

Fame Sweaters Ltd. SS Sweaters Ltd.

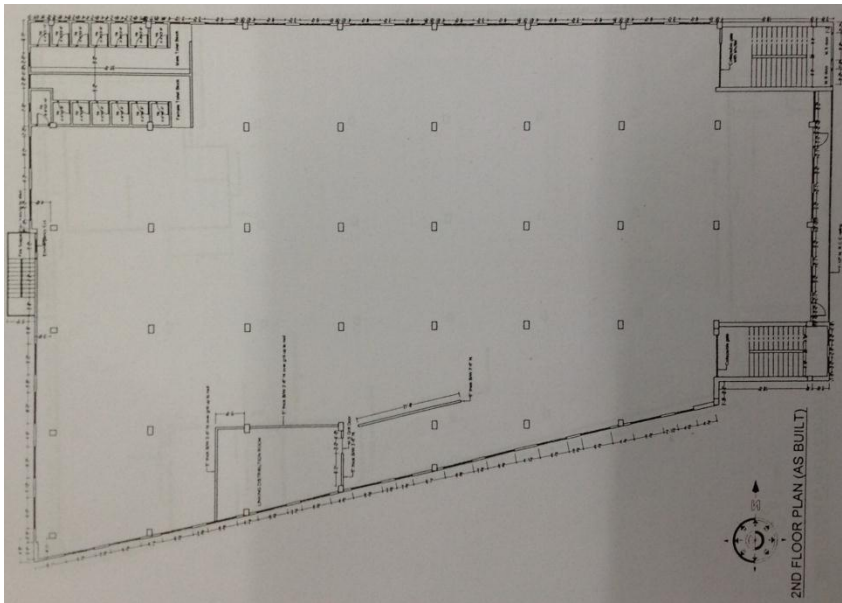
Holding-124,Darail, Sataish bazar, Tongi; Gazipur, Dhaka
(23.91601N, 90.36467E)

05 March 2014



Observations

Columns at 2nd floor appear to be stressed in excess of normal design limits



Column layout



Column strengthening works at Ground Floor

Cursory calculations indicate that the working stress in internal and perimeter columns is at a high level at ground floor level and 1st floor. Remedial works, designed by others, are on-going at ground and 1st floor level to strengthen columns.

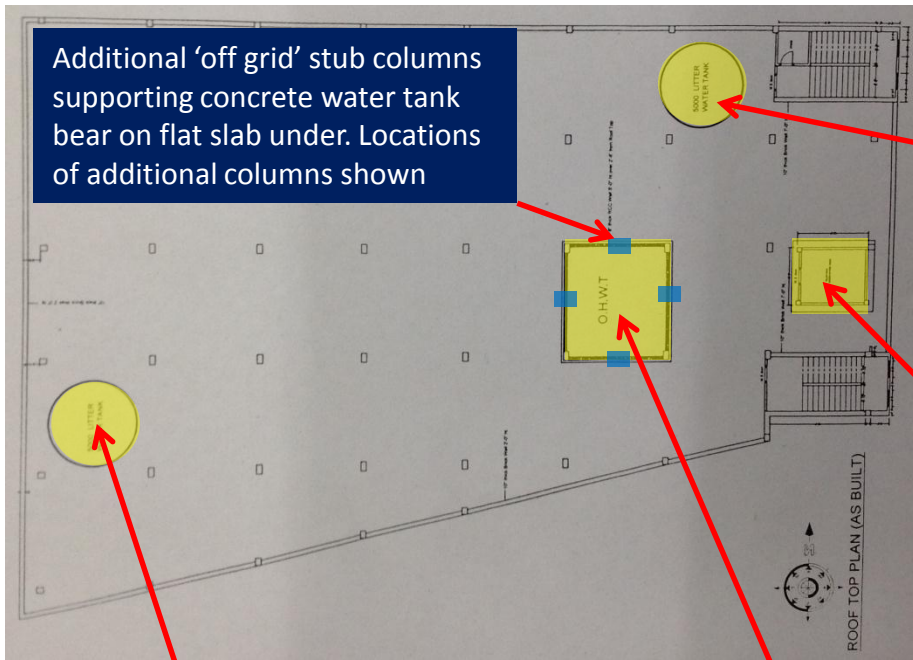
Cursory calculations indicate that columns at 2nd floor level are also stressed above normal design levels.

Building Engineer is to perform detailed calculations based on as constructed dimensions and concrete tests to prove column size and (if required) :

- Reduce loads by vacating floors and removing additional structures
- Reinforce columns

Structural adequacy of concrete roof slab and columns to support antenna house, plastic water tanks and concrete water tank

Additional 'off grid' stub columns supporting concrete water tank bear on flat slab under. Locations of additional columns shown



5000l Plastic Water Tank



Roof Antenna House

Building Engineer to check that concrete roof slab and columns have been designed to support loads from Antenna house and water tanks.



