Al-Muslim Washing Ltd. & Al-Muslim Garments Accessories Ltd (Extension)

14, Gedda,Karnapara,Ulail, Savar, Dhaka.

(23.82766, 90.25883)

24 March 2024

RSC RMG SUSTAINABILITY COUNCIL

Level 5, Shanta Forum, 187, 188/B,
Bir Uttam Mir Shawkat Sarak, Tejgaon,
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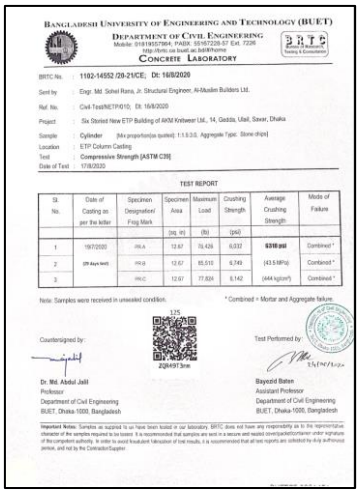
1. Building Information:

Building-5 (ETP Building 2)	Seven storied (G+6) RC building.
Building-6 (Yarn Dyeing Building)	Six-storied (G+5) RC building.
Washing Building (unit-05)	Two-storied (G+1) steel building.
Shed 2 (Chemical Shed):	Single-storied steel shed.
Shed-3 (Utility-III):	Single-storied steel shed.

2. Observations

Observation-1: Inadequate number of concrete cylinder test report (Building 5: ETP Building-2)



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

BRTC No. 1102-14552 /20-21/CE; Dt: 16/8/2020
Sent by : Engr. Md. Sohel Rana, Jr. Structural Engineer, Al-Muslim Builders Ltd.
Ref. No. : Civil-Test/NETP/010; Dt: 16/8/2020
Project : Six Storied New ETP Building of AKM Knitwear Ltd., 14, Gedda, Uail, Savar, Dhaka
Sample : Cylinder [Mix proportion(as quoted): 1:1.5:3.0, Aggregate Type: Stone chips]
Location : ETP Column Casting
Test : Compressive Strength [ASTM C39]
Date of Test : 17/8/2020

TEST REPORT

Sl. No.	Date of Casting as per the letter	Specimen Designation/ Fing Mark	Specimen Area (sq. in)	Maximum Load (lb)	Crushing Strength (psi)	Average Crushing Strength	Mode of Failure
1	19/7/2020	PR-A	12.67	78,426	6,037	6316 psi	Combined *
2	(28 days test)	PR-B	12.67	85,515	6,749	(43.5 MPa)	Combined *
3		PR-C	12.67	77,824	6,142	(444 kg/cm²)	Combined *

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

Countersigned by:
Dr. Md. Abdul Jalil
Professor
Department of Civil Engineering
BUET, Dhaka-1000, Bangladesh

Test Performed by:
Bayezid Baten
Assistant Professor
Department of Civil Engineering
BUET, Dhaka-1000, Bangladesh

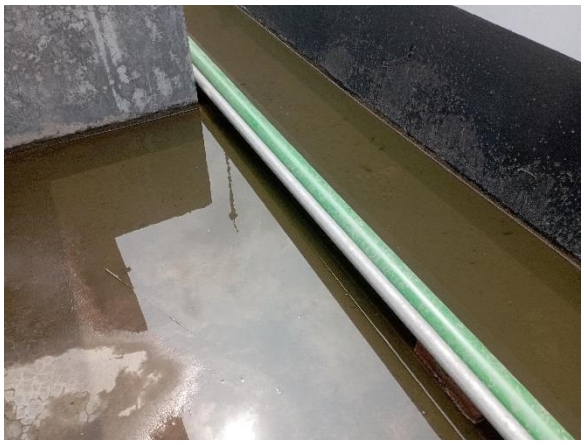
Important Notes: Samples as supplied to us have been tested in our laboratory. BRTC does not have any responsibility as to the representative character of the samples required to be tested. It is recommended that samples are sent in a secure and sealed cover/packet/container under signature of the competent 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.

Description: The design strength of the column is considered as 31 MPa (4500 Psi) but at the time of inspection only two sets of concrete cylinder test report were available from columns which doesn't meet the frequency test of concrete as per BNBC. The building engineer is required to take an adequate number of concrete cores from columns to confirm the design strength and submit the design report to RSC for further review.

Observation 2: Change in floor occupancy (Building 5-ETP Building-2).

Description: Undesignated prayer room found on 5th floor and undesignated storage found on 2nd floor. The building engineer is required to update the load plan and check the design as per BNBC requirements.

