

AKH Knitting & Dyeing Ltd.

92, Phulbaria, Tetuljhora, Savar-1347, Dhaka.
(23.80997 N, 90.248941 E)

19th March 2014

18th March 2015



Observations Made

Roof Bracing in Dining Area of Building 7



Bracing elements are slack and should be tightened to ensure they are functioning correctly.

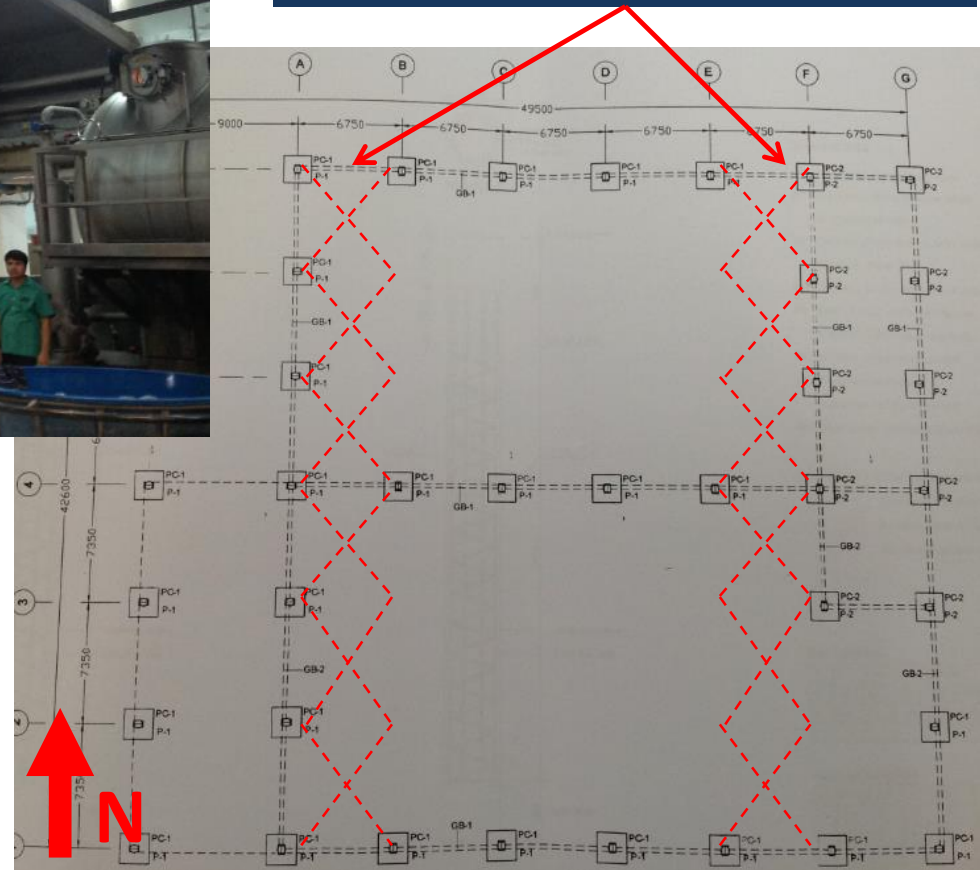
Roof Bracing in Dining Area of Building 7

Dyeing Shed stability system



Cable bracing elements are provided to resist forces in the North-South direction, vertical bracing not continuous to ground in places.

No apparent bracing to resist forces in the East-West direction. Structure stability should be checked for lateral loads.



Dyeing Shed stability system

Walkway from Building 8 into Dyeing Shed



No drawings or design was provided for the 16m walkway from the Production Building 8 to the Dyeing Shed.

Walkway from Building 8 into Dyeing Shed

Steel Stairs in Building 8



An internal steel stairs in Building 8 cannot be used as a fire escape as it does not lead people safely outside the building. The stairs goes from 5th Floor to 1st Floor.

Steel Stairs in Building 8

Priority Actions

Problems Observed

1. Roof Bracing in Dining Area of Offices (Building 7)
2. Dyeing Shed (Building 3) stability system
3. Walkway from Production Building (Building 8) into Dyeing Shed (Building 3)
4. Steel Stairs in Production Building (Building 8)

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Roof Bracing in Dining Area of Offices (Building 7)	Re-tighten all horizontal bracing elements in the Roof Structure for the Dining Area of Building 7.	6-weeks
2	Roof Bracing in Dining Area of Offices (Building 7)	Continue to Implement Load Plan.	6-months
3	Roof Bracing in Dining Area of Offices (Building 7)	If bracing elements slacken again, re-tighten accordingly.	6-months
4	Dyeing Shed (Building 3) stability system	Review the stability calculations for the Dyeing Shed to ensure it is a robust structure in both directions.	6-weeks
5	Dyeing Shed (Building 3) stability system	Continue implementing load plan.	6-months

