

A.G. Dresses Ltd, Pinaki Garments Ltd, Pinaki Seha Industries Ltd, Seha International Bangladesh Ltd.

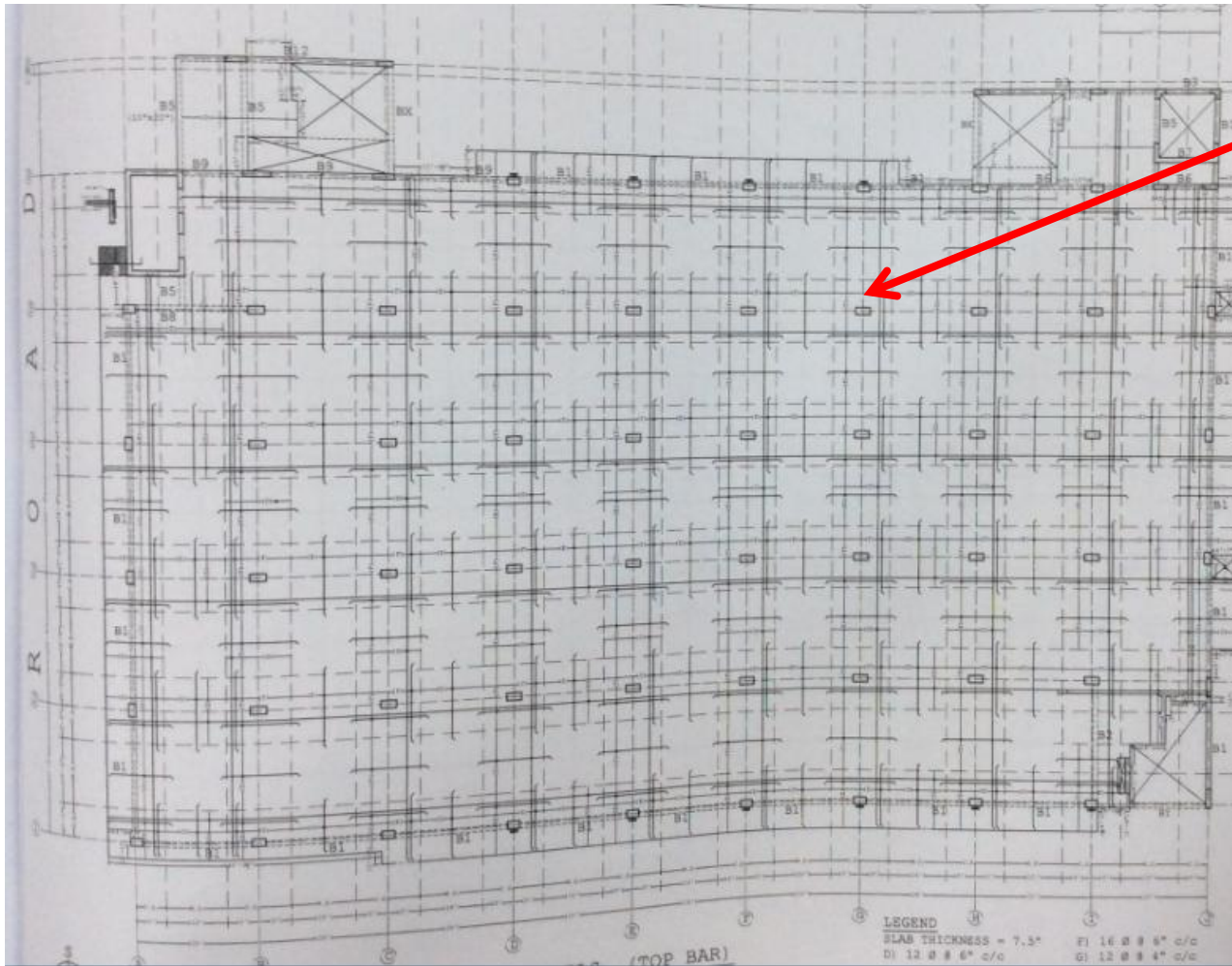
Plot-9 Block-C Tongi Industrial Area, Haimardighi, Tongi Gazipur
(23.899N, 90.405E)

1st March 2014



Observations

Flat Slab Design



Cursory Calculations indicate high shear stress at column heads.

Shear reinforcement not indicated on the drawings presented for inspection.

Building Engineer to check punching shear for the slab at all levels



Flat Slab Design

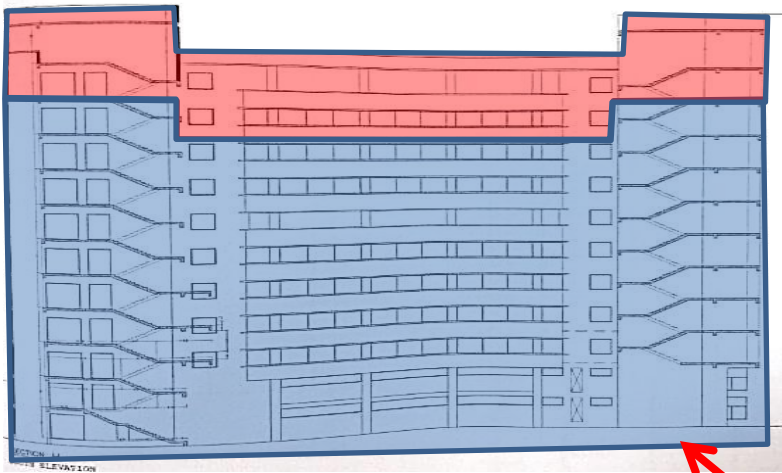
Limit density of loading in Storage Areas



Storage height restrictions (red line marking) to be checked by building engineer to ensure storage does not exceed the maximum design loading.

