

A.T.S. Apparels Ltd

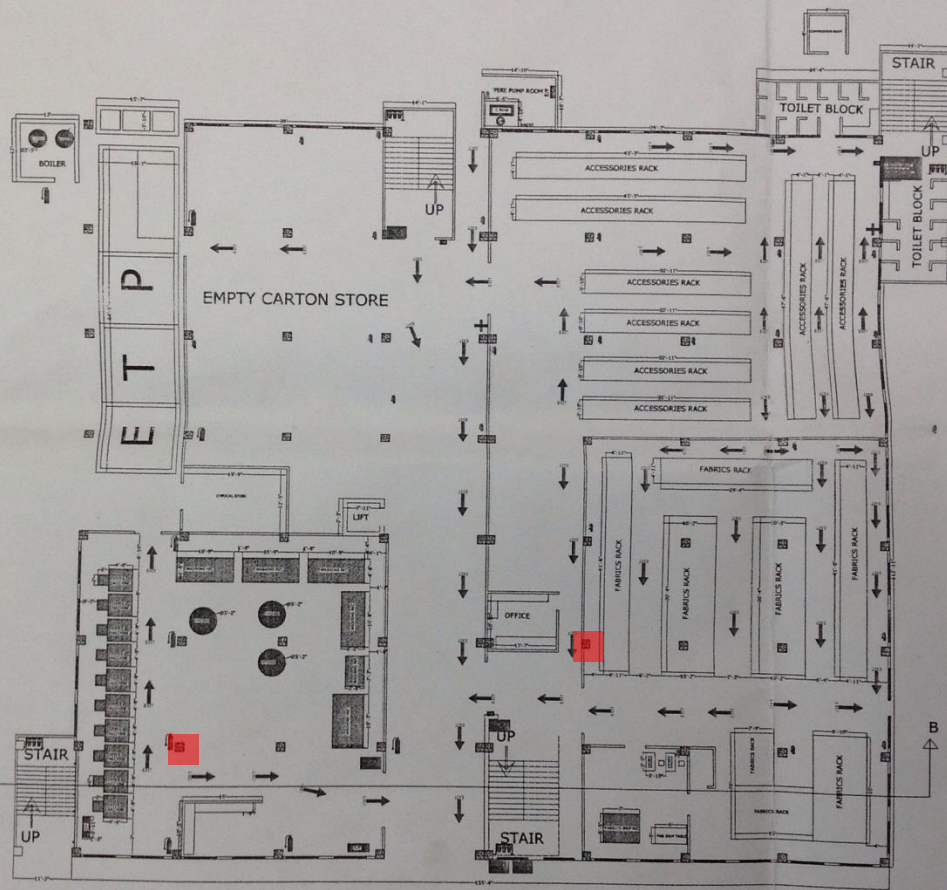
414, Kouchakuri, Telirchala, Mouchak, Kaliakoir, Gazipur - 1751
(24.01690N, 90.30266E)

25 March 2014



Observations

Columns appear to be stressed in excess of normal design limits – Building Engineer to verify concrete stresses and in-situ concrete strength



GROUND FLOOR LAY OUT PLAN

Ground Floor Column Layout Plan



Tested Ground Floor Column C2 (2007) Brick Aggregate Noted.



Tested Ground Floor Columns

Cursory calculations indicate that the working stress of columns at Ground Floor level are at a high level.

Building Engineer to check that columns have been designed to accommodate loads.

Column Strength

Design Check required for the loading from the plastic water tanks at roof level and for the location of the fusing machine at 3rd Floor Level