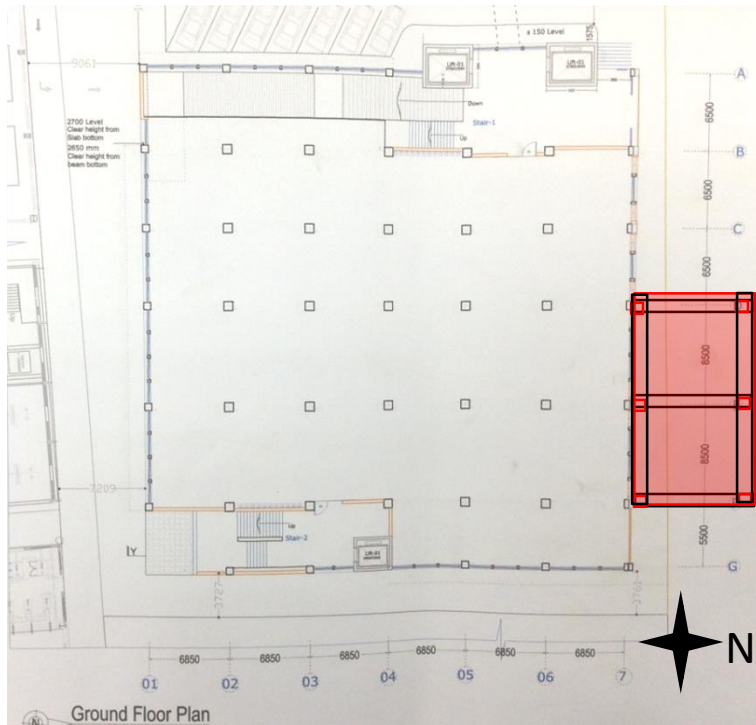
Item No.	Observation	Recommended Action Plan	Recommended Timeline
6	Walkway from Production Building (Building 8) into Dyeing Shed (Building 3)	Review the drawings and calculations for the walkway from Building 8 to Building 3.	6-weeks
7	Walkway from Production Building (Building 8) into Dyeing Shed (Building 3)	Check the impact this walkway has on the Building 8 RC structure and provide calculations.	6-weeks
8	Walkway from Production Building (Building 8) into Dyeing Shed (Building 3)	Create a loading plan for the maximum load this walkway can carry.	6-weeks
9	Walkway from Production Building (Building 8) into Dyeing Shed (Building 3)	Continue implementing load plan.	6-months
10	Steel Stairs in Building 8 does not safely lead people outside and should not be marked as a Fire Escape route.	Clearly label this stairs as an internal stairs only, and not a fire escape.	6-months