Observation-3: Water ponding on roof slab (Building 5: ETP Building-2).



Description: Water ponding was found on roof slab. The building engineer is required to improve drainage system on roof slab.

Observation-4: Non-structural elements found not anchored (Building 5-ETP Building-2)

Description: Nonstructural elements found not anchored. The building engineer is required to anchor/brace all nonstructural elements to resist the earthquake force.

Observation-5: Inconsistencies in the design report (Yarn Dyeing Building)

To Asses a structure one of the key inputs is the concrete strength. Concrete strength **5000 psi** is considered for **Footing**, **Column** and **Beam , 2045 psi** for slab & Strength deformed bar with Yield Strength 72,500 psi.

Description: The design strength of the column is considered as 34.5 MPa (5000 Psi) however the available concrete cylinder test report doesn't meet the frequency of testing requirement of BNBC. The diaphragm system, load transfer mechanism, integrity of pre-stressed & non-prestressed structural members are not clear. The details of prestressed beam and RC column is required to be incorporated in the design report.

The building engineer is required to take an adequate number of concrete cores from columns to confirm the design strength and revise the design documents accordingly.

Observation 6: Construction safety practice (Yarn Dyeing Building).

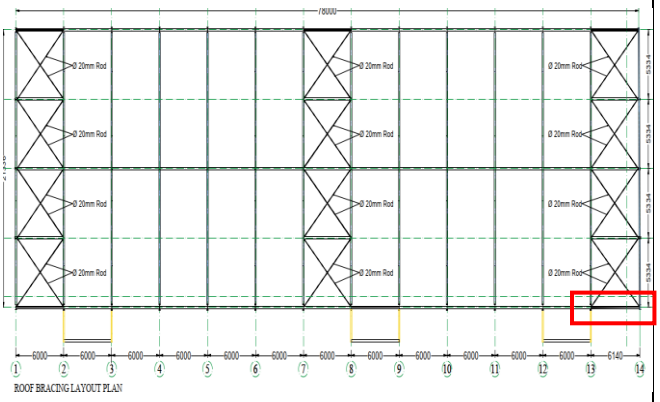
Description: Lack of construction safety practice observed on the front part of the building.

The building engineer is required to follow the prescribed construction safety practice as per BNBC Part VII Chapter 3.

Observation-6: Lateral stability of the shed needs to be reviewed. (Washing Building Unit 5)

Description: The lateral stability of the shed needs to be reviewed in detail.

Observation-8: Missing vertical bracing (Shed 2- Chemical Shed).



Description: Vertical bracing was missing at a marked location. The building engineer is required to check the lateral stability of the shed and install the missing bracing if required.

3. Action Plan

Observation	Action Plan	Timeline
Building 5-ETP Building		
Inadequate number of concrete cylinder test report (Building 5: ETP Building-2)	The building engineer is required to take at least four concrete cores from columns to confirm the design strength and revise the design report based on in-situ material strength and updated floor load plan. Submit the design documents to the RSC for further review.	within 6 weeks
Inadequate number of concrete cylinder test report (Building 5: ETP Building-2)	Implement remediation work if required.	within 6 months
Change in floor occupancy (Building 5: ETP Building-2).	The building engineer is required to update the load plan as per BNBC requirements.	within 6 weeks
Change in floor occupancy (Building 5: ETP Building-2).	Implement floor load management program.	within 6 months
Water ponding on roof slab (Building 5-ETP Building-2).	The building engineer is required to improve the drainage system on the roof slab.	within 6 months
Non-structural elements found not anchored (Building 5: ETP Building-2)	The building engineer is required to anchor/brace all non-structural elements to resist the earthquake force.	within 6 months
Inconsistencies in the design report (Yarn Dyeing Building)	The building engineer is required to take at least four concrete cores from each type of structural member to confirm the design strength and revise the design documents based on in-situ material strength.	within 6 weeks
Inconsistencies in the design report (Yarn Dyeing Building)	Implement remediation work if required.	within 6 months
Construction safety practice (Yarn Dyeing Building).	Building engineer is required to follow the prescribed construction safety practice as per BNBC Part VII Chapter 3.	within 6 weeks
Lateral stability of the shed needs to be reviewed. (Washing Building Unit 5)	The lateral stability of the shed is required to be reviewed in detail.	within 6 weeks
Lateral stability of the shed needs to be reviewed. (Washing Building Unit 5)	Implement remediation work if required.	within 6 months
Missing vertical bracing (Shed 2- Chemical Shed).	The building engineer is required to check the lateral stability of the shed.	within 6 weeks
	Install the missing bracing and any sort of alternatives if required.	within 6 months