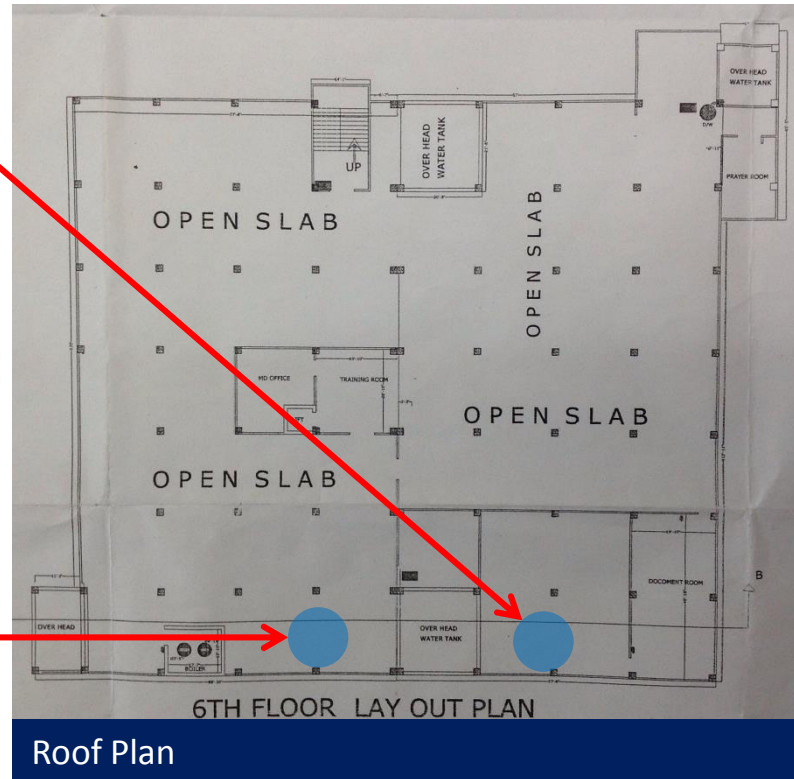
Roof – Plastic Water Tank



Roof - Plastic Water Tank

2 no. 5000L water tanks, mounted on 100mm brickwork are loading the roof slab structure.

Building Engineer to check that the beams and slabs have been designed to accommodate the loads.



