

Scandex (Bd) Ltd.

B-Bangla, Gouripur, Ashuliya, Savar

(23.890409, 90.317071)

6th January 2021



Buildings Information

1. Production Building (G+4)
2. Utility building (G+1)

Observations

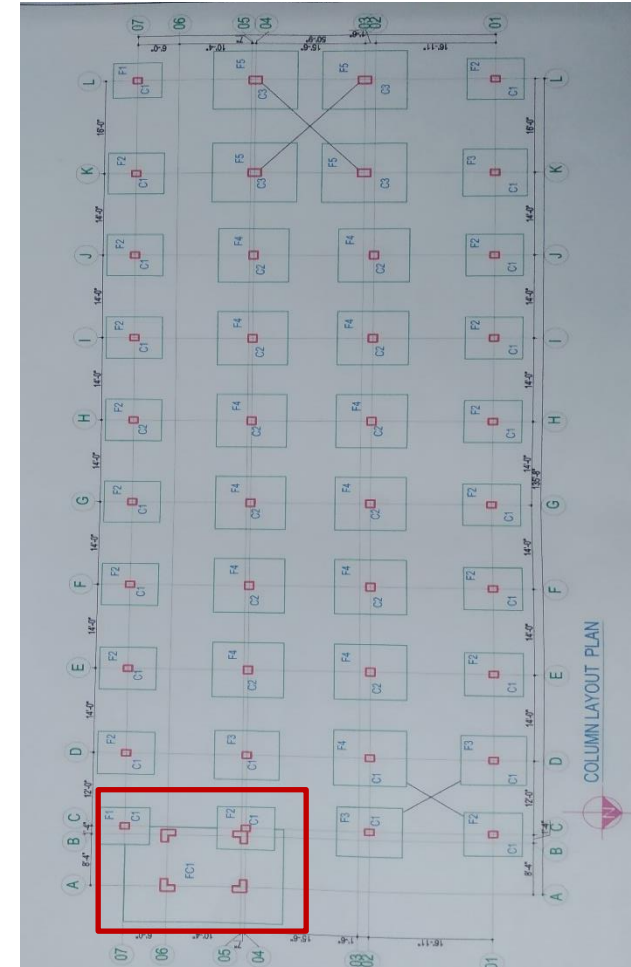
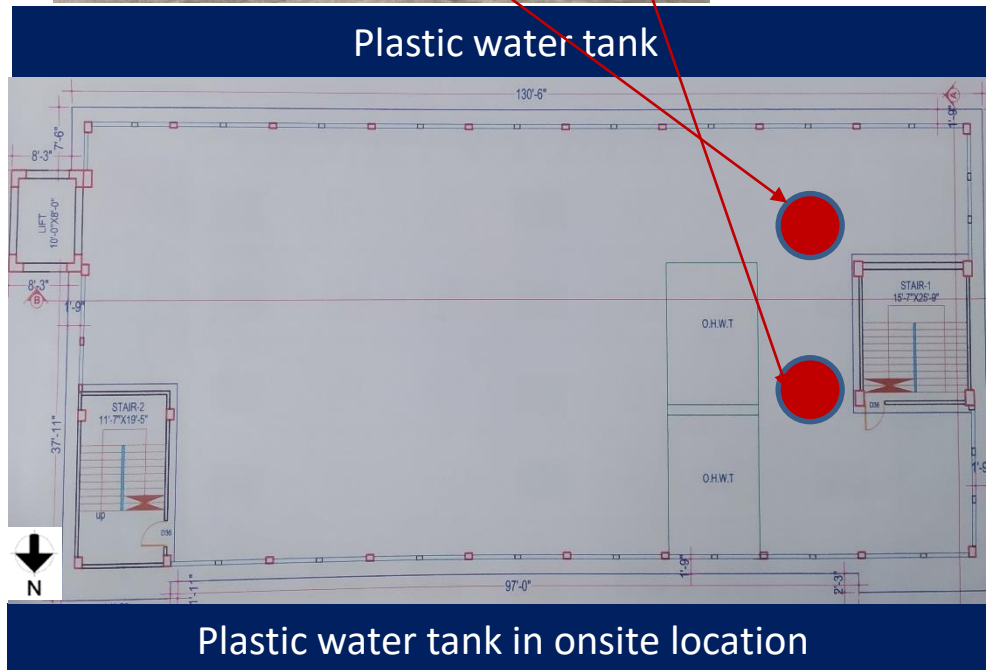
Discrepancies in as-built drawing

