

Euro Knitwear Limited

Chowdhury Bari, Vogra, Gazipur, Bangladesh.

(23.980022,90.380673)

23rd August, 2016





Observations



Flat slab vulnerable to punching shear

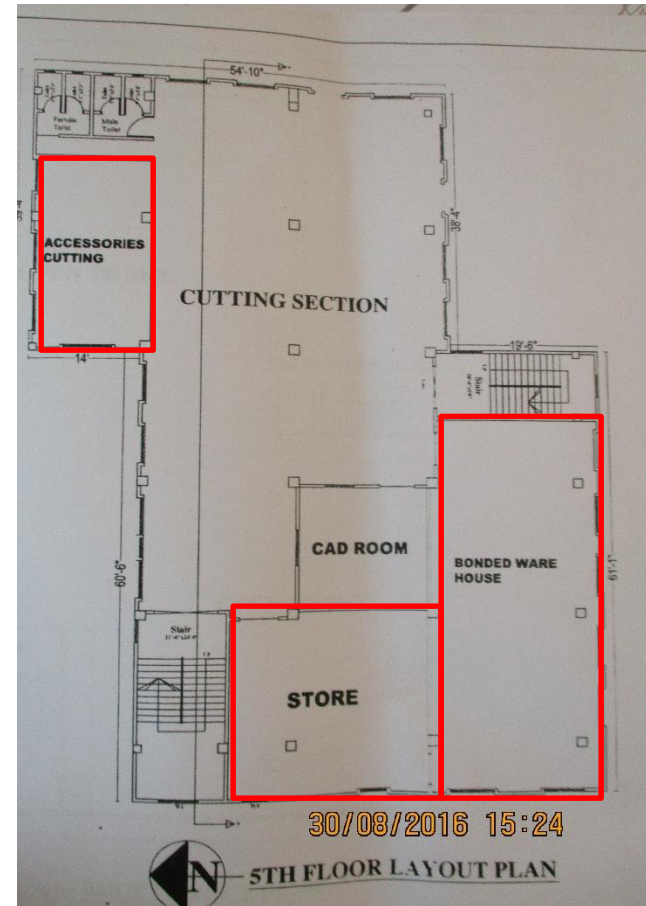


Internal columns have large tributary area but small slab thickness. Loading limit of 42 psf should be maintained until further investigation.

