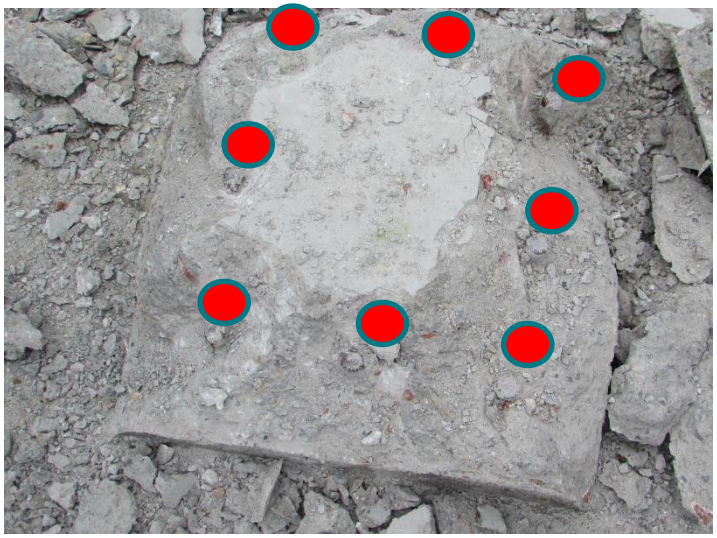
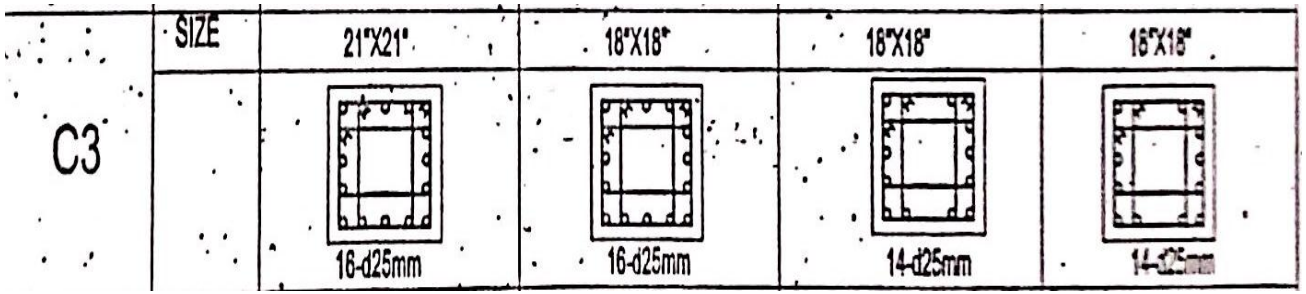
1st Priority 1 Concern



We were informed that column strengthening work has been done. No drawings were provided. The original as-built drawing shows 16 bars in a typical C3 column. On site we found 8 bars in an outer perimeter. A portion of column was further broken down and a further 8 bars were found in an inner perimeter.



There were no drawings for the column strengthening work and the rebar arrangement doesn't match the original as-built drawings.

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Identified Priority 2 Concerns

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1st Priority 2 Concern

Storage was noted on an upper floor of the building. Although the loading was not very heavy, the factory owner wasn't aware of what allowable load his floors could support. It was suggested that Loading Plans should be developed and used.

Loading Plans should be prepared and maintained.

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Identified Priority 3 Concerns

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1st Priority 3 Concern

No waterproofing was present on the roof and the drainage system does not work. Water was ponding.

2nd Priority 3 Concern

Water leaks are visible in places.

3rd Priority 3 Concern

No detailed design was provided for the steel dining shed on the roof.

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4th Priority 3 Concern

Cracks on beams need to be investigated to determine the cause of the cracking.

The structural capacity of this floor also needs to be assessed.

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Overall Stability System

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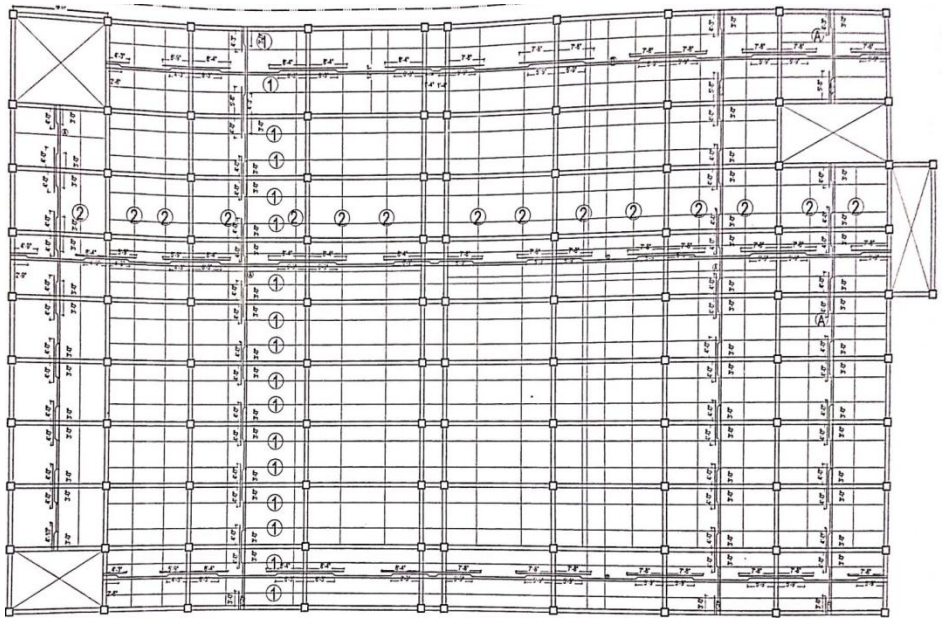
2nd Priority 2 Concern