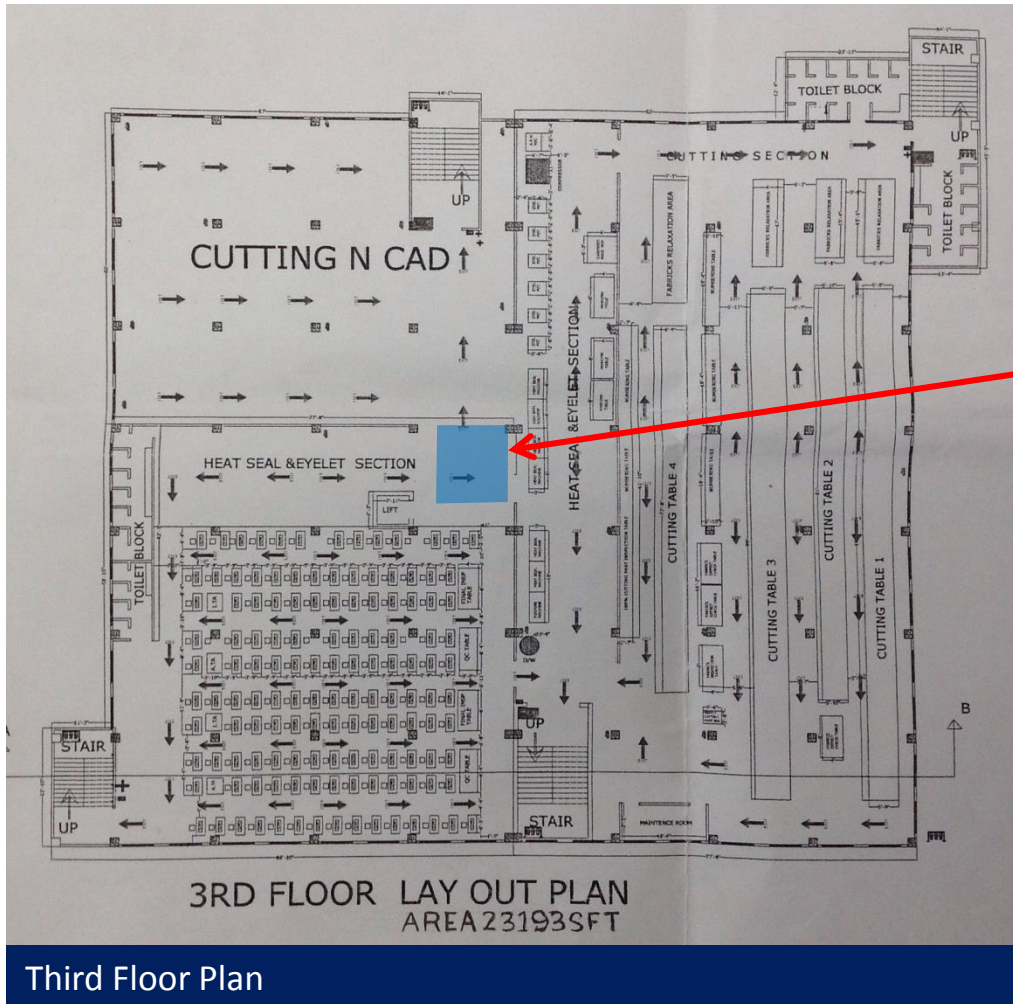
Roof Plan



Location of Water Tanks

There is a Fusing Machine at Third Floor level adjacent to the movement joint.

Building Engineer to check that the beams and slabs have been adequately designed to carry the associated loading.



Fusing Machine Area

Third Floor Fusing Area

Design check required for the single storey buildings to confirm their adequacy to support wind loading (pressure / suction and uplift)

Capacity of lightweight roof structures for Ancillary buildings to resist uplift loading due to wind to be checked, with particular emphasis on connections and lateral stability.



Finished Goods Store



Dining Space

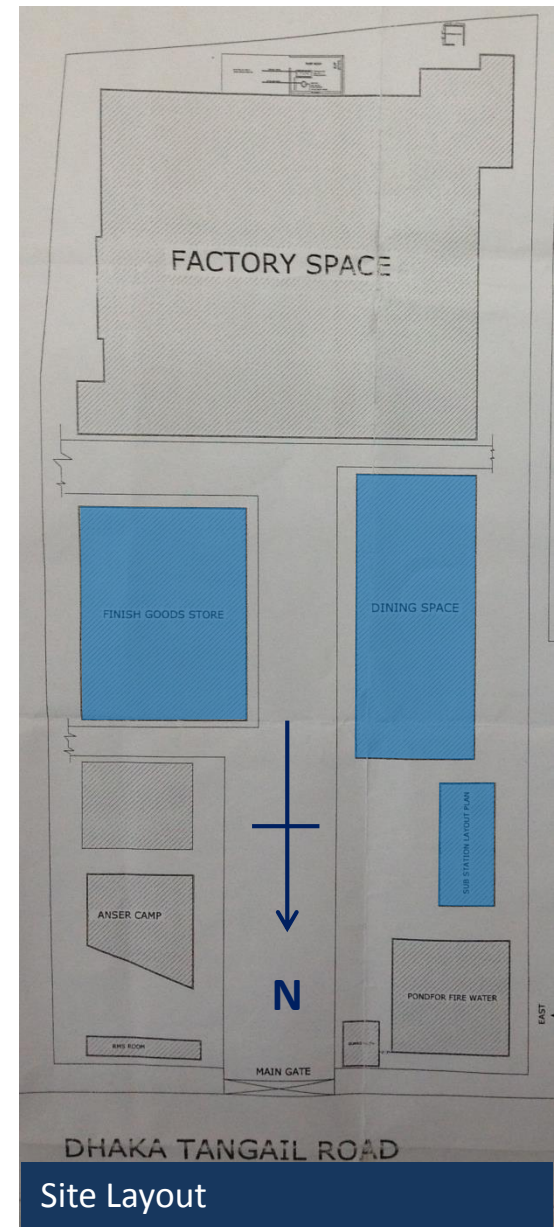


Dining Space



Generator Bld.

