

Lida Textile & Dyeing Limited- Extended Buildings- new unit

Shaheed Mosharaf Hossain Road, Purbo chandora, Shofipur, Kaliakoir, Gazipu
(24.038054, 90.272752)

20th October 2020



Buildings Information

1. Automated Warehouse (G+4)
2. Chemical Store (single storied)
3. Security Building new (single storied)
4. Boiler & Jhut Building (single storied)

Observations

Design report need to be revised.

SI No.	Sample Identification Mark	Length	Diameter	Crushing Load	Crushing Strength	Average Strength		Failure Type	Fracture Type
		mm	mm	kN	MPa	MPa	psi		
1	-	202	101.0	132.4	16.5	25.4	3683	Combined	Shear
2		201	102.0	228.1	27.9			Combined	Shear
3		201	101.0	183.4	22.9			Combined	Shear

SI No.	Sample Identification Mark	Length	Diameter	Crushing Load	Crushing Strength	Average Strength		Failure Type	Fracture Type
		mm	mm	kN	MPa	MPa	psi		
1	-	204	102.0	240.0	29.4	30.6	4430	Combined	Shear
2		203	102.0	206.9	25.3			Combined	Shear
3		202	102.0	259.3	31.7			Combined	Shear

Cylinder test report of COLUMN

As per BNBC every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC. As per provided documents, the design strength for structural members was 4000 psi. But the strength was found less than 4000 psi as per provided test report for columns. Evaluate the total structure using the provided material test report in accordance with the BNBC provision and revise the design report and load plan.

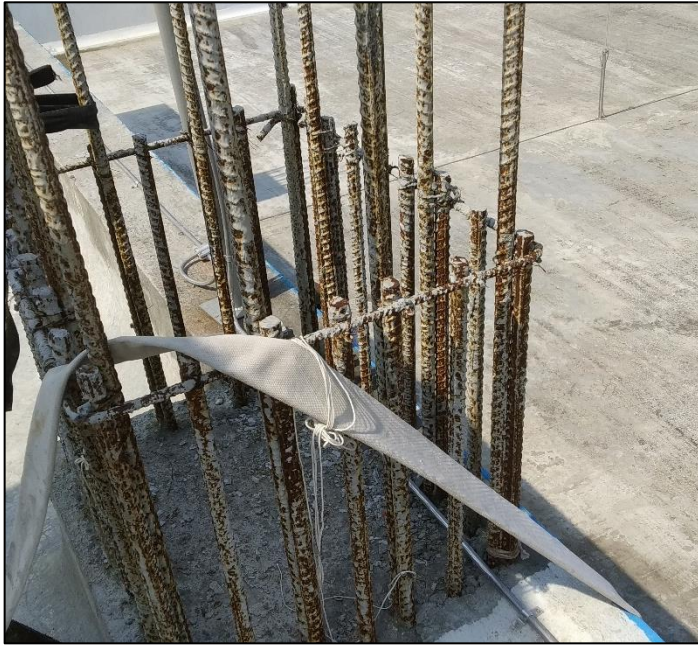


Ground floor columns are susceptible to long column effect

Ground floor column are 27 feet in dimension (length), marking the possibility of slenderness effect. Only the columns are carrying the total suspended loads. Factory is required to address these issues in the design report.