Material stacked to to approx 2m in height in mezzanine area

Future Extension – Column Strength



The Building is currently 8 storeys. Stub column reinforcement at roof level and continuity reinforcement in stair cores indicate that there is potential for future vertical extension of the building.

Further extension of the building should not be carried out without a detailed engineering assessment and testing of the concrete in the vertical load bearing elements



Future Extension – Column Strength

Slender Columns under Stair Core



The columns supporting the stair core to the south east corner of the building appear to be very slender.

Column size: 1000 x 240 mm

Span: Approximately 6 m (gr. floor to level 2)

Column unrestrained by shed building at ground level

Risk of accidental damage from potential vehicle impact



Slender Columns

Heavy Water Tanks on Roof Slab



Heavy Water tanks on Roof Slab

Building Engineer to check that beam and slab have been designed to accommodate loads.

3000 litre Fire water tanks



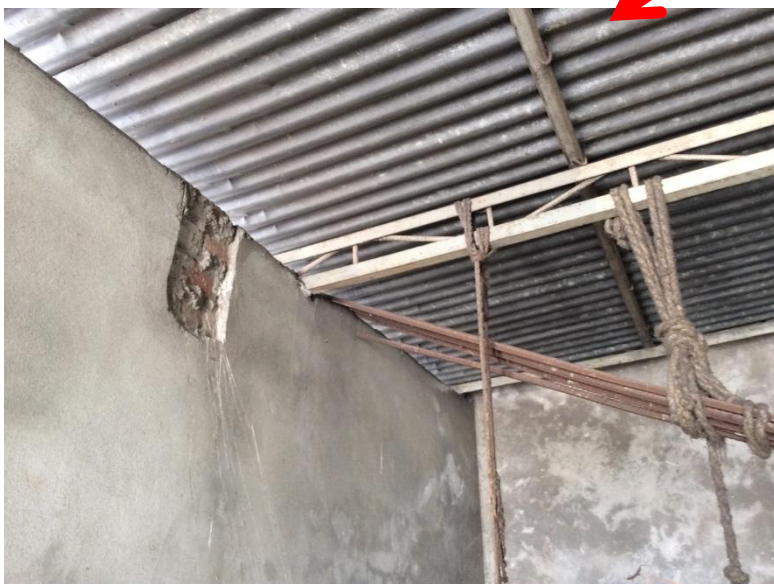
Heavy Water Tanks on Roof Slab

Temporary Construction Level 8 above Stair cores



Reinforcement for new staircore beam and stairs for future extension exposed. Inadequate edge protection to stairs

Lightweight temporary roof subject to uplift under heavy wind loading



Area to be made safe and cordoned off for access with handrails installed for safety. Temporary roof to be assessed by Building Engineer and adequate tie downs installed.

Priority Actions

Problems Observed

1. Flat slab design
2. Storage loading
3. Concrete strengths
4. Slender columns under Stair core
5. Water tanks on roof
6. Construction to top of stair core – incomplete & unsafe

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Flat slab design	Engineer to carry out punching shear calculation check on the building floor slabs.	6-weeks
2	Flat slab design	Floor Loading plans to be created to indicate safe storage and building live load based on calculations (See item 4 below)	6-weeks
3	Storage loading	Storage height restrictions (red line marking) to be checked by building engineer , with consideration to the density of material being stored, to ensure storage does not exceed the maximum design loading	6-weeks
4	Storage loading	Building Engineer to create controlled loading plans for all floors.	6-months
5	Verify concrete strengths in internal columns at Ground Floor	Factory Engineer to review design, loads and columns stresses in area identified above.	6-months
6	Verify concrete strengths in internal columns at Ground Floor	Verify insitu concrete stresses either by cores (min of 4 no. 100mm dia. Cores)or existing cylinder strength data	6-months
7	Verify concrete strengths in internal columns at Ground Floor	Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
8	Slender columns under Stair core	Design check of 2 external columns supporting stair core to be carried out by the building engineer.	6-months
9	Slender columns under Stair core	Additional protection measures such as a barrier to be installed to reduce accidental impact risk	6-months
10	Water tank on roof	Building Engineer to check that slab has sufficient capacity to support fully filled water tanks. Punching shear at column heads to be checked (refer item 1 above)	6-weeks
11	Water tank on roof	Relocate tanks if necessary	6-weeks
12	Construction of top of stair core –incomplete & unsafe	Area to be made safe and cordoned off for access with handrails installed for safety.	6-weeks
13	Construction of top of stair core –incomplete & unsafe	Temporary roof to be assessed by Building Engineer and adequate tie downs installed.	6-months