Ancillary Buildings



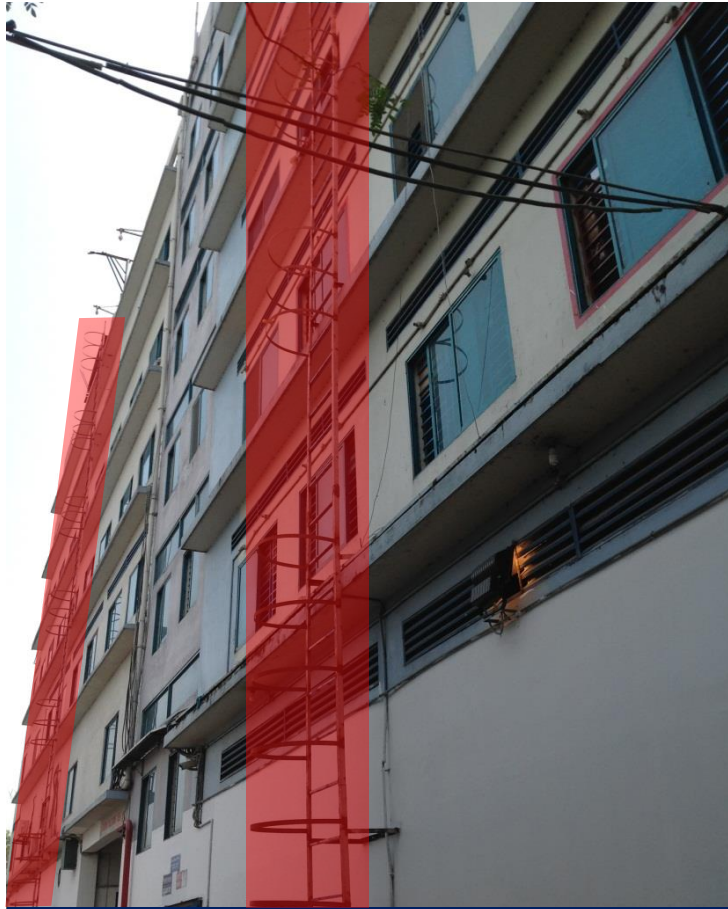
Site Layout

Lightweight Steel Structures

Design check required for the vertical escape ladders on the façades

The vertical fire escape ladders to the building elevations were observed to be under construction at time of survey.

Building engineer to check the design and detailing of the fire escape ladders.



Fire escape ladders to North elevation



Fire escape ladder to West elevation

Fire escape ladders

**Roof drainage to be assessed to remove
water ponding**

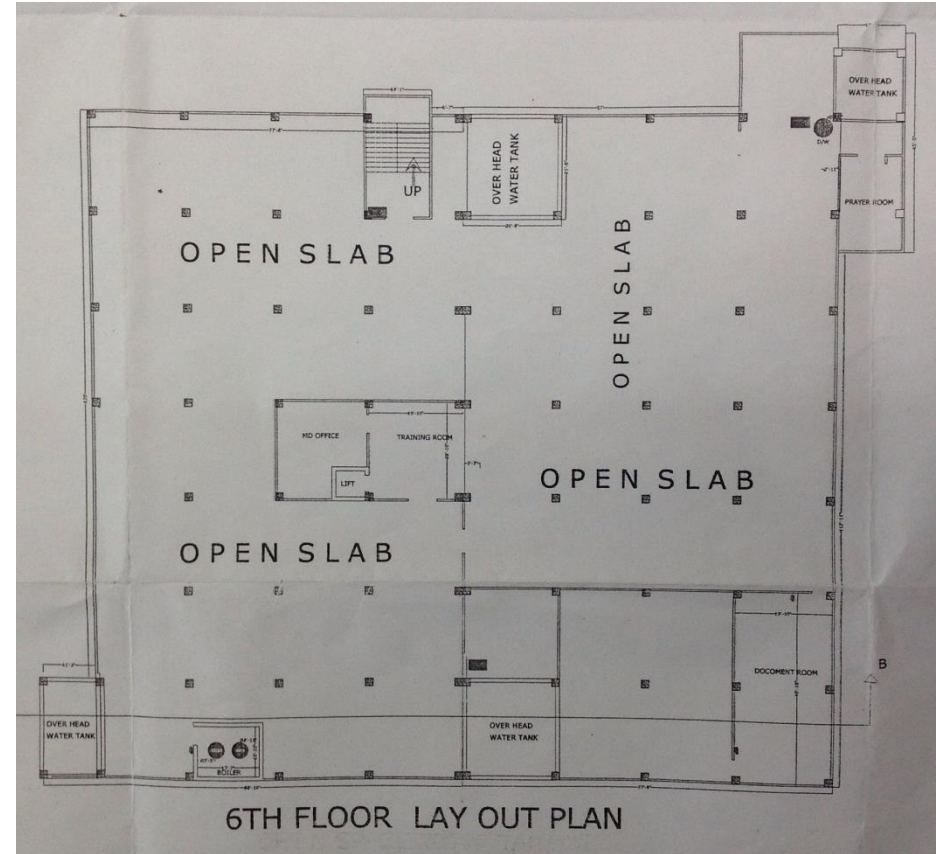
Building Engineer to assess Roof drainage to remove water ponding.