Exposed rebar at roof prone to corrosion

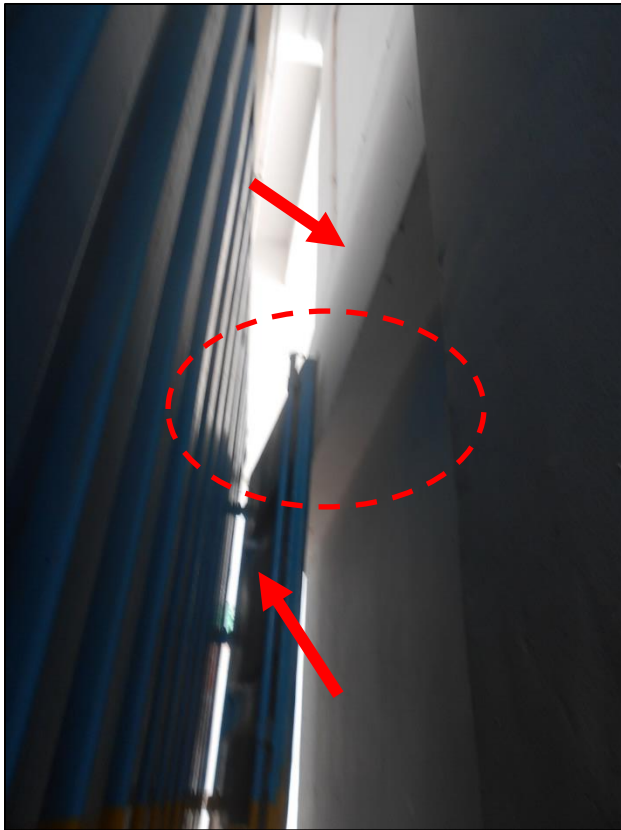
Observation: Automated Warehouse Extension Building



Exposed rebar at roof prone to corrosion

Exposed rebar was found at roof where the overhead water tank supposed to be constructed. The factory engineer is required to take necessary measures to prevent the corrosion in exposed re-bar.

Structural members susceptible to vehicular impact



Ground floor stair beam is being impacted by the truck door



Insufficient column guard on ground floor exterior column only



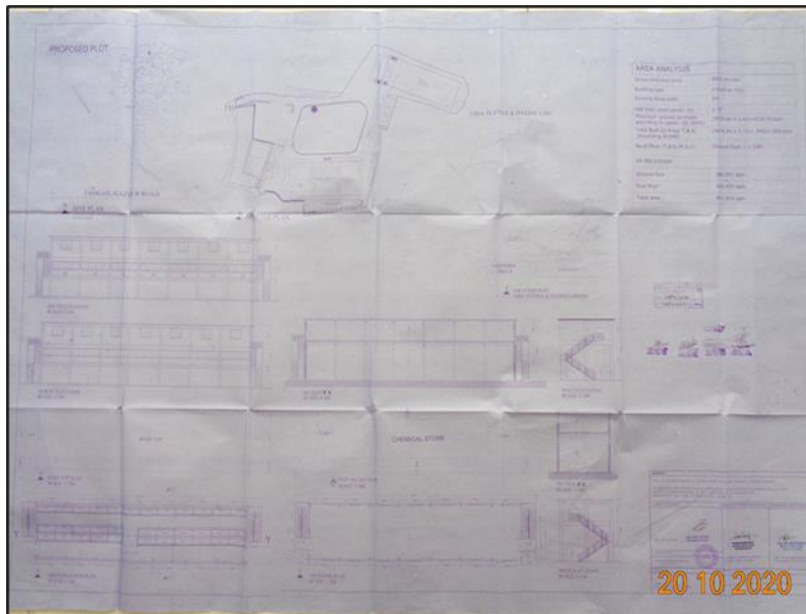
Sign of impact on ground floor internal column