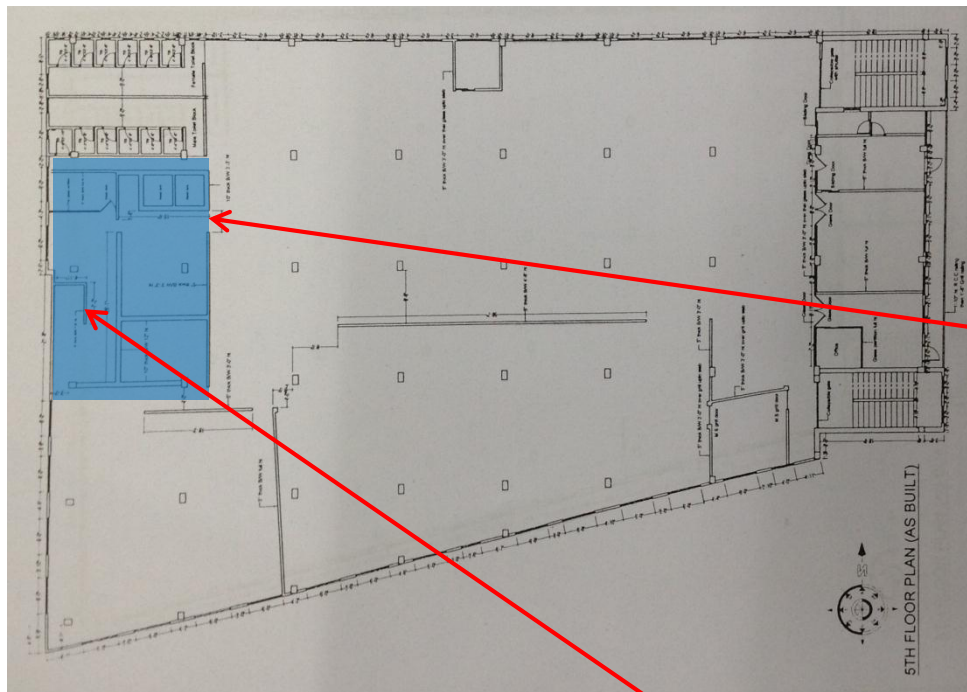
5000l Plastic Water Tank



6.6m x 6m x 1.45m Concrete Water Tank

High Loading on Roof

Design check required for dryer equipment loads on 5th floor and Knitting Distribution loads on 2nd and 3rd Floors



High loading (Concrete water tank and plinth)

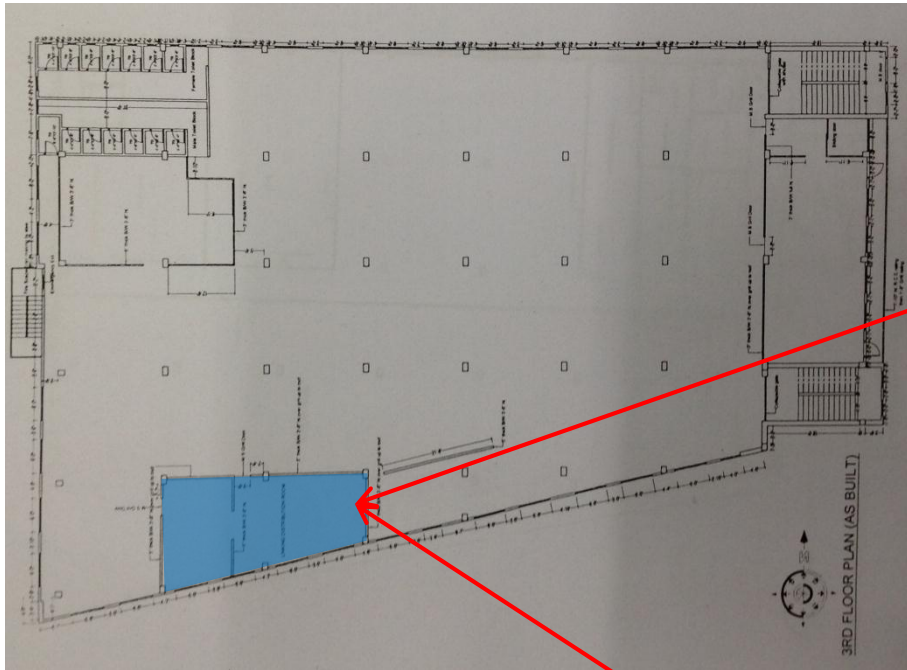
High loading due to dryers,
concrete plinth and concrete
water tank in area shown

Capacity of concrete beams
and floor slab to be confirmed
by Building Engineer



High loading (Dryers and plinth)

Dryer Equipment Loading on 5th Floor



Storage loading (Knitting Distribution Area)

