

# Nofs Garments Ltd

Plot no. 01/04, Road no. 01, Doyal Housing Ltd., Bosila, Mohammadpur, Dhaka-1207.

(23.754814, 90.345301)

14 August 2022



# Building Information

**Main Building:** three storied (G+2) building with a basement.

# Observations

**Verify in-situ material strength**

### Material Data:

Concrete compressive strength,  $f'_c = 4000$  psi for Column, Beam and Footing

Rebar strength  $f_y = 72,500$  psi

Concrete strength of column considered 27.5 MPa (4000 psi) in the design report

Concrete strength of column is considered as 27.5 MPa in the design report. However, at the time of inspection, only 3 cylinder test report was available from column which doesn't comply the frequency of testing requirement of BNBC (chapter-5). Building engineer is required to verify in-situ material strength and revise the design report accordingly.

## Observations: Main Building

BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY (BUET)  
DEPARTMENT OF CIVIL ENGINEERING  
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CONCRETE LABORATORY

BRTC No. : 1102-32839 /20-21/CE; Dt: 25/3/2021  
Sent by : Md. Alamgir Hossain  
Road-1, House-1/4, Doyal Housing, Bosha, Mohammadpur, Dhaka-1207  
Ref. No. : Letter; Dt: 25/3/2021  
Project : Md. Alamgir Hossain, Road-1, House-1/4, Doyal Housing, Bosha, Mohammadpur, Dhaka-1207  
Sample : Concrete Cylinder [Mix proportion (as quoted; Not mentioned, Aggregate Type: Stone chps)]  
Location : Column [Admixture Added (as per letter; Not mentioned)]  
Test : Compressive Strength Test of Concrete Cylinder (ASTM C39)  
Date of Test : 29/3/2021

TEST REPORT

Sl. No.	Date of Casting as per the letter	Specimen Designation/ Frog Mark	Specimen Area (sq. in)	Maximum Load (lb)	Crushing Strength (psi)	Average Crushing Strength	Mode of Failure
1	1/3/2021	1/3/2021	12.67	63,831	5,039	4000 psi	Combined *
2	(28 days test)	1/3/2021	12.92	58,339	4,515	(32.3 MPa)	Combined *
3		1/3/2021	12.92	58,118	4,496	(329 kg/cm <sup>2</sup> )	Combined *

Note: Samples were received in UNSEALED condition. \* Combined = Mortar and Aggregate failure.

Countersigned by:   
Dr. A. B. M. Badruzzaman  
Professor  
Department of Civil Engineering  
BUET, Dhaka-1000, Bangladesh

Test Performed by:   
Dr. S M Faisal Mahmood  
Assistant Professor  
Department of Civil Engineering  
BUET, Dhaka-1000, Bangladesh

154  
EdeN5P39d

29/3/2021

Important Note: Samples as supplied to us have been tested in our laboratory. BRTC does not have any responsibility as to the representative character of the samples required to be tested. It is recommended that samples are sent in a secure and sealed cover/container under signature of the competent authority. In order to avoid fraudulent fabrication of test results, it is recommended that all test reports are collected by duly authorized person, and not by the Contractor/Supplier.