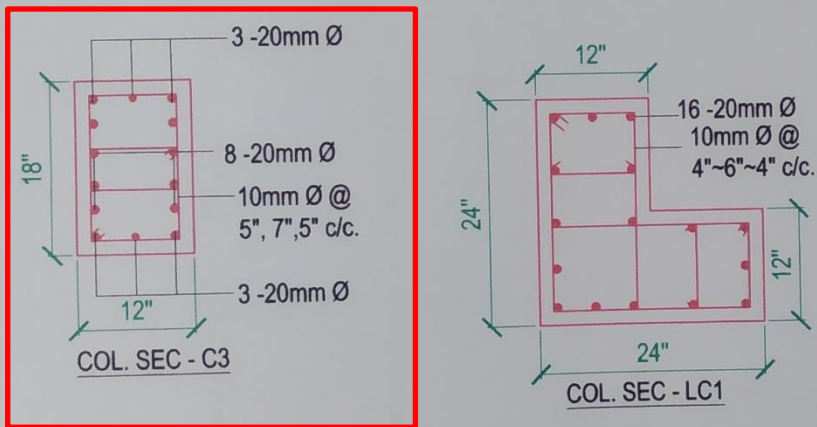
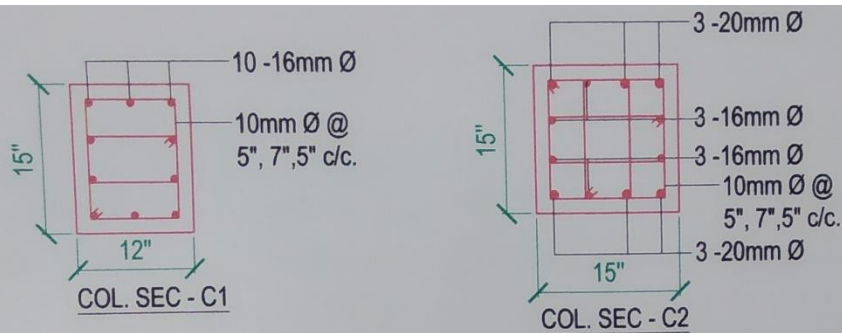
Two RCC O.H.W.T is shown in architectural drawing however 2 nos P.V.C water tanks are present at different locations.

In foundation drawing, lift core foundation has been merged with other footings. No details have been provided in drawings regarding this issue.



Plastic water tank

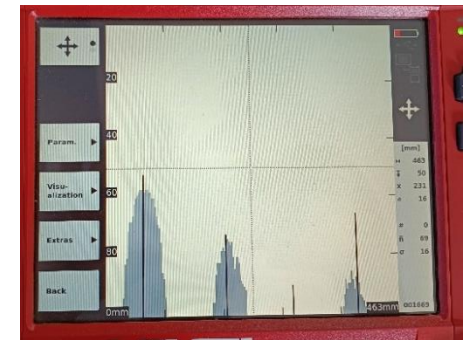




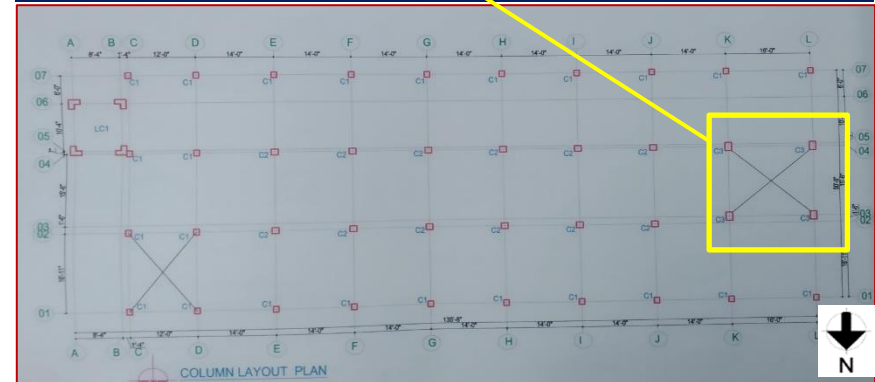
COLUMN SCHEDULE

NAME OF COLUMN	SIZE OF COLUMN		REINFORCEMENT
	UP TO G.B	G.B to 4th FL.	
C1	15"x18"	12"x15"	10-16mmØ
C2	18"x18"	15"x15"	6-20mmØ 6-16mmØ
C3	18"x22"	15"x22"	14-20mmØ
LC1	24"x24"x12"	24"x24"x12"	16-20mmØ

Rebar numbers of C3 column did not match with structural drawing. On long face (450 mm) 6 numbers of rebars were shown in column section, whereas 4 numbers of rebars were found by ferro scanning. Moreover, the size of the column was found different in column schedule.