Ponding to Roof



Ponding to Roof



Roof Plan

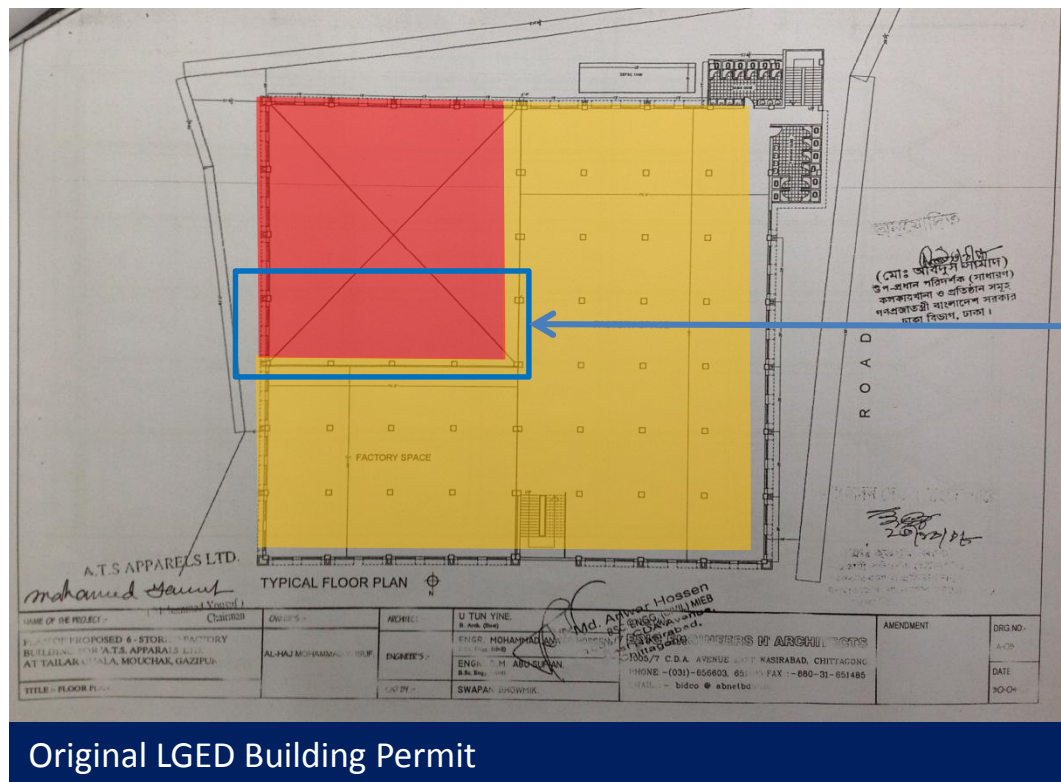


Ponding to Roof

It is noted that an addition to the structure is planned at the South-East corner. Any proposed additions to the existing building structure should be reviewed by the Building Engineer

A 6-storey addition to the structure is planned to the South-East corner of the building, with construction currently underway, for which only an industrial permit (2014) was provided. The original LGED-approved building permit (2006) calls up an L-shaped Factory with a Ground Floor warehouse, as indicated.