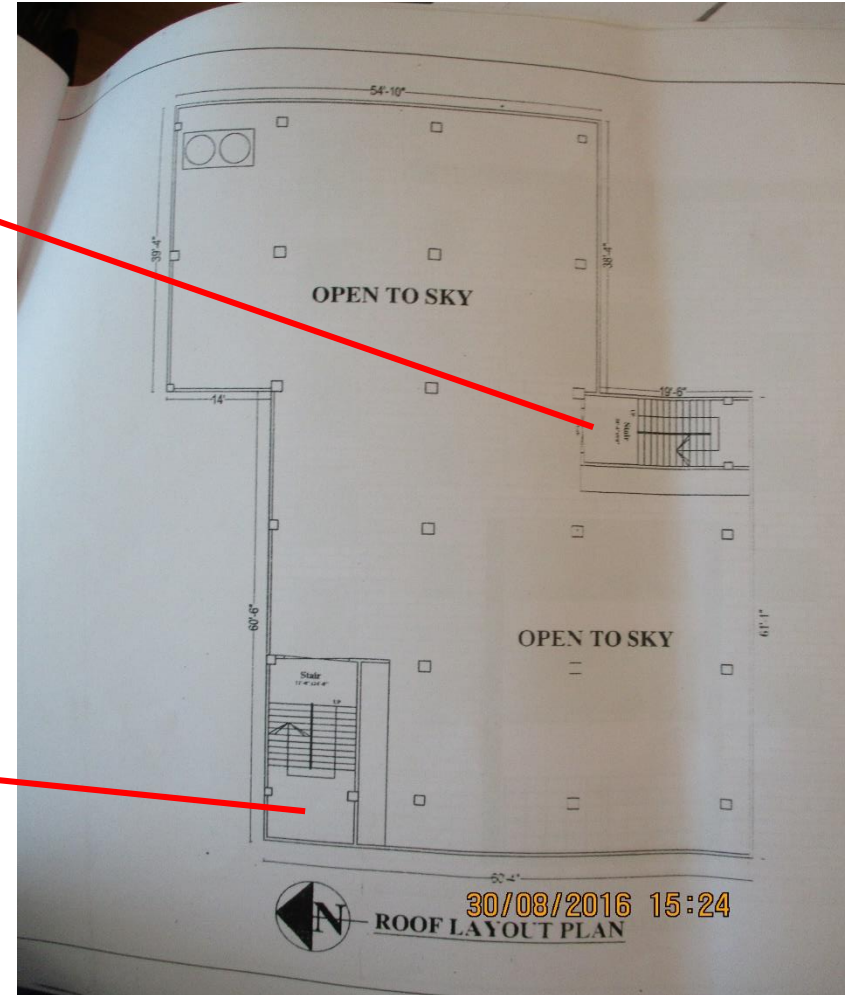
Flat slab vulnerable to punching shear



Localized areas of High Loading



We observed loading was more than 42 psf on storage areas at 5th floor . No load management system was visible.



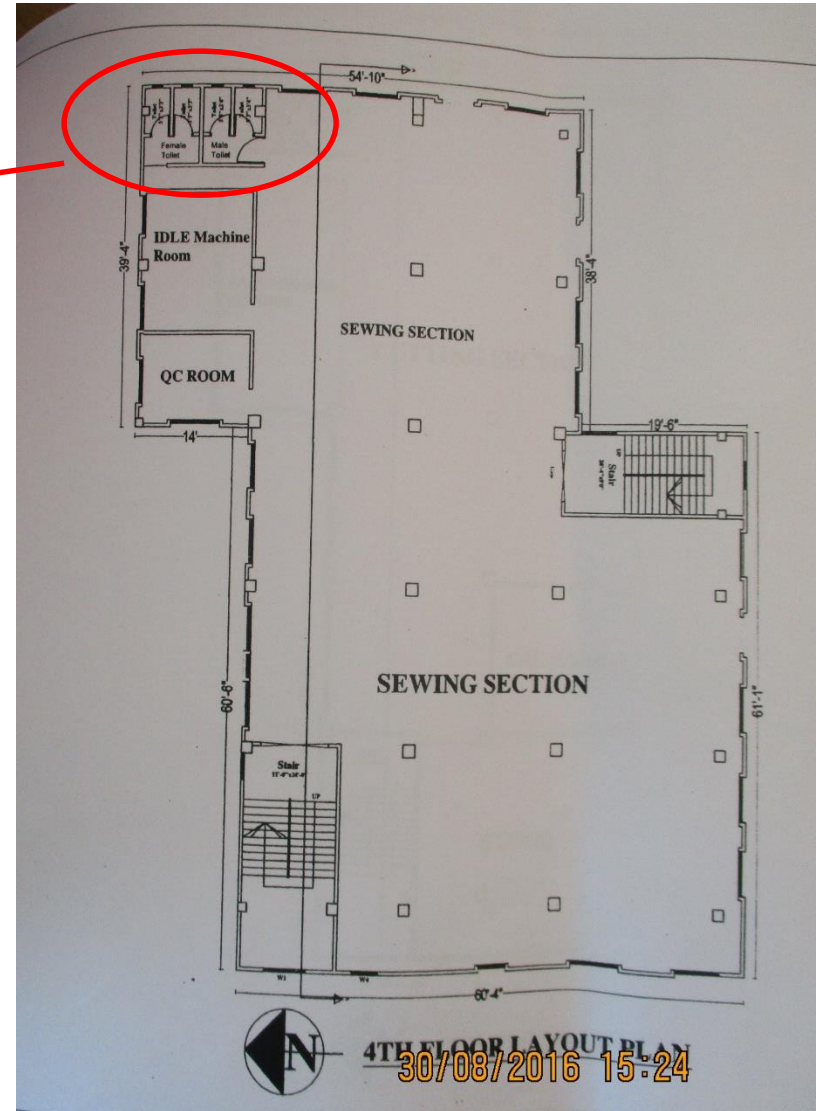
2 plastic water tanks were found on the staircase slab (not shown in the drawings). Factory engineer to verify that the slabs are adequate to carry these point loads.