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BUETCE 0 2 4 50 50

Concrete cylinder test report for column

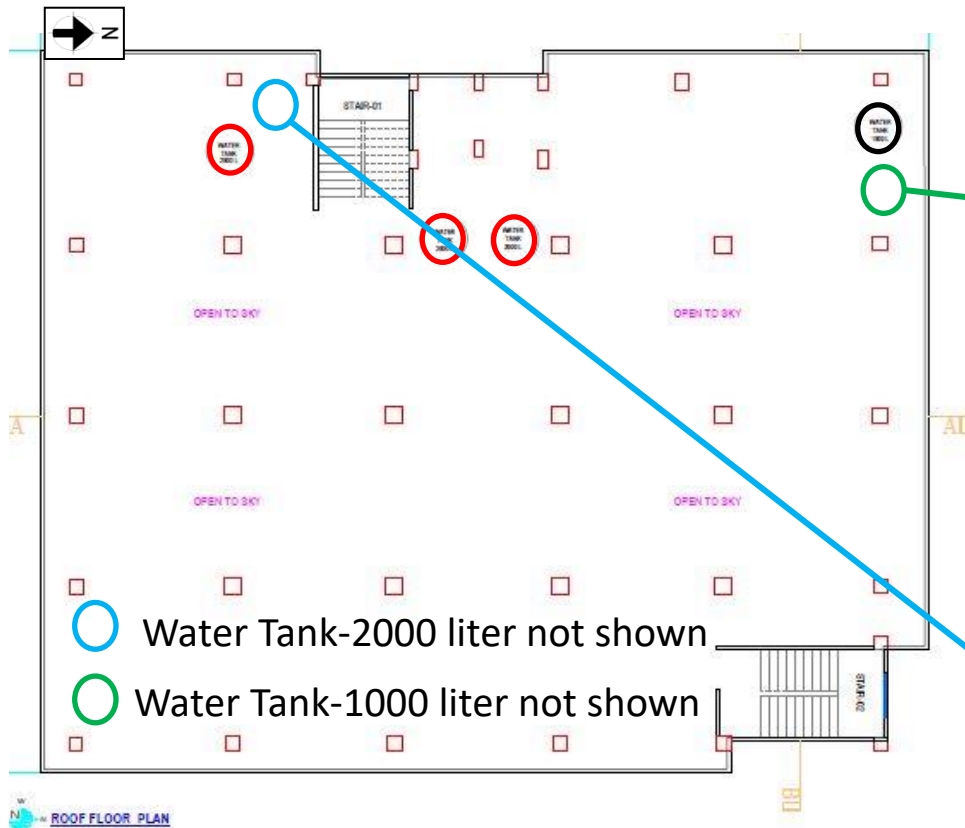
**Ducting in beam to be assessed**



Ducting in beam at staircase area

Ducting in beam observed at staircase area (roof level-west side). Services pipes have been placed within reinforced concrete beams. Building engineer is required to assess whether the structural strength of the beam has been compromised.

# Discrepancy and missing information in as-built drawing



Roof layout

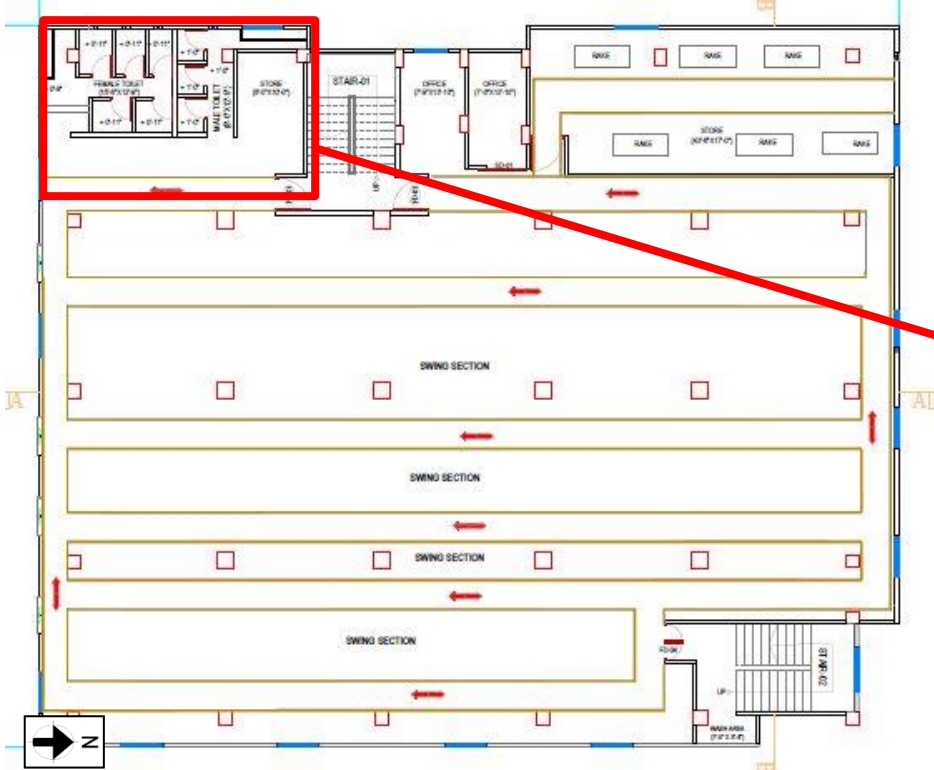
One plastic water tank of 2000 litre capacity and one plastic water tank of 1000 litre capacity were not shown in roof layout but found onsite. Building engineer is required to update the as-built drawing.