Any proposed additions to the existing building structure should be reviewed by the Building Engineer.



Additional bay completed in 2013



Warehouse (LGED Permit)

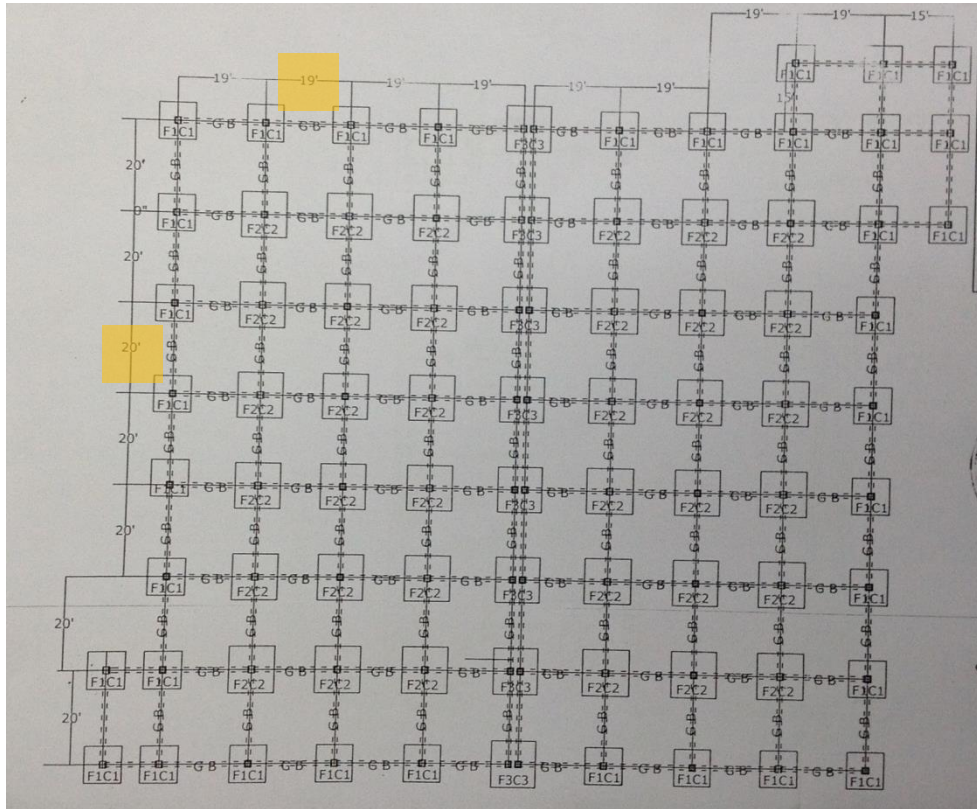
Factory (LGED Permit)

Permit Inconsistencies

Inconsistencies between the drawings and the constructed building

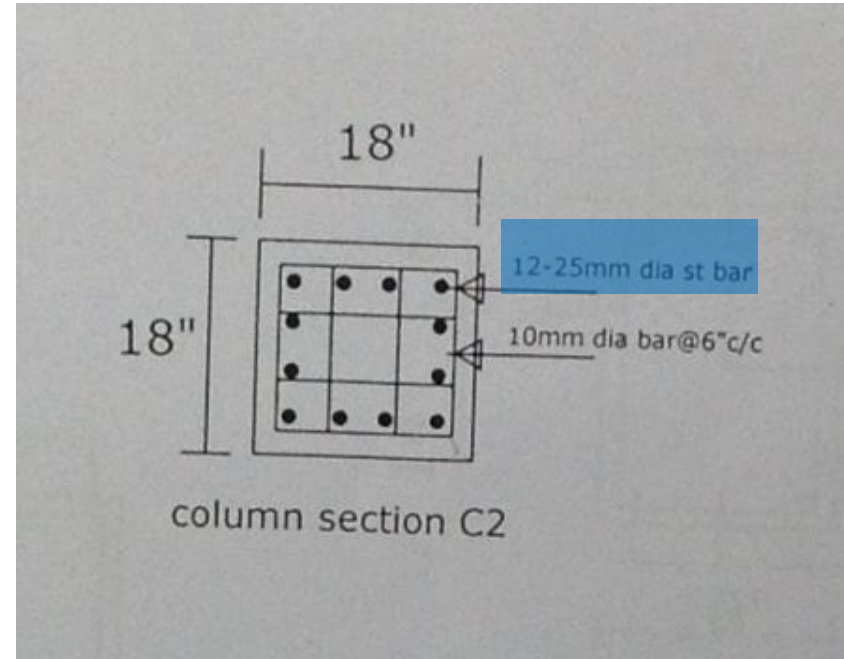
The structural drawings do not match the current arrangement of the building.