Localized areas of High Loading



Toilet build up (all floors)

12cm high floor build-up in toilet area supported by concrete slab.
Building Engineer to check that the slab has been adequately designed to carry floor build-up loads



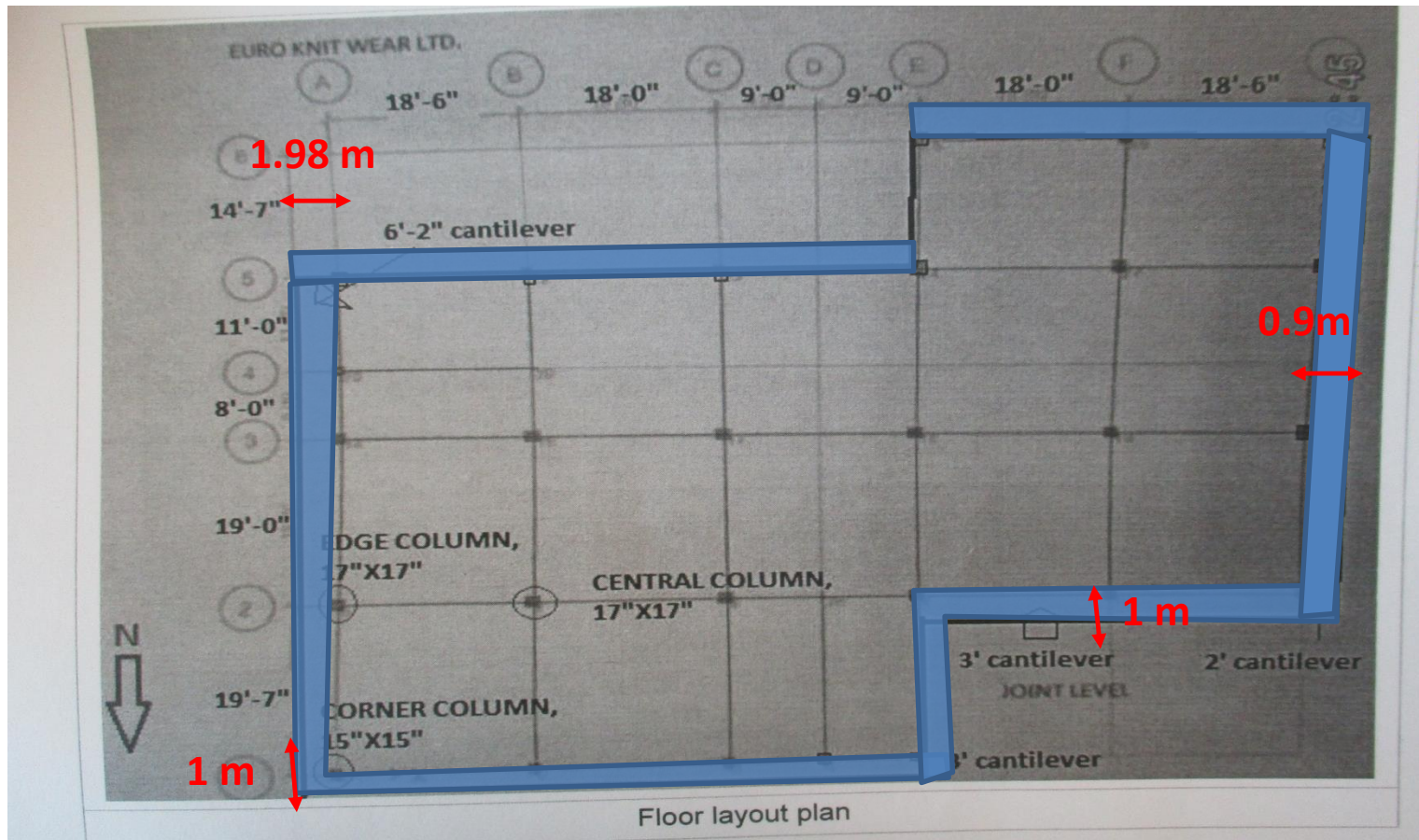
Localized areas of High Loading



Limit density of loading in cantilever areas



 Cantilever portion



Cantilever portions were located along the perimeter of the building.