4 numbers of rebar in long face of C3 Column

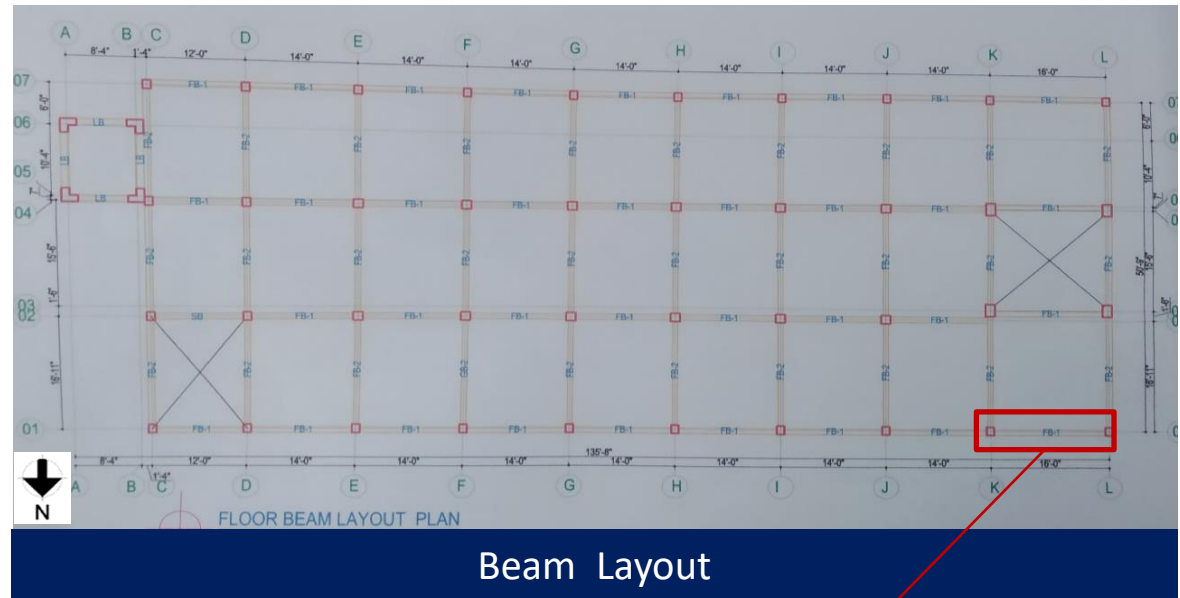


Column Layout

There is an inverted beam on ground floor roof level of grid 1/K-L which is not mentioned in as built drawing.



Inverted beam on site



Inverted beam on GF roof level

**Lack of Design report and localized high loading
surrounding the column**

No load plan has been prepared for the production building, besides localized high loading surrounding the column was observed in 1st floor. Moreover, in sufficient concrete test report was found for 2nd phase of construction. No test report found for 1st phase of construction.

Centre for Advisory and Testing Services (CATS-MIST)
Military Institute of Science and Technology

Compressive Strength of Concrete Cylinders

General Information
 CA/PS Reference: 2376/214, 30, 21.9 (Date: 12-12-2019)
 Name of the Project: AUSA, Muzaffar
 Sample Requested By: S. S. Khan, Engineer, Muzaffar, Adilabad, Srinagar, Jammu
 Test Method: Page: MMS, Jammu, Jammu
 15 psi of Sample: 10000, 10000, 10000
 Location of Sample: 10000, 10000, 10000
 Material Properties: 10000, 10000, 10000
 Date of Testing: 12-12-2019
 Date of Issuing: 12-12-2019
 Age in days: 18 days
 5 days in days: 5 days

Sl. No.	Sample Identification Mark	Length (mm)	Diameter (mm)	Crushing Load (kN)	Crushing Strength (MPa)	Average Strength (MPa)	Failure Type	Remarks
1	10000	200	100.0	25.0	12.5	12.5	Concrete	Concrete and Mortar
2	10000	200	100.0	11.0	5.5	5.5	Concrete	Concrete and Mortar
3	10000	200	100.0	14.0	7.0	7.0	Concrete	Concrete and Mortar

Remarks:
 1. The specimens (other than the test report prepared above) are provided by the client. CATS-MIST does not verify any of these.
 2. The average strength of the samples is shown to be more than the specified strength as per IS 456:2000. It is recommended that the average strength should be more than 1.5 times the specified strength. The result has to be discarded and the average of the test remaining results. If sample is discarded from average calculation.