Typical Framing Layout Plan

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

Slab Thickness 152mm
Original Column Size 340x340mm (typ.)
Jacketed Column Size 457x457mm (typ.)
Beam Size 254x457mm(typ.)

Grid 3.84m x 7.93m.

There were no shear walls to resist the lateral load, the building just relies on the moment frame system. This type of structural should be reviewed and checked carefully under lateral wind and seismic loads.

We require that this item is investigated in a Detailed Engineering Assessment

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Priority Actions

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Problems Observed Summary

ITEM 1: (1st Priority 1) The structural capacity of the strengthened columns need to be careful assessed based on the exact as-built detail drawings.

ITEM 2: (2nd Priority 1) There were no drawings for the column strengthening work and the rebar arrangement doesn't match the original as-built drawings.

ITEM 3: (1st Priority 2) Loading Plans should be prepared and maintained.

ITEM 4: (2nd Priority 2) The Structural Engineer should to analyse and check the overall lateral stability system as part of the DEA.

ITEM 5: (1st Priority 3) No waterproofing was present on the roof and the drainage system does not work. Water was ponding.

ITEM 6: (2nd Priority 3) Water leaks are visible in places.

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Problems Observed Summary

ITEM 7: (3rd Priority 3) No detailed design was provided for the steel dining shed on the roof.

ITEM 8: (4th Priority 3) Cracks on beams need to be investigated to determine the cause of the cracking.

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	1st Priority 1 - The structural capacity of the strengthened columns need to be careful assessed based on the exact as-built detail drawings.	The Structural Engineer, as part of the DEA should investigate and then prepare detail used for the column strengthening work, clearly indicating the rebar arrangement for both the new jacket and the original column.	6-weeks
2	1st Priority 1 - The structural capacity of the strengthened columns need to be careful assessed based on the exact as-built detail drawings.	The structural capacity of the column need to be careful assessed based on what is found. As part of the DEA.	6-months
3	2nd Priority 1 - There were no drawings for the column strengthening work and the rebar arrangement doesn't match the original as-built drawings.	The factory's Structural Engineer is to survey the actual conditions and produce the as-built drawings as early as possible.	6-weeks
4	1st Priority 2 - Loading Plans should be prepared and maintained.	The factory's Engineer is to produce Loading Plans for each floor and ensure full compliance.	6-weeks
5	1st Priority 2 - Loading Plans should be prepared and maintained.	Maintain and enforce the Loading Plans.	6-months
6	2nd Priority 2 - The Structural Engineer should to analyse and check the overall lateral stability system as part of the DEA.	The factory's Structural Engineer is to analyse and check the overall structural stability system under lateral wind and seismic loads. As part of the DEA.	6-weeks
7	2nd Priority 2 - The Structural Engineer should to analyse and check the overall lateral stability system as part of the DEA.	Based on the analysis results, consider strengthening or modification works.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
8	1st Priority 3 - No waterproofing was present on the roof and the drainage system does not work. Water was ponding.	Provide a proper waterproofing layer on the roof. Improve the roof drainage system generally.	6-months
9	2nd Priority 3 - Water leaks are visible in places.	The building façades should be protected with a finish and waterproofing needs to be applied to the roof.	6-months
10	3rd Priority 3 - No detailed design was provided for the steel dining shed on the roof.	The factory's Engineer is to check the detailed design for the steel dining shed on roof top. Carry out any strengthening or modification work as necessary.	6-months
11	4th Priority 3 - Cracks on beams need to be investigated to determine the cause of the cracking.	The cracking on the beams found needs to be investigated to determine the cause. The structural capacity of these floors needs to be assessed.	6-weeks
12	4th Priority 3 - Cracks on beams need to be investigated to determine the cause of the cracking.	Repair and strengthen the slabs locally as necessary.	6-months