Structural members susceptible to vehicular impact

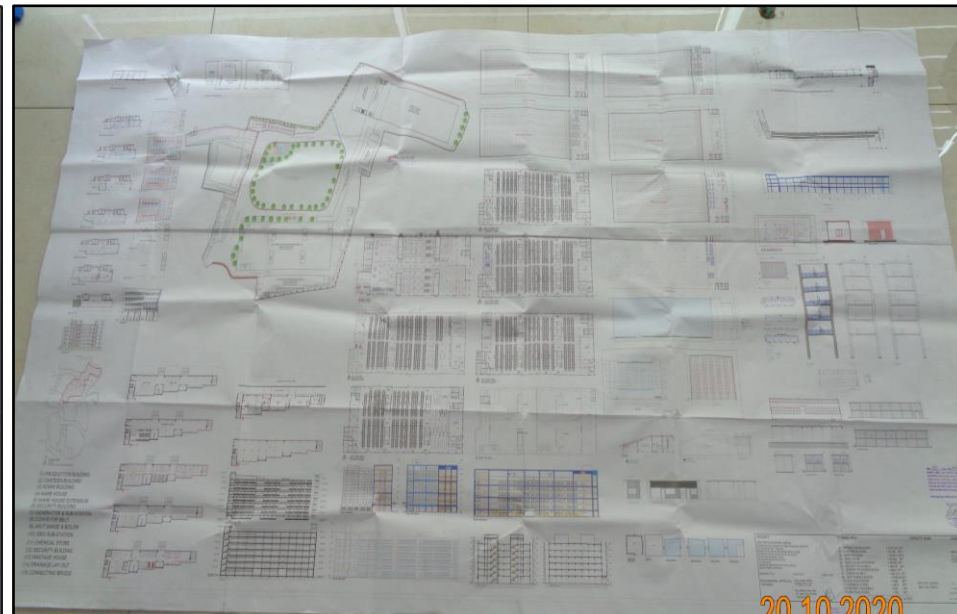
Structural members were found adjacent to the driveway of loading-unloading platform. These column are susceptible to vehicle impact. The factory engineer is required to take necessary measures to prevent the vehicle impact by providing the barrier around the structural members.

Observation: Extension Building

Lack of as built drawings



Approved layout plan from Pourashava



Approved layout plan from DIFE



Chemical Store

There were no credible as-built drawings and documents to review except permit drawing from Pourashava and Industrial layout from DIFE. Provided drawings were insufficient to represent the as-built structures. Factory engineer is required to survey the structures and prepare as-built drawings that are in compliance with section 1.9.1.2 as per BNBC.

Observations: Chemical Store



Isometric view of chemical store

As per BNBC every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC. During the inspection, the as built drawings & design report has not been found which is required to be prepared in compliance with section 1.9.1 (part-6, BNBC).



Interior of Chemical store.