Loading due to storage of garments in the knitting distribution area

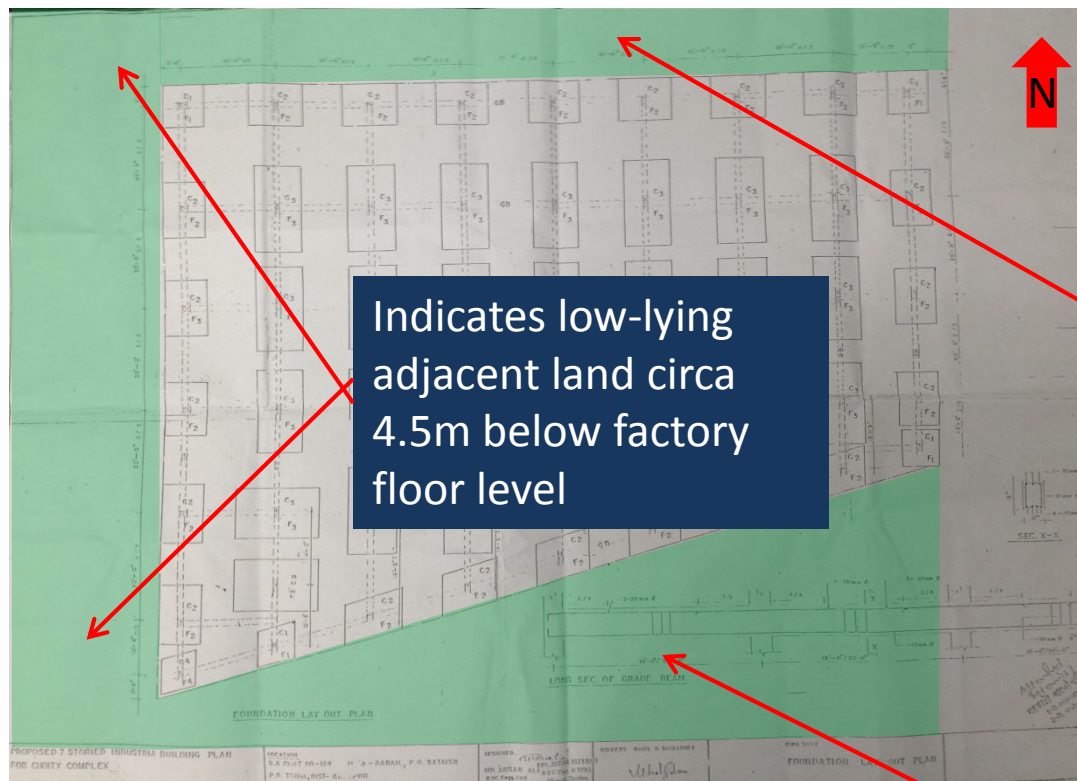
Capacity of concrete beams and floor slab to be confirmed by Building Engineer



Storage loading (Knitting Distribution Area)

Knitting Distribution Loads on 2nd and 3rd Floor

Confirmation required that perimeter column foundations are at an appropriate depth to ensure load distribution



Low-lying adjacent land

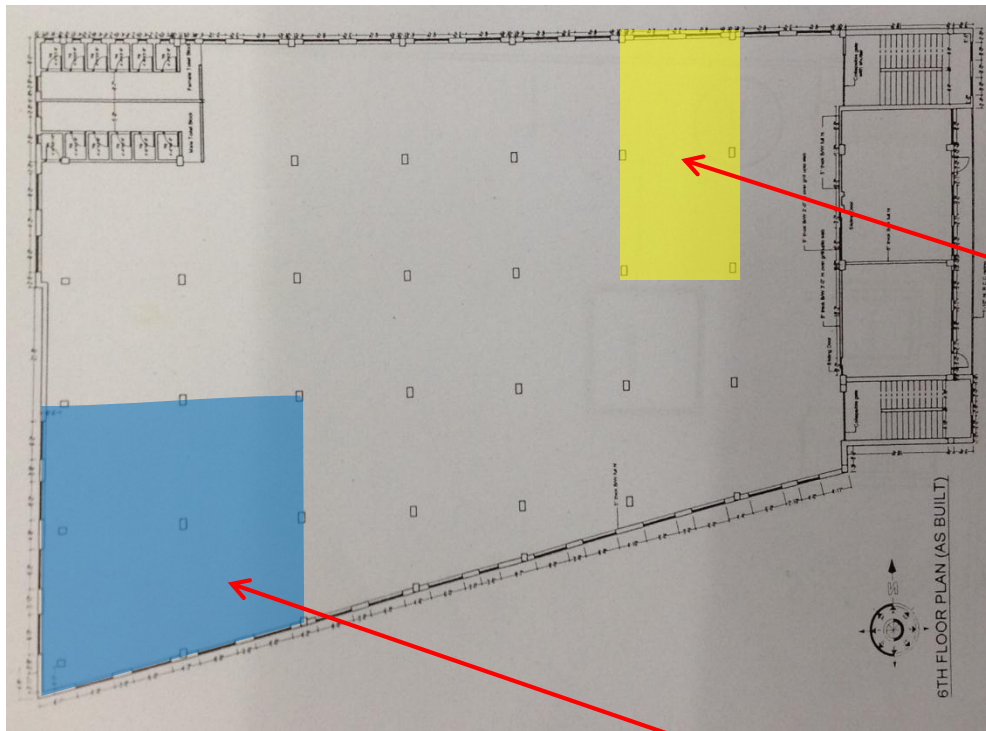
Level of perimeter pad foundations to be confirmed by Building Engineer - at sufficient depth below ground level to ensure adequate load distribution due to difference in level between ground floor and adjacent land