Test Supervised By: *Amirul*
 Colonel
 Civil Engineer
 (S. No. 10000)

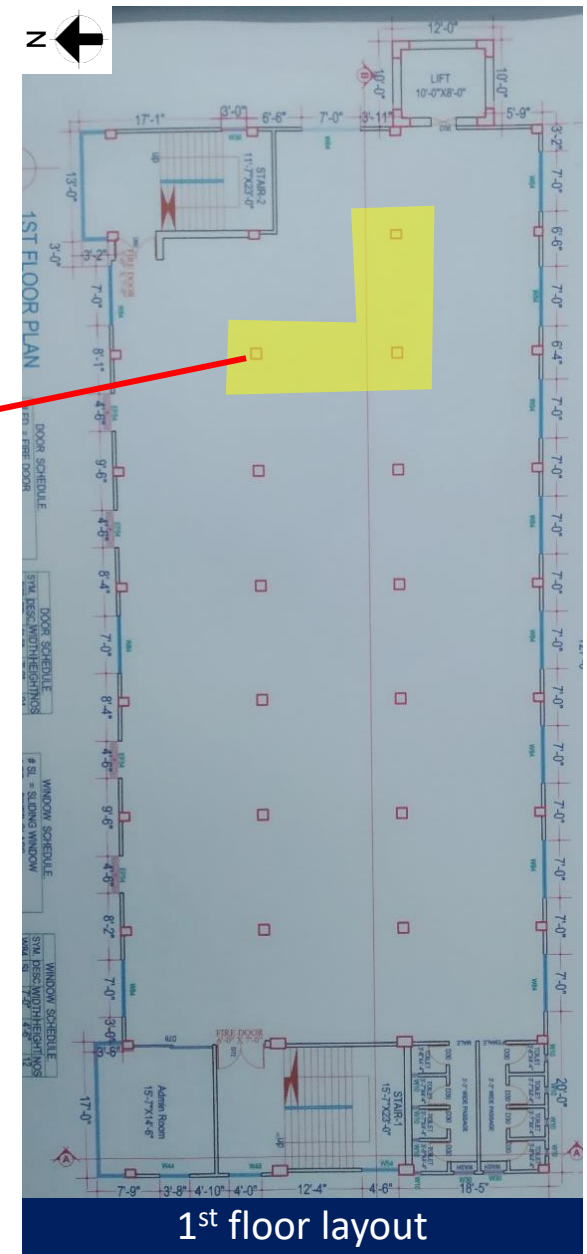
Countersigned By: *Dr. M. Zahid Hassan*
 Professor
 Head of Civil Engineering
 MIST, Jammu, Srinagar, Jammu

Existing cylinder test report (3rd phase)



Localized high loading

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 design report has not been found which is required to be prepared in compliance with section 1.9.1 (part-6, BNBC).



1st floor layout

No as-built drawings were available



Isometric view of Utility Building



Interior of Utility Building

There was no credible approved drawing from concerned authority and DIFE. In addition, no as-built drawings were available. Factory engineer is required to survey the structure and prepare as-built drawings that are in compliance with section 1.9.1.2 as per BNBC.

Observations: Utility Building

**No design reports were available and apparently
non-engineered connection at roof shed**

Non engineered connections were observed at light weight roof. Factory engineer is required to check the connection of the roof for the up-lift pressure of wind.



Utility Building



Non engineered connection
(1st floor roof)

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 design report has not been found which is required to be prepared in compliance with section 1.9.1 (part-6, BNBC).



Non engineered connections
(GF roof-East side)