Susceptible to Trolley impact in column

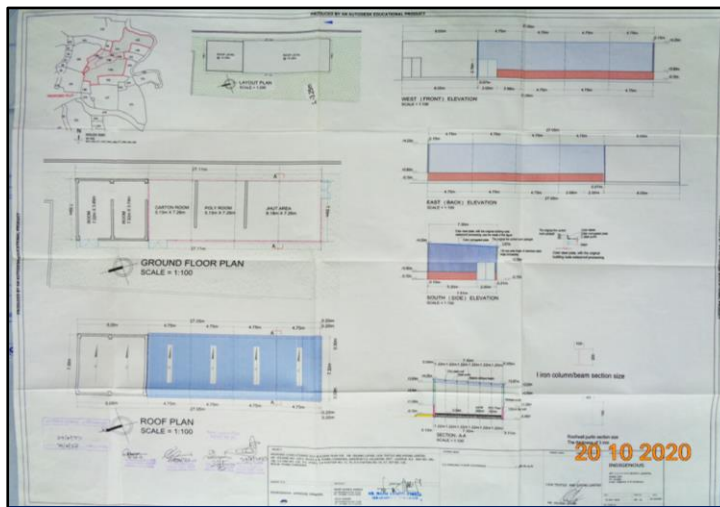


Column damaged due to trolley impact

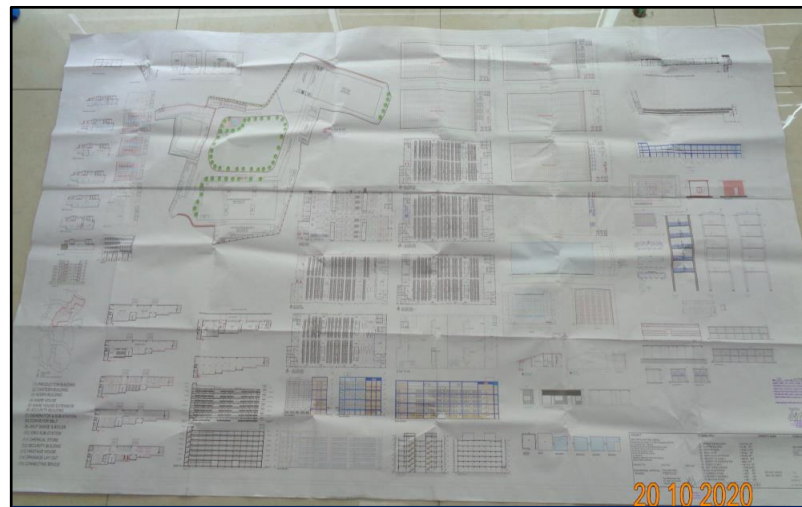
Column adjacent to aisle was found damaged due to impact from trolley. The factory engineer is required to take necessary measures to repair the damage and to prevent the trolley impact by providing the barrier around the column.

Observation: Chemical Store

Lack of as-built drawings



Approved layout plan from Pourashava



Approved layout plan from DIFE



Shed-2 (Wastage store & Boiler room)



There were no credible as-built drawings and documents to review except permit drawing from Pourashava and Industrial layout from DIFE. Provided drawings were insufficient to represent the as-built structures. Factory engineer is required to survey the structures and prepare as-built drawings that are in compliance with section 1.9.1.2 as per BNBC.

Observations: Boiler & Jhut Building



Interior of Jhut Building

As per BNBC every building or structure designed shall have its design documents prepared in accordance with the provision of Section 1.9.1. The design document shall include a design report, and a set of structural drawings, which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC. During the inspection, the as built drawings & design report has not been found which is required to be prepared in compliance with section 1.9.1 (part-6, BNBC).



Jhut Building

Problems Observed

Automated Warehouse Extension Building:

Item-01: Design report need to be revised.

Item-02: Exposed rebar at roof prone to corrosion.

Item-03: Structural members susceptible to vehicular impact.

Chemical Store:

Item-04: Lack of as built drawings.

Item-05: Susceptive to Trolly impact in column.

Boiler & Jhut Building:

Item-06: Lack of as-built drawings.

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Design report need to be revised (Automated Warehouse Extension Building)	Building engineer to prepared the design document evaluating cylinder test result as per BNBC provision and check capacity if structural members and revise design report.	6-weeks
02	Design report need to be revised (Automated Warehouse Extension Building)	Revise the load plan according to the revised design report and material strength.	6-weeks
03	Design report need to be revised (Automated Warehouse Extension Building)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months
04	Exposed rebar at roof prone to corrosion (Automated Warehouse Extension Building)	The factory engineer is required to take necessary measures to prevent the corrosion in exposed re-bar.	6-weeks
05	Structural members susceptible to vehicular impact (Automated Warehouse Extension Building)	The factory engineer is required to take necessary measures to prevent the vehicle impact by providing the barrier around the structural members.	6-weeks
06	Lack of as-built drawings (Chemical Store)	Building Engineer to survey the structure and prepare accurate as-built (both architectural & structural) drawings.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
07	Lack of as-built drawings (Chemical Store)	Building engineer to prepare the design document including a design report, and a set of structural drawings in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC.	6-weeks
08	Lack of as-built drawings (Chemical Store)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months
09	Susceptible to Trolley impact in column (Chemical Store)	The factory engineer is required to take necessary measures to repair the damage and to prevent the trolley impact by providing the barrier around the column.	6-months
10	Lack of as-built drawings (Boiler & Jhut Building)	Building Engineer to survey the structure and prepare accurate as-built (both architectural & structural) drawings.	6-weeks
11	Lack of as-built drawings (Boiler & Jhut Building)	Building engineer to prepare the design document including a design report, and a set of structural drawings in compliance with section 1.9.1.1 and section 1.9.1.2 as per BNBC.	6-weeks