Low-lying adjacent land

Pad Foundations Load Spread

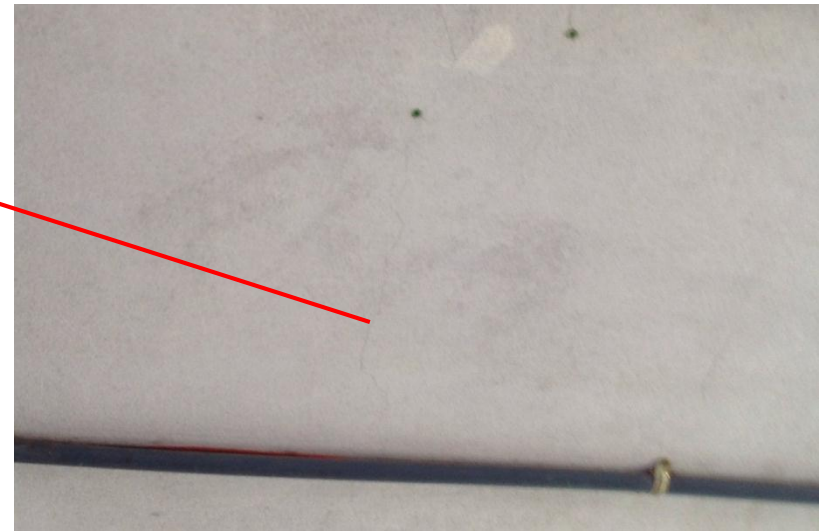
Cracking to underside of 6th floor and roof slabs



Locations of observed cracks

Cracking in soffit of flat slab to be reviewed by removing plaster to confirm that cracks do not extend into structure.

Building Engineer to confirm flat slab imposed design load capacity.



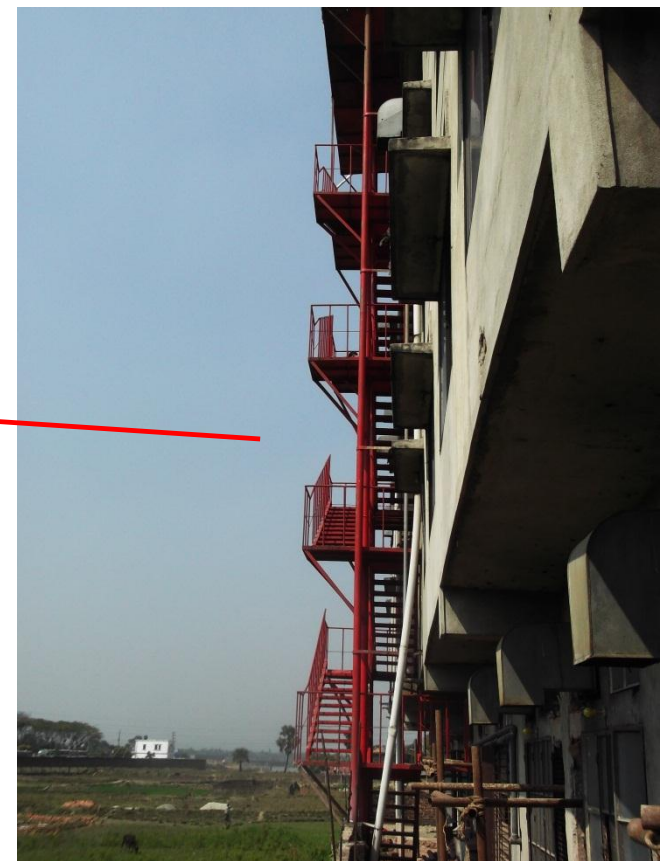
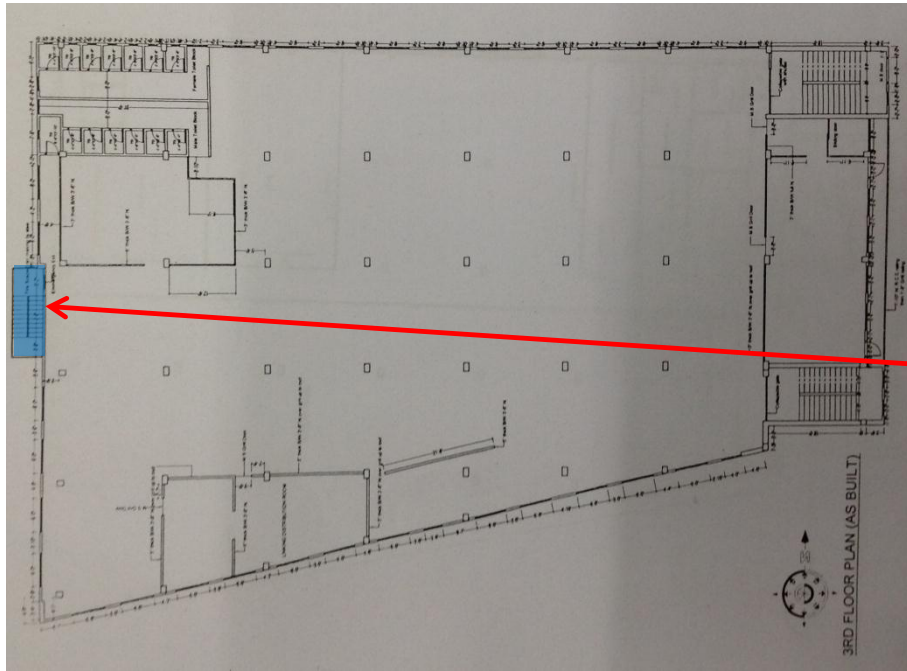
6th floor slab soffit-observed cracks



