

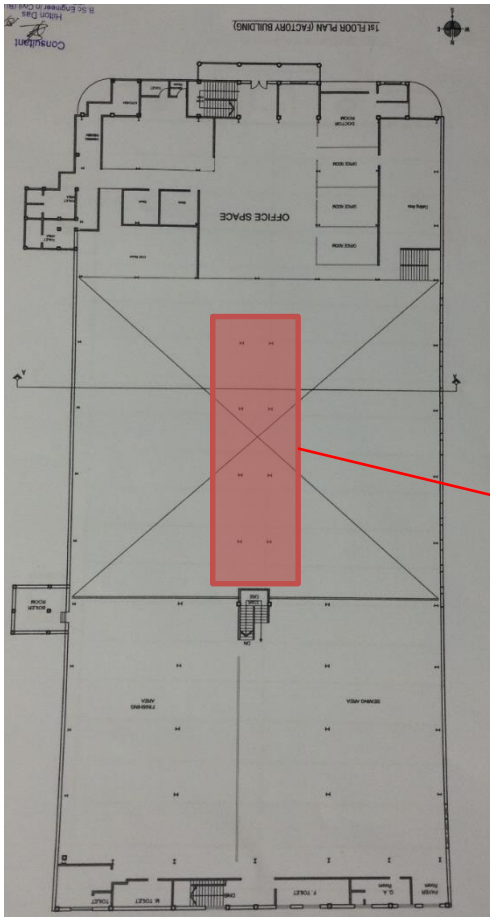
Southern Garments Ltd

Zirabo, Ashulia, Savar, Dhaka
(23.912349 N, 90.314662 E)
21 March 2015



Observations

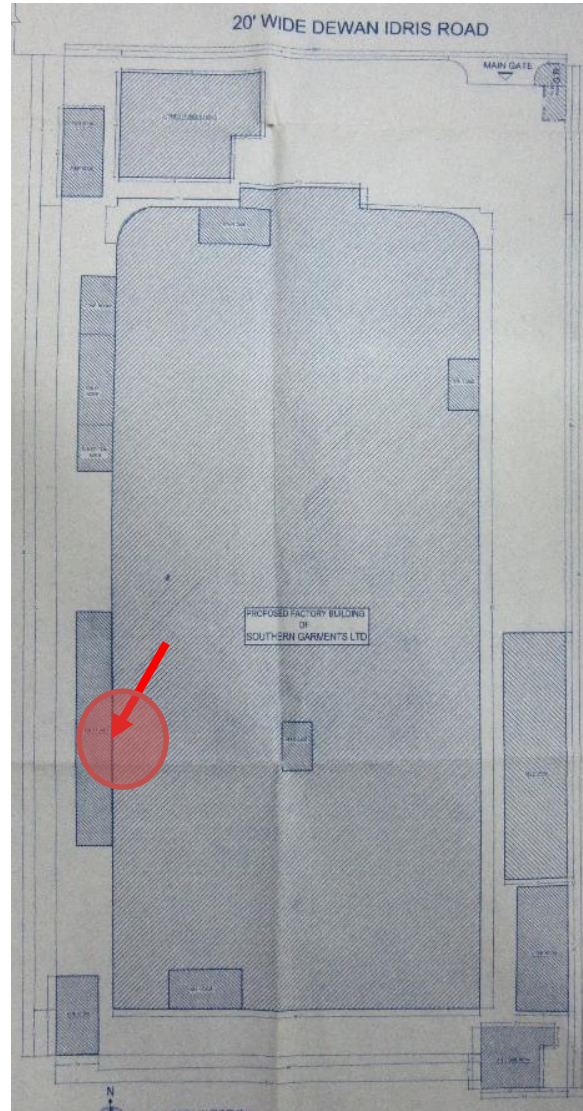
**Steel columns in Building 1
appear to be too slender**



Steel columns in mid-span appear to be very slender.