Observations: Roof shed over Utility Building

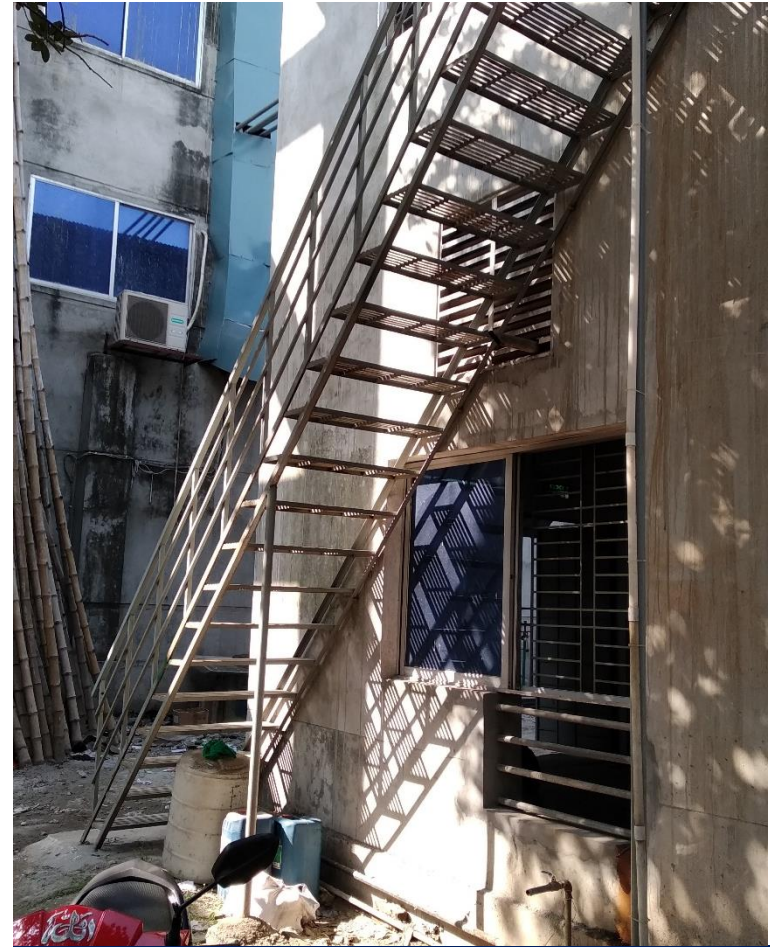
**Non engineered steel stair, apparently
inadequate member& lack of lateral stability**

Observations: Utility Building



Non engineered connections

Factory engineer is required to carry out the member adequacy & stability and implement remediation where required.



Apparently inadequate steel member size and no stability system provided.

Priority Actions

Problems Observed

Production Building:

Item-01: Discrepancies in as-built drawing.

Item-02: Lack of Design report and localized high loading surrounding the column.

Utility Building:

Item-03: No as-built drawings were available.

Item-04: No design reports were available and apparently non-engineered connection at roof shed.

Item-05: Non engineered steel stair, apparently inadequate member & lack of lateral stability.

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Discrepancy in as-built drawing. (Production Building)	Prepare “as constructed” drawings which reflect the actual site dimensions and complete structural information.	6-weeks
02	Discrepancy in as-built drawing. (Production Building)	Mention plastic water tank’s size and locations on load plan and architectural drawings. Building engineer is required to check the lift core foundation and incorporate details in the as-built drawing.	6-weeks
03	Lack of Design report and localized high loading surrounding the column. (Production Building)	Building engineer to prepare the design document including a design report, in compliance with section 1.9.1.1 as per BNBC.	6-weeks
04	Lack of Design report and localized high loading surrounding the column. (Production Building)	Verify in-situ concrete strength by taken 100 mm diameter cores (minimum 4 nos.) from lower tier columns or existing cylinder test reports from ground floor columns & foundation.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
05	Lack of Design report and localized high loading surrounding the column. (Production Building)	Produce and actively manage a loading plan for all floor plates within the factory, considering floor, column and foundation capacity.	6-weeks
06	Lack of Design report and localized high loading surrounding the column. (Production Building)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months
07	Lack of Design report and localized high loading surrounding the column. (Production Building)	Continue to implement loading plan.	6-months
08	No as built drawings were available.(Utility Building)	Building Engineer to survey the structure and prepare accurate as-built (both architectural & structural) drawings.	6-weeks
09	No design reports were available and apparently non-engineered connection at roof shed.(Utility Building)	Building engineer to prepare the design document including a design report for the full structure, in compliance with section 1.9.1.1 as per BNBC.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
10	No design reports were available and apparently non-engineered connection at roof shed.(Utility Building)	Building engineer is required to check the connection of the steel roof shed for the up-lift pressure of wind.	6-weeks
11	No design reports were available and apparently non-engineered connection at roof shed.(Utility Building)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months
12	Non engineered steel stair, apparently inadequate member & lack of lateral stability. (Utility Building)	Factory engineer is required to carry out member adequacy & lateral stability check of the steel stair.	6-weeks
13	Non engineered steel stair, apparently inadequate member & lack of lateral stability. (Utility Building)	Replace the existing stair with a properly designed stair or implement remediation work where necessary.	6-months