Roof slab soffit-observed cracks

Cracks in Soffit of Flat Slab

Design check on external steel stairs



External Stairs



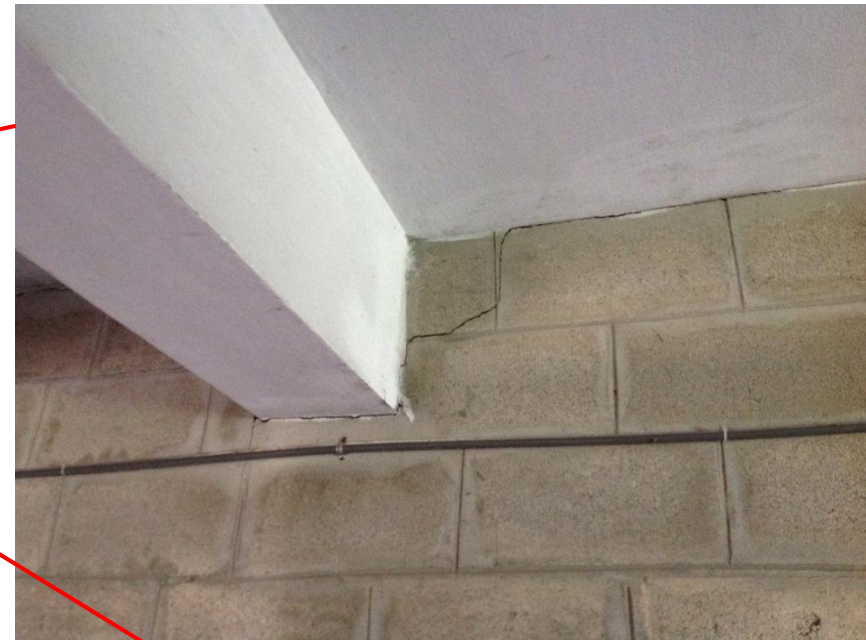
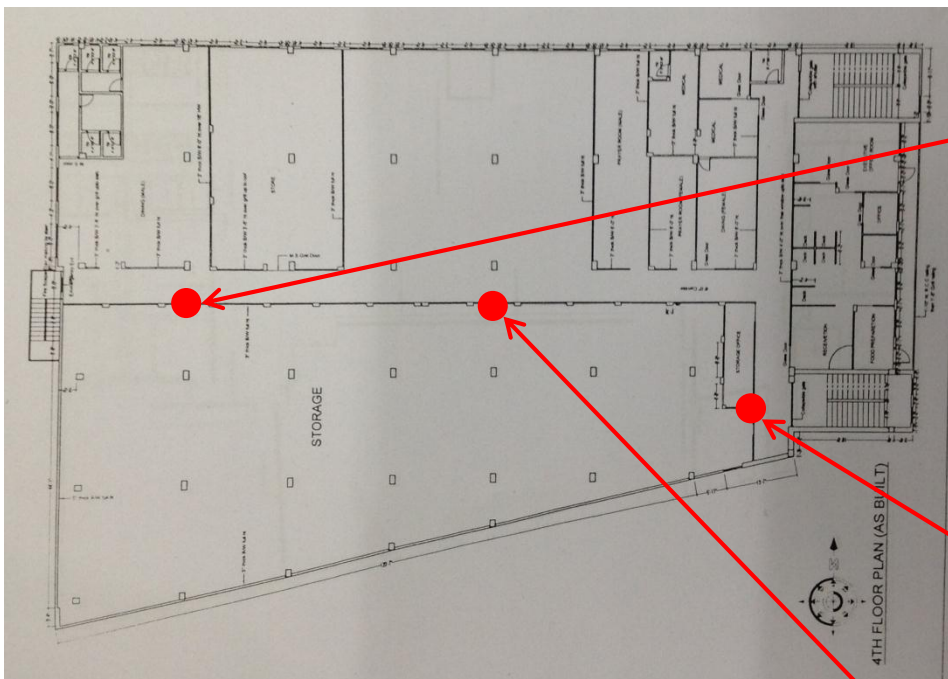
Difference in ground levels – 4.5m