Observations – Building 1

Cracks in walls of male toilet below water tank



Vertical cracks in walls of male toilets underneath water tank

Observations – Male Toilets

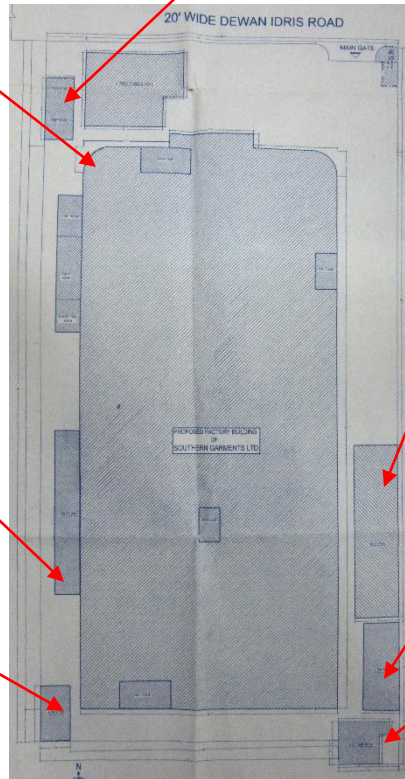
Bracing of Steel Shed/Portal Frame in Building 1 needs to be tied



Bracing appear to be not tied in both directions.

Observations – Building 1

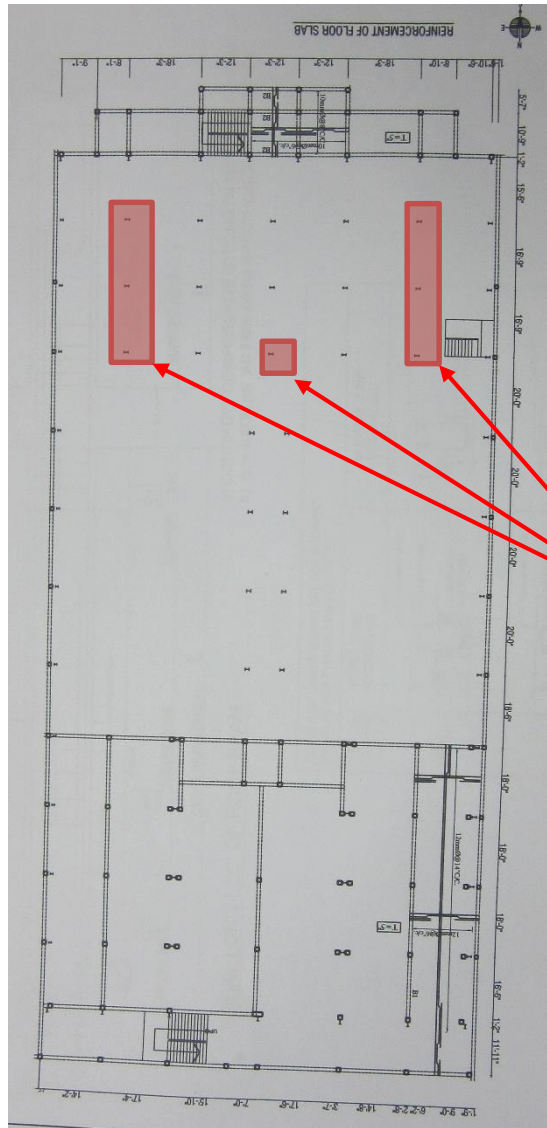
**Metal decking of several ancillary buildings
appear to be non-engineered**



Metal decking of sheds appear to be non-engineered for several ancillary buildings.