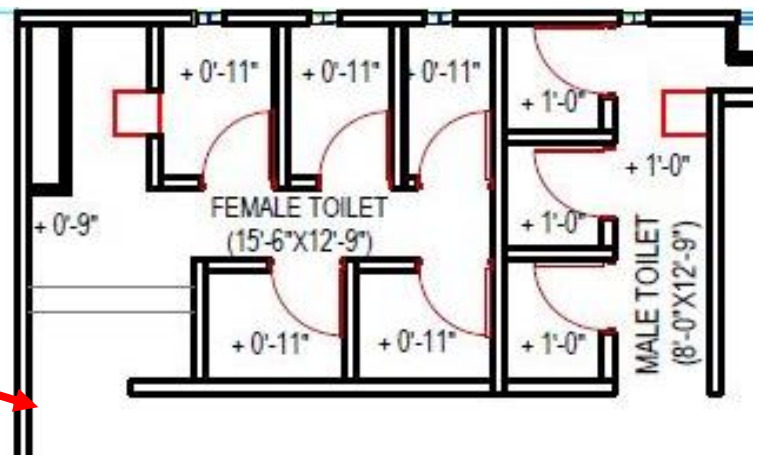
Water tank (1000 liter) not shown



Water tank (2000 liter) not shown

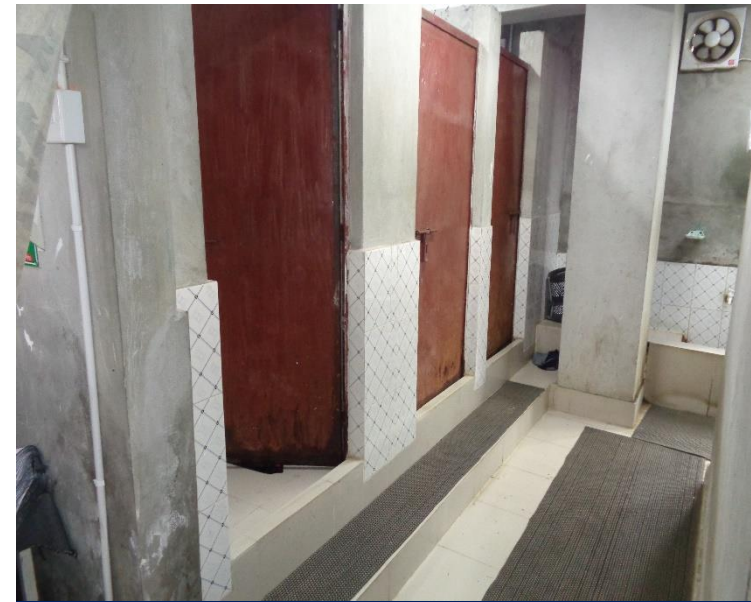


First floor plan



Dimension of internal toilet wall not shown in as-built drawing

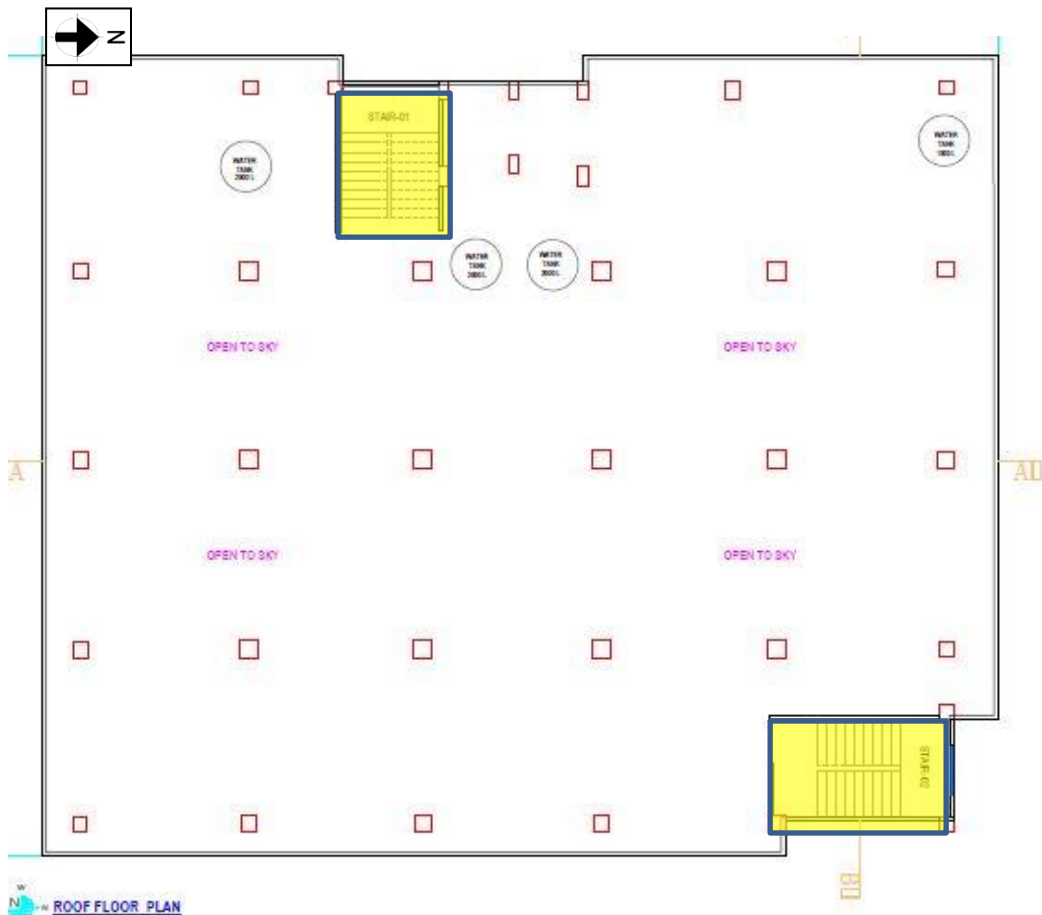
Dimension of internal brick partition wall at toilet areas is not shown in as-built architectural drawing. Factory engineer is required to update the as-built drawing showing dimension of all toilet partition wall.



Brick partition wall at toilet area

## Observations: Main Building

# Apparently inadequate connection



Stair locations



Apparently inadequate connection

At stair roof, rafters were observed as inadequately anchored with brick wall which were appeared to be inadequate for uplift forces. Building engineer is required to check the connection adequacy for uplift forces as part of EA.

# Water ponding on roof slab



Water ponding on roof slab

Water ponding on roof slab due to improper drainage system. Factory is required to improve drainage system with adequate slope on roof slab.

**Exposed reinforcement left at roof level**



Exposed reinforcement left at Staircase



Exposed reinforcement left at roof

Exposed reinforcement is left at roof level and staircase which was prone to corrosion. Factory is required to provide rust proof paint on exposed reinforcement to protect from corrosion.

# Priority Actions

# Problems Observed

## Main Building:

Item 01: Verify in-situ material strength

Item 02: Ducting in beam to be assessed