Limit density of loading in cantilever areas



Storage was observed in cantilever portions. Cursory calculations indicate these regions are prone to excessive deflection. Loading limit of 1 kPa should be until further assessment.

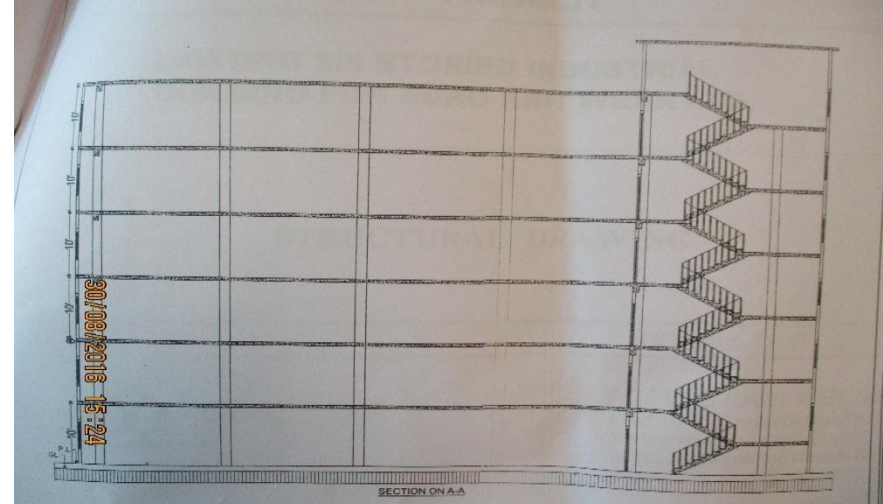
Limit density of loading in cantilever areas



Lateral stability system to be verified



The overall structural arrangement appears not to have any rational form of lateral stability system to resist lateral loads. A lateral load analysis is required to be carried out.



The increase of shear stress to the flat slabs due to these lateral loads also needs to be assessed.



No Water proofing membrane was provided



No water proofing membrane on roof top



Sign of standing water was visible

No Water proofing membrane was provided



Problems Observed

Item 1: Flat slab vulnerable to punching shear

Item 2: Localized areas of high loading

Item 3: Limit density of loading in cantilever areas

Item 4: Lateral stability system to be verified

Item 5: No Water proofing membrane was provided



Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Flat slab vulnerable to punching shear	Reduce loading to 2 kPa (42psf) on all span of all floors pending the outcome of assessment.	Immediate - Now
2	Flat slab vulnerable to punching shear	Factory Engineer to review the safe load limit and carry out punching shear checks. Allowable floor loading plans to be prepared to establish where storage loads may be placed.	6-weeks
3	Flat slab vulnerable to punching shear	Implement remedial measures which will be the outcome of assessment	6-months
4	Flat slab vulnerable to punching shear	Regular inspection of load management	6-months
5	Localized areas of high loading	Reduce loading to 2 kPa (42psf) on all span of all floors pending the outcome of assessment.	Immediate - Now
6	Localized areas of high loading	Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.	6-weeks
7	Localized areas of high loading	Post load plans on all floors	6-weeks
8	Localized areas of high loading	Provide load markings on all storage areas	6-weeks
9	Localized areas of high loading	Continue to implement load plan.	6-months



Item No.	Observation	Recommended Action Plan	Recommended Timeline
10	Limit density of loading in cantilever areas	Limit loading on cantilever portions to 1 kPa (21 psf) pending the outcome of assessment.	Immediate - Now
11	Limit density of loading in cantilever areas	Factory engineer to assess the capacity of cantilever slabs and check whether the deflection is within the limit.	6-weeks
12	Limit density of loading in cantilever areas	Produce and actively manage a loading plan for all cantilever areas.	6-weeks
13	Limit density of loading in cantilever areas	Carry out remedial works suggested in the assessment report.	6-months
14	Limit density of loading in cantilever areas	Continue to implement load plan.	6-months
15	Lateral stability system to be verified	Factory Engineer to check the overall structural system under lateral loads to verify structural safety as part of the assessment report.	6-weeks
16	Lateral stability system to be verified	Depending on the outcome of the EA report, consider strengthening or modification works.	6-months
17	No Water proofing membrane was provided	Provide the waterproofing layer or provide proper slope so that water do not stand on roof.	6-months