Observations – Ancillary Buildings

Discrepancies between the structural drawings and the As-Built structure



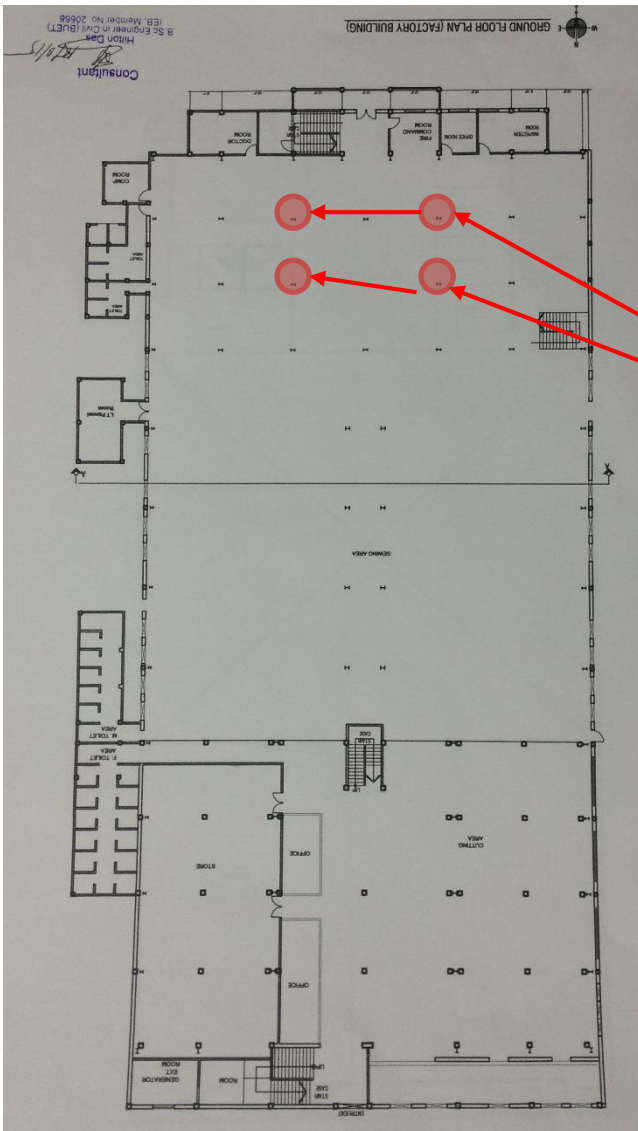
List of discrepancies:

- Missing columns in several locations on mezzanine floor in Building 1

Beam layout for mezzanine floor with columns below on ground floor.

Observations – Building 1

Double column bolted together



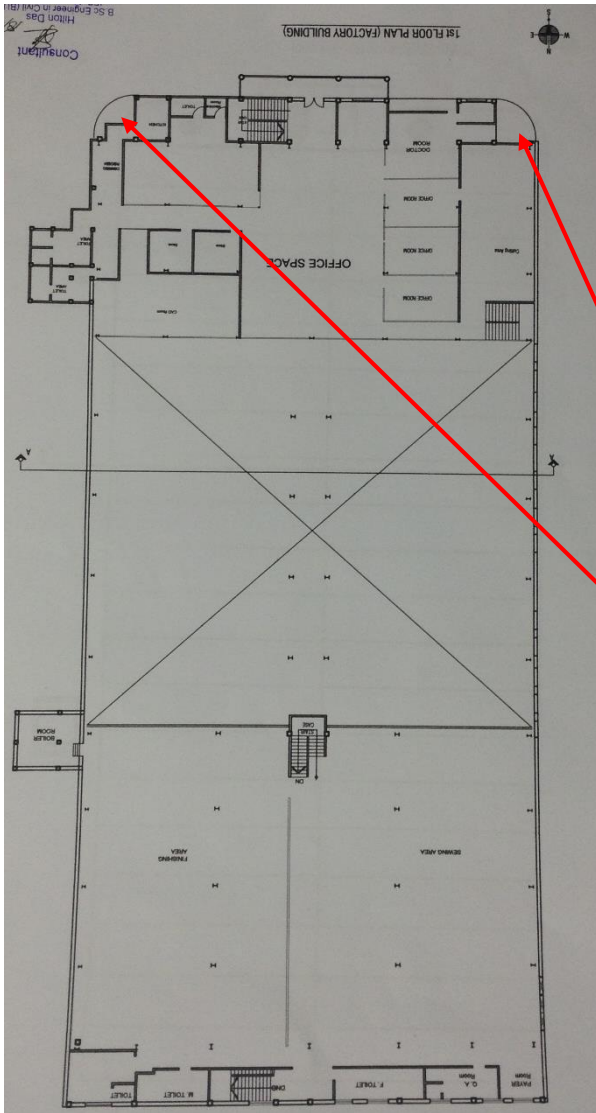
Signs of strengthening:

- Double column bolted together (one of the two has no contact to foundation). This details is found on 4 locations on the ground floor.

Two columns bolted together in 4 locations on ground floor.

Observations – Building 1

Falling hazard at balconies of Building 1



Falling hazards at two balconies in Building 1 on first floor.

Observations – Building 1

Falling hazard at roof of Building 2



No proper falling protection at the perimeter on 2nd floor/roof of Building 2.

Observations – Building 2

Problems Observed

1. Steel columns in Building 1 appear to be too slender
2. Cracks in walls of male toilet below water tank
3. Bracing of Steel Shed/Portal Frame in Building 1 needs to be tied.
4. Metal decking of several ancillary buildings appear to be non-engineered (risk of uplift)
5. Discrepancies between the structural drawings and the As-Built structure
6. Double column bolted together
7. Falling hazard at balconies of Building 1
8. Falling hazard at roof of Building 2

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Steel columns in Building 1 appear to be too slender (risk of buckling)	Building engineer to check, collect information and confirm the structural stability capacity (lateral buckling) of the as built steel columns.	6-months
2	Steel columns in Building 1 appear to be too slender (risk of buckling)	Perform any structural alterations as advised by Factory Engineer.	6-months
3	Cracks in walls of male toilet below water tank	Building engineer to investigate cracks at occurring location to assess cause and extent of cracks.	6-months
4	Cracks in walls of male toilet below water tank	Building engineer is to monitor the issue on an on-going basis and remediate as appropriate	6-months
5	Bracing of Steel Shed/Portal Frame in Building 1 needs to be tied	Building engineer to check the functionality of bracing	6-months
6	Bracing of Steel Shed/Portal Frame in Building 1 needs to be tied	If bracing requires to be tied Building Engineer is to arrange for necessary actions	6-months
7	Apparently non-engineered lightweight roof of several ancillary buildings	Building engineer to survey and investigate the roof structures of all sheds and to ensure adequacy for code vertical and horizontal loads including wind and up-lift	6-months
8	Apparently non-engineered lightweight roof of several ancillary buildings	Perform any structural alterations as advised by Factory Engineer.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
9	Discrepancies between the structural drawings and the As-Built structure	Building engineer to check, collect information and complete design check of as built structure.	6-months
10	Discrepancies between the structural drawings and the As-Built structure	Building engineer to produce accurate and complete as-built documentation.	6-months
11	Double column bolted together in Building 1	Building engineer to check and collect information about the structural integrity of the column solution.	6-months
12	Double column bolted together in Building 1	Functionality of columns and bolted connection is to be confirmed by the Building Engineer.	6-months
13	Double column bolted together in Building 1	If required further actions are to be taken to ensure a proper performance of the steel structure.	6-months
14	Falling hazard at balconies of Building 1	Secure appointed areas of balconies and provide an appropriate fall protection.	6-months
15	Falling hazard at roof of Building 2	Secure appointed areas of hazards and provide an appropriate fall protection.	6-months
16	Falling hazard at roof of Building 2	Monitor fall protection over time and insure their maintenance (identify possible falling hazards of future construction site and implement appropriate solutions).	6-months