Item 03: Discrepancy and missing information in as-built drawing

Item 04: Apparently inadequate connection

Item 05: Water ponding on roof slab

Item 06: Exposed reinforcement left at roof level

Item No.	Observation	Recommended Action Plan	Recommended Timeline
01	Verify in-situ material strength (Main Building)	Building engineer is required to verify in-situ material strength and revise the design report accordingly.	6-weeks
02	Verify in-situ material strength (Main Building)	Implement remediation work if required.	6-months
03	Ducting in beam to be assessed (Main Building)	Building engineer is required to assess whether the structural strength of the beam has been compromised.	6-weeks
04	Ducting in beam to be assessed (Main Building)	Implement remediation work if required.	6-months
05	Discrepancy and missing information in as-built drawing (Main Building)	Building engineer is required to update the as-built drawing.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
06	Apparently inadequate connection (Main Building)	As part of EA, building engineer is required to check the connection adequacy of stair roof for uplift forces.	6-weeks
07	Apparently inadequate connection (Main Building)	Implement remediation work where required.	6-months
08	Water ponding on roof slab (Main Building)	Factory is required to improve roof drainage system with adequate slope.	6-weeks
09	Exposed reinforcement left at roof level (Main Building)	Factory is required to provide rust proof paint on exposed reinforcement to protect from corrosion.	6-weeks