Design of external steel stairs to be checked by Building Engineer for crowd loading.

Level of stair foundations to be confirmed to be at sufficient depth below ground level to ensure adequate load distribution due to difference in level between ground floor and adjacent land.

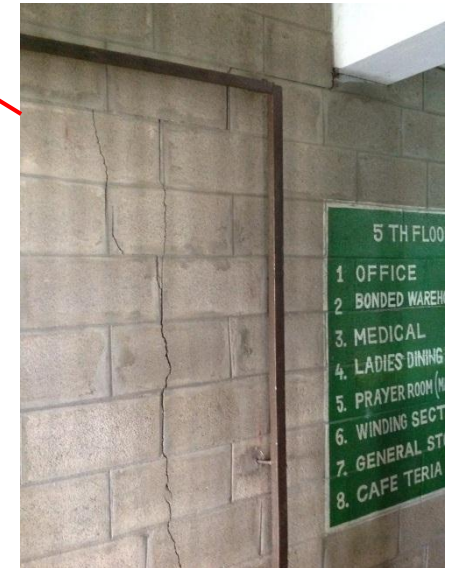
External steel stairs design check

Cracking in internal brickwork walls at 4th Floor level and within northern stairs



Locations of observed cracks

Evidence of cracking in brickwork partitions on 4th floor



Cracks in brickwork 4th Floor

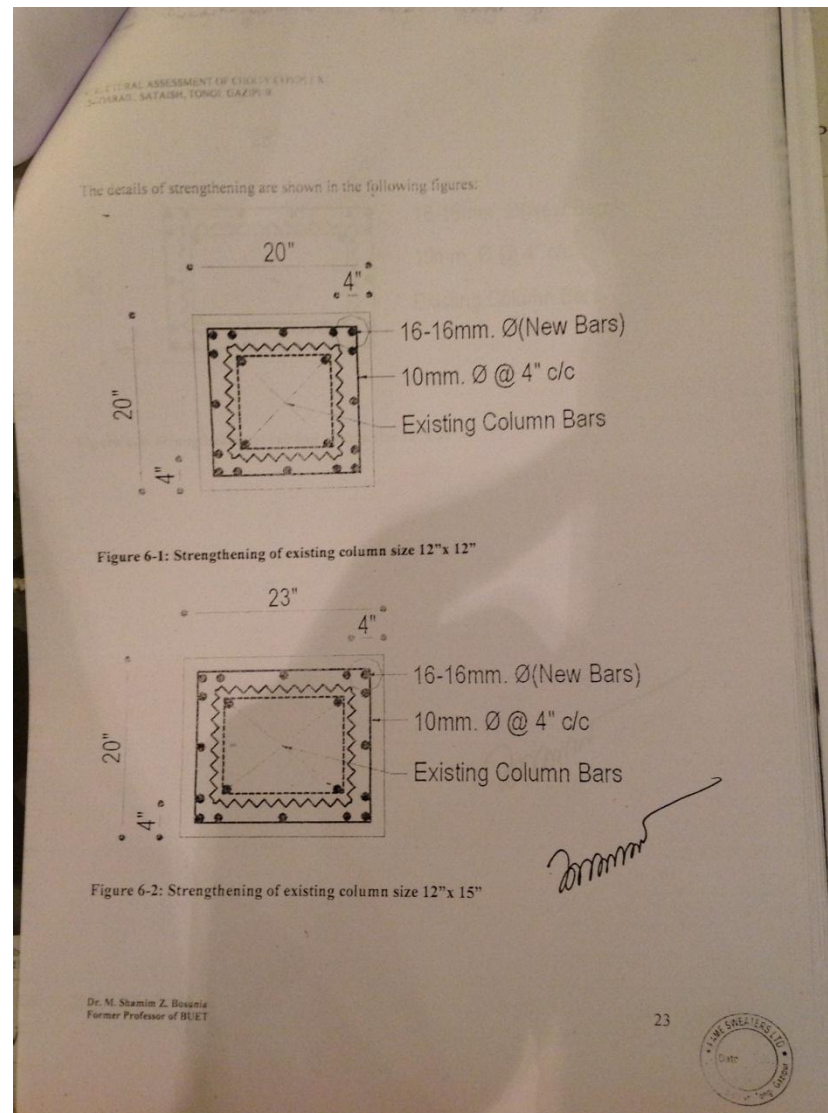
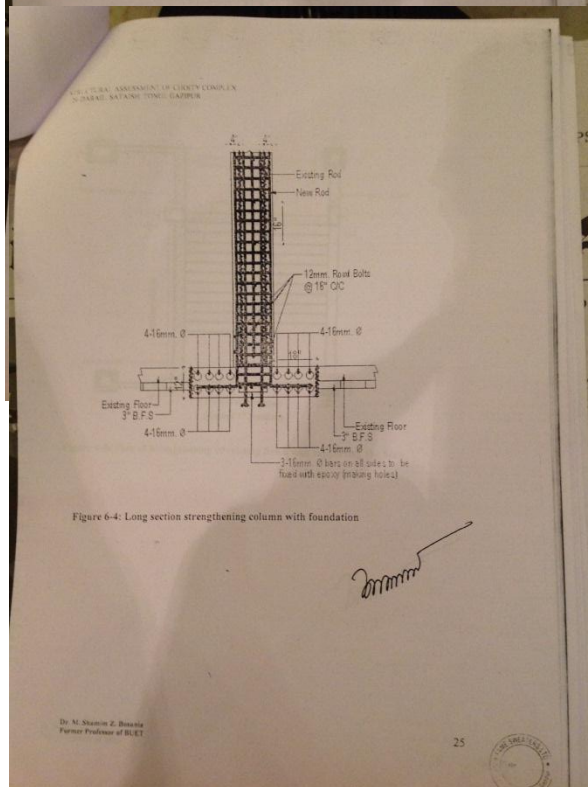
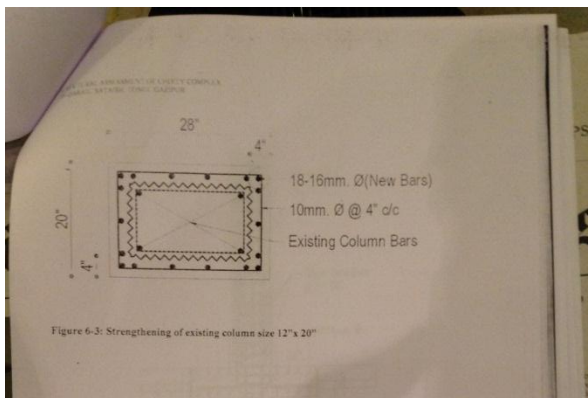


