Youngone (CEPZ) Limited (Extension 2)

Plot 03-06, 09-16, Sector # 2, Chattogram Export Processing Zone
(22.288646, 91.778393)

22 July 2025

RMG SUSTAINABILITY COUNCIL

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1. Building Information

Youngone (CEPZ) Ltd. (YCL-5): The structure is a six-storied (G+5) reinforced concrete (RC) building.

Two-Storied Compressor Shed: The structure is a two-storied (G+1) prefabricated steel shed.

Security Office-01: The structure is a single RC building.

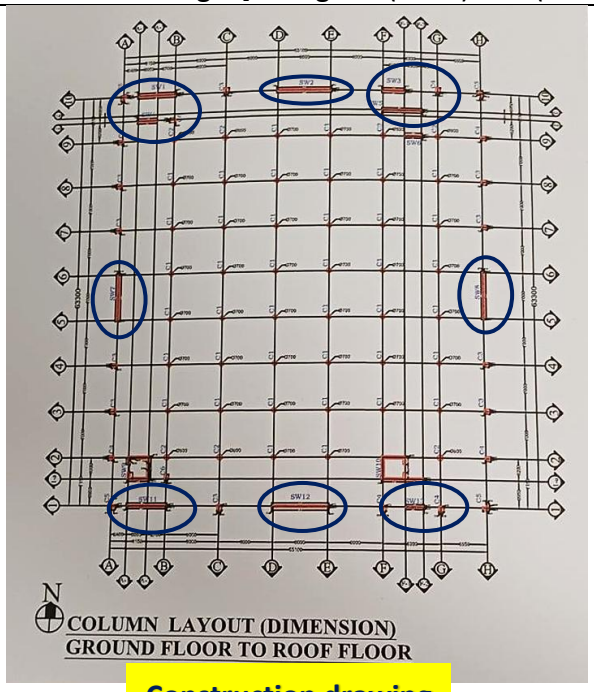
YCL-5 Compressor: The structure is a single storied shed.

AC Maintenance Room: The structure is a single-storied shed.

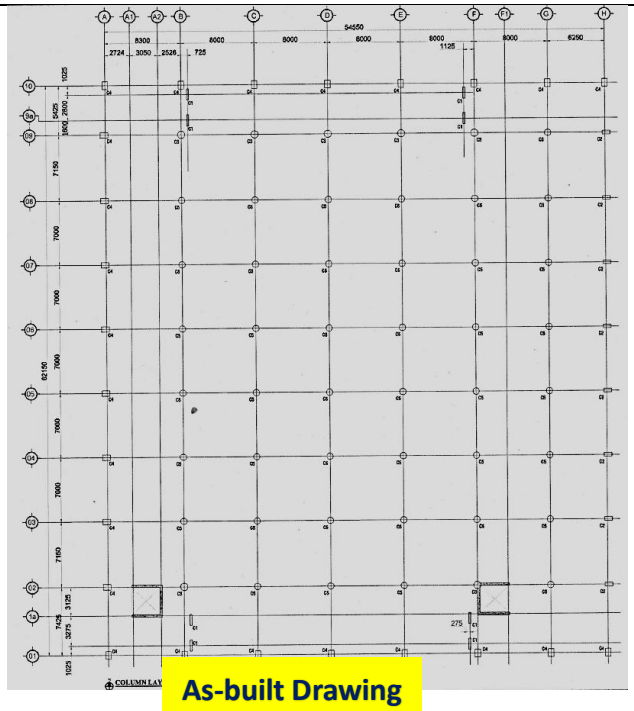
Carpentar Shed: The structure is a single-storied shed.

2. Observation:

Observation-01: Inconsistency in design philosophy between the Construction Drawings and the As-Built Drawings. [Youngone (CEPZ) Ltd. (YCL-5)]

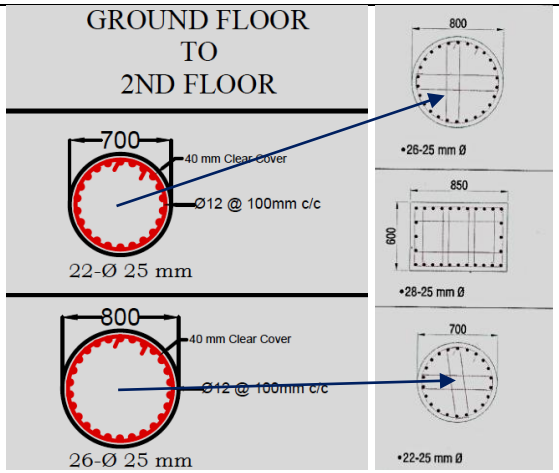


Construction drawing



As-built Drawing

Mismatch in the shear wall layout with the as-built condition



Tie bar missing in the construction drawing

NOTE:- Slab Thickness = **175mm**
A = Ø10mm @ 100mm c/c alt ckd
B = 1 - Ø12mm ext
C=Ø10mm @ 100mm c/c st bar