AKH Knitting & Dyeing - Building 9

18th March 2015

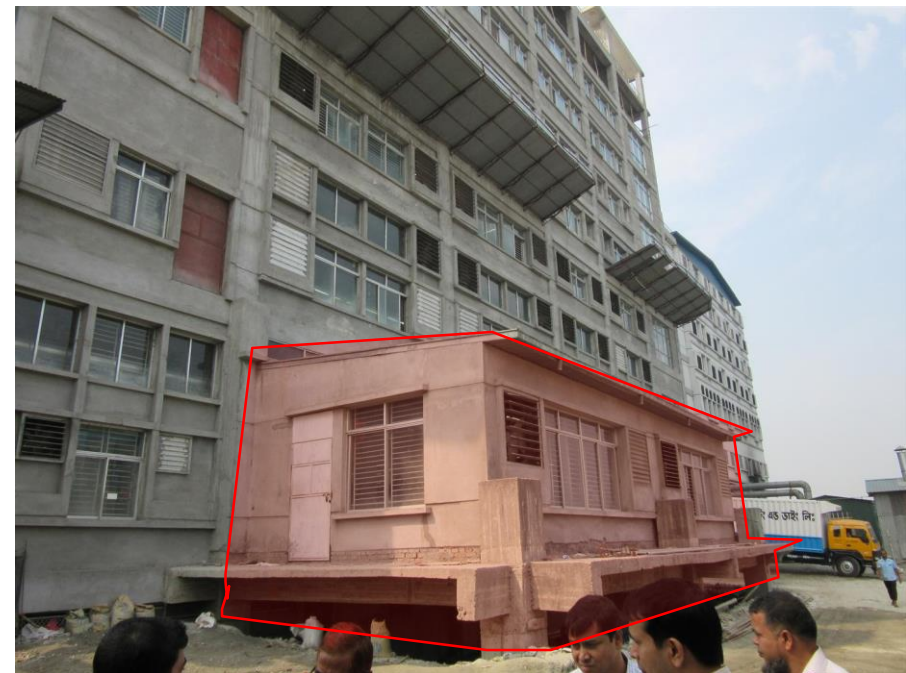
Building Observations

Undocumented horizontal extension on the ground floor



Location of extension

- Horizontal single storey extension to building on the ground floor
- No additional loads added to primary structure, as expansion joint was observed between the columns
- Building documentation to be updated to reflect this additional structure



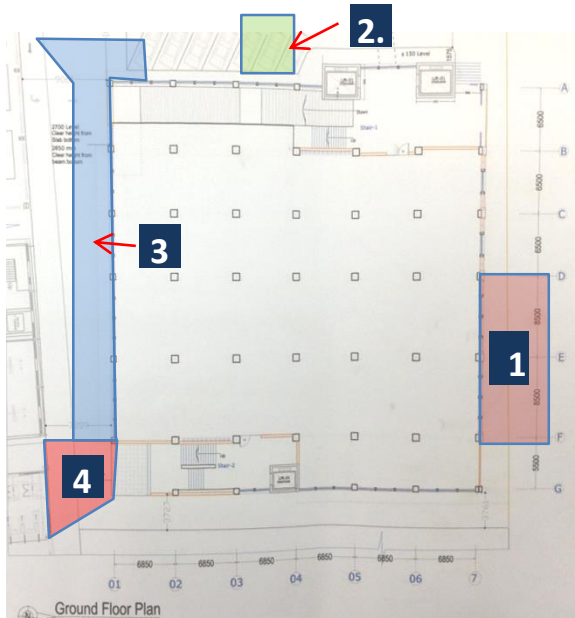
Single Storey Extension on north side of building



Double column and separation joint between the 2 structures

Cracking in Structural Elements

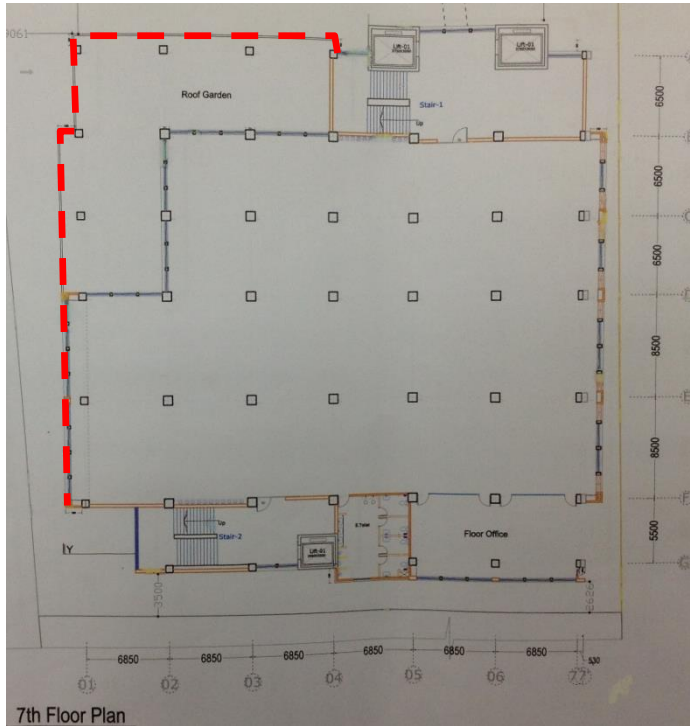
Apparently non-engineered steel roof structures



- Non-engineered roof structure without bracing system.
- Roof structures subject to uplift in high winds.
- Factory Engineer to assess roof structure for vertical (including uplift) and lateral loads.



(Non-structural Observation)
Limited edge protection on the 7th floor



- Low parapet around future roof garden providing insufficient fall protection.

(Non-structural Observation)

Limited edge protection on the 7th floor

Priority Actions

Problems Observed

1. Undocumented ground floor extension.
2. Apparently non-engineered steel roof structures.

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Undocumented ground floor extension	Building drawings to be updated to match as-built structure.	6-months
2	Apparently non-engineered steel roof structures	Building Engineer to perform design check for lightweight steel roofs, including lateral stability and uplift in high winds.	6-months
3	Apparently non-engineered steel roof structures	Main Building structure to be assessed for additional loading from roof extensions where applicable (e.g. South Extension)	6-months