Evidence of repairs to
cracking in brickwork
within stairs



Cracks in brickwork - Stairs

Strengthening works in progress



Strengthening Works – Design Sketches



Typical Column Plan



Strengthened column



First floor soffit level

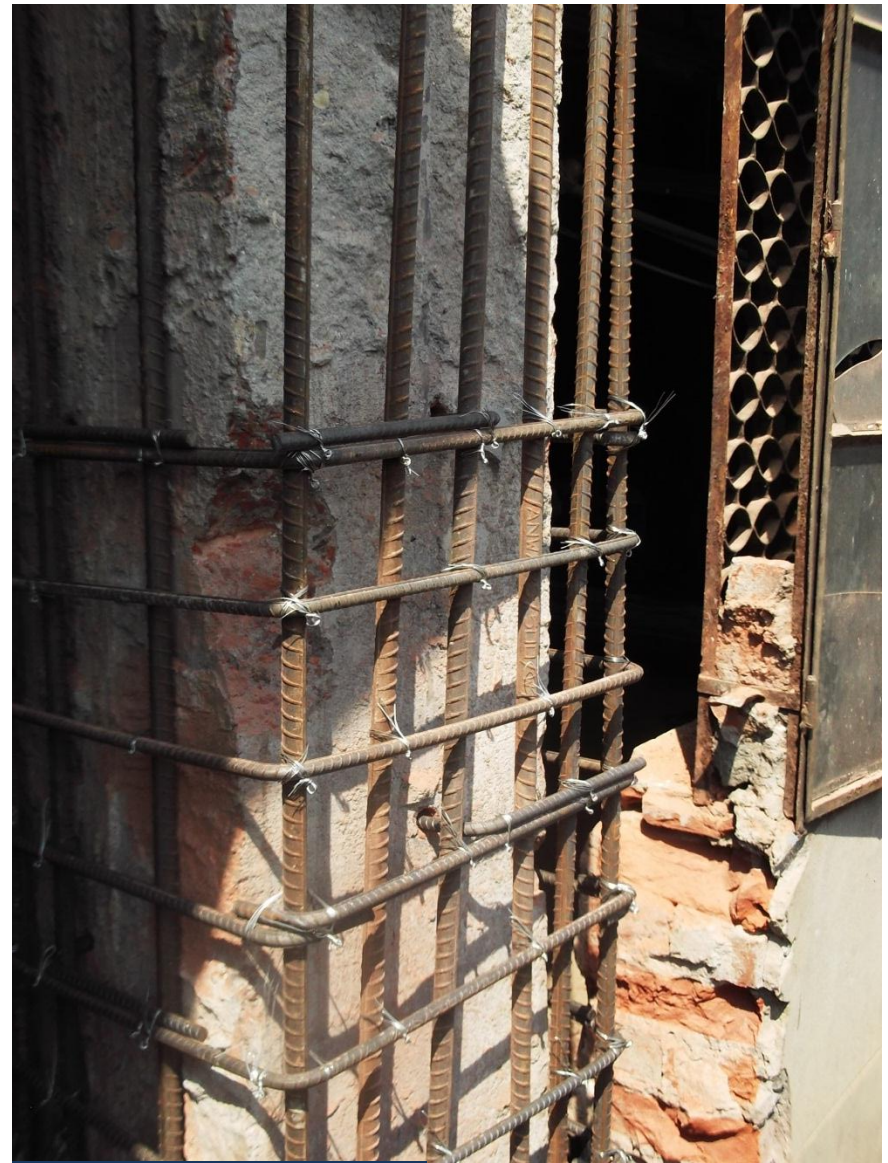


Ground Floor Level

Strengthening works – Progress Photos



1st Floor Level



Ground Floor Level

Strengthening Works – Rebar Details

Priority Actions

Problems Observed

ITEM 1: Remedial works to columns at Ground and First Floor

ITEM 2: Columns at 2nd floor appear to be stressed in excess of normal design limits

ITEM 3: Structural adequacy of concrete roof slab and columns to support antenna house, plastic water tanks and concrete water tank

ITEM 4: Design check required for dryer equipment loads on 5th floor and Knitting Distribution loads on 2nd and 3rd Floors

ITEM 5: Confirmation required that perimeter column foundations are at an appropriate depth to ensure load distribution

ITEM 6: Cracking to underside of 6th floor and roof slabs

ITEM 7: Design check on external steel stairs

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Remedial works to ground and first floor columns	Full details and calculations to be provided by Building Engineer for on-going remedial works.	Immediate - Now
2	Remedial works to ground and first floor columns	In particular, these calculations need to explain how the column jacketing contributes to the overall capacity.	Immediate - Now
3	Remedial works to ground and first floor columns	Calculations to be reviewed by The Accord	6-weeks
4	Remedial works to ground and first floor columns	Building Engineer to review completed works on site and certify that they are code compliant	6-weeks
5	Remedial works to ground and first floor columns	Re-inspection of completed remedial works to be carried out on behalf of The Accord	6-weeks
6	Columns at 2nd floor appear to be stressed in excess of normal design limits	Building Engineer to review design, loads and columns stresses in area identified above at 2nd floor level	6-weeks
7	Columns at 2nd floor appear to be stressed in excess of normal design limits	Verify insitu concrete strengths (using min. 4 no. 100mm dia. Cores) and existing reinforcement for all columns at 2nd floor level.	6-weeks