Construction drawing

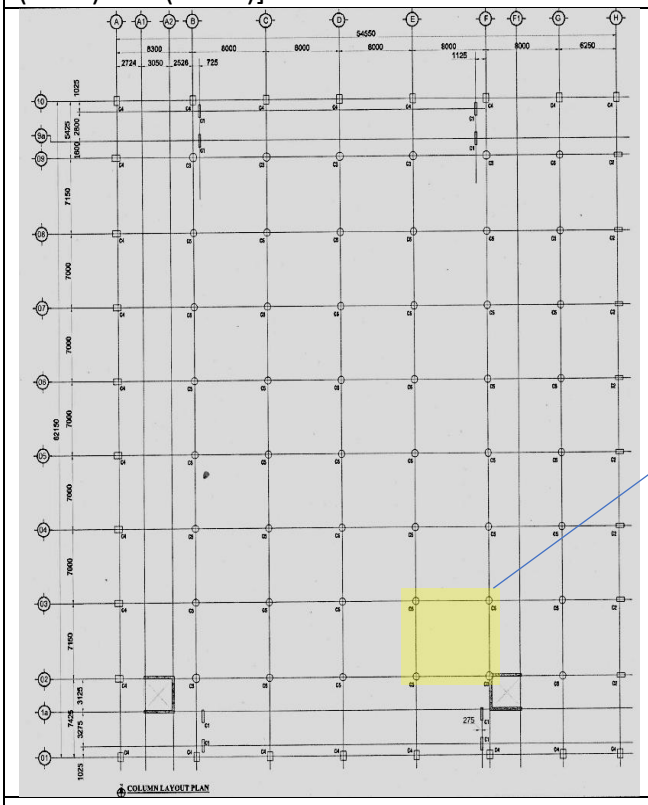
REINFORCEMENT
(A) 12 mm Ø @ 150mm c/c alt. ckd
(1) 1-12 mm Ø in between ckd.
SLAB THICKNESS = 185 mm

As-built drawing

Description: During inspection, the shear wall shown in the construction drawing was missing in the as-built drawing. Additionally, the tie bar arrangement for the circular columns does not match the construction drawing, and the slab thickness also differs from the construction drawing. The building engineer is required to verify the as-built condition, including the pile foundation, through Non-Destructive Testing (NDT).

Building engineer is required to check the design philosophy of the building and confirm the seismic requirements of the building as per BNBC.

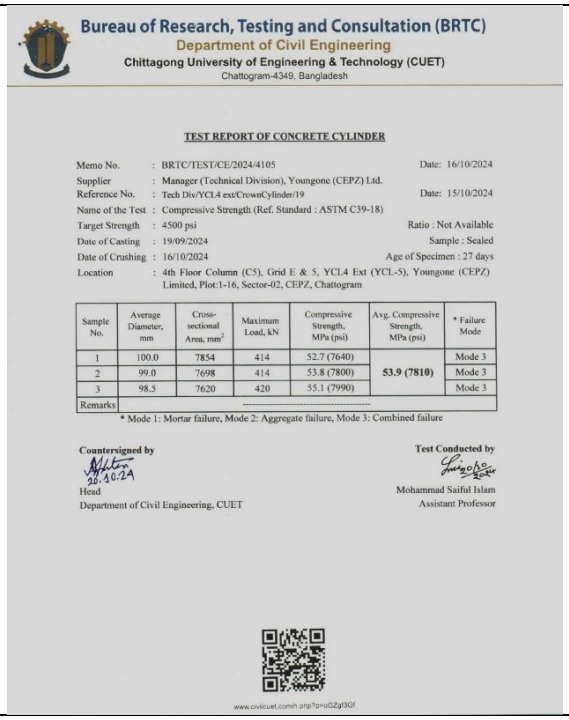
Observation-02: Columns to be marginally stressed above the normal design limit. [Youngone (CEPZ) Ltd. (YCL-5)]



Description: Cursory calculation indicates that the columns under the OHWT marginally stressed above the normal design limit, considering the minimum concrete strength and prepared live load plan.

Building engineer is required to review the design load and column stress.

Observation-03: Insufficient concrete strength test reports. [Youngone (CEPZ) Ltd. (YCL-5)]



Bureau of Research, Testing and Consultation (BRTC)
Department of Civil Engineering
Chittagong University of Engineering & Technology (CUET)
Chattogram-4349, Bangladesh

TEST REPORT OF CONCRETE CYLINDER

Memo No. : BRTC/TEST/CE/2024/4105 Date: 16/10/2024
Supplier : Manager (Technical Division), Youngone (CEPZ) Ltd.
Reference No. : Tech Div/YCL4 ext/CrownCylinder/19 Date: 15/10/2024
Name of the Test : Compressive Strength (Ref. Standard : ASTM C39-18)
Target Strength : 4500 psi Ratio : Not Available
Date of Casting : 19/09/2024 Sample : Sealed
Date of Crushing : 16/10/2024 Age of Specimen : 27 days
Location : 4th Floor Column (C5), Grid E & 5, YCL4 Ext (YCL-5), Youngone (CEPZ) Limited, Plot:1-16, Sector-02, CEPZ, Chattogram

Sample No.	Average Diameter, mm	Cross-sectional Area, mm²	Maximum Load, kN	Compressive Strength, MPa (psi)	Avg. Compressive Strength, MPa (psi)	* Failure Mode
1	100.0	7854	414	52.7 (7640)	53.9 (7810)	Mode 3
2	99.0	7698	414	53.8 (7800)		Mode 3
3	98.5	7620	420	55.1 (7990)		Mode 3
Remarks						