Building engineer to check, collect information and produce accurate and complete as-built documentation.



Inconsistency in column layout:

Drawings call up 5.8m x 6.1m (19ft x 20ft), whereas observed grid is 5.3m x 5.6m.



Inconsistency in column rebar:

Drawings call up 12 no. $\varnothing 25\text{mm}$ bars in C2 columns, whereas observed columns have only 10 no. bars (Ferros scanner).

Drawing Inconsistencies

Priority Actions

Problems Observed

ITEM 1: Columns appear to be stressed in excess of normal design limits – Building Engineer to verify concrete stresses and in-situ concrete strength.

ITEM 2: Design Check required for the loading from the plastic water tanks at roof level and for the location of the fusing machine at 3rd Floor Level.

ITEM 3: Design check required for the single storey buildings to confirm there adequacy to support wind loading (pressure/ suction and uplift.)

ITEM 4: Design check required for the vertical escape ladders on the façades.

ITEM 5: Roof drainage to be assessed to remove water ponding.

ITEM 6: It is noted that an addition to the structure is planned at the south east corner. Any proposed additions to the existing building structure should be reviewed by the Building Engineer.

ITEM 7: Inconsistencies between the drawings and the constructed building.

Item No.	Observation	Recommended Action Plan	Priority
1	Columns appear to be stressed in excess of normal design limits – Building Engineer to verify concrete stresses and in-situ concrete strength.	Factory Engineer to review design, loads and columns stresses.	6-weeks
2	Columns appear to be stressed in excess of normal design limits – Building Engineer to verify concrete stresses and in-situ concrete strength.	Verify in-situ concrete stresses either by 100mm diameter cores or existing cylinder strength data for cores from 4 columns.	6-weeks
3	Columns appear to be stressed in excess of normal design limits – Building Engineer to verify concrete stresses and in-situ concrete strength.	Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.	6-months
4	Design Check required for the loading from the plastic water tanks at roof level and for the location of the fusing machine at 3rd Floor Level.	Locations of loading noted to be surveyed and capacity of floor structure to be assessed by the Building Engineer to confirm that the floor slab is designed to carry these loads.	6-months
5	Design Check required for the loading from the plastic water tanks at roof level and for the location of the fusing machine at 3rd Floor Level.	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	Priority
6	Design check required for the single storey buildings to confirm there adequacy to support wind loading (pressure/ suction and uplift.)	Building Engineer to provide detailed calculations for the single storey structures and the associated light steel roofs. These should confirm their ability to withstand all wind loading pressure, suctions and uplift forces.	6-months
7	Design check required for the vertical escape ladders on the façades.	Building Engineer to provide calculations for the design of these ladders to confirm that their load carrying capacity is adequate. Connections to the building and overall detailing also needs to be reviewed.	6-months
8	Roof drainage to be assessed to remove water ponding.	Building Engineer to review the roof drainage and implement an appropriate drainage system that will prevent water ponding on the roof.	6-months
9	It is noted that an addition to the structure is planned at the south east corner.	If any additions to the building structure are proposed, the Building Engineer shall provide calculations showing the structural adequacy of all columns taking into account any additions to the existing structure, the loading plans and as built structure, including insitu concrete strength testing.	6-months
10	Inconsistencies between the drawings and the constructed building.	Building engineer to check, collect information and produce accurate and fully complete as-built documentation.	6-months