8	Columns at 2nd floor appear to be stressed in excess of normal design limits	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
9	Structural adequacy of concrete roof slab and columns to support antenna house, plastic water tanks and concrete water tank	Verify that flat slab and support columns have sufficient capacity to support fully filled water tanks and roof antenna house	6-weeks
10	Design check required for dryer equipment loads on 5th floor and Knitting Distribution loads on 2nd and 3rd Floors	Produce and actively manage a loading plan for all floor plates, flat slabs and beam & slab construction, within the factory giving consideration to floor capacity and column capacity.	6-weeks
11	Design check required for dryer equipment loads on 5th floor and Knitting Distribution loads on 2nd and 3rd Floors	Continue to implement load plan.	6-months
12	Confirmation required that perimeter column foundations are at an appropriate depth to ensure load distribution	Building Engineer to review the Geotechnical (Soils) Report which recommends pad footings to be constructed 13ft below ground level.	6-weeks
13	Confirmation required that perimeter column foundations are at an appropriate depth to ensure load distribution	Building Engineer to confirm by physical investigation that foundation position, level, load spread and bearing is adequate with respect to the level difference to the adjacent land.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
14	Cracking to underside of 6th floor and roof slabs	Monitor cracks on slab. Conduct regular inspection of cracks. Investigate if cracks are only in the plastering.	6-months
15	Cracking to underside of 6th floor and roof slabs	If cracks grow larger, remove all items above the slab and close working areas below the affected areas .	6-months
16	Design check on external steel stairs	Building Engineer to carry out design check for crowd loading on external stair structure and transmission of loads through foundations to ground due to the difference in ground levels in the area.	6-months
17	Design check on external steel stairs	If required, upgrade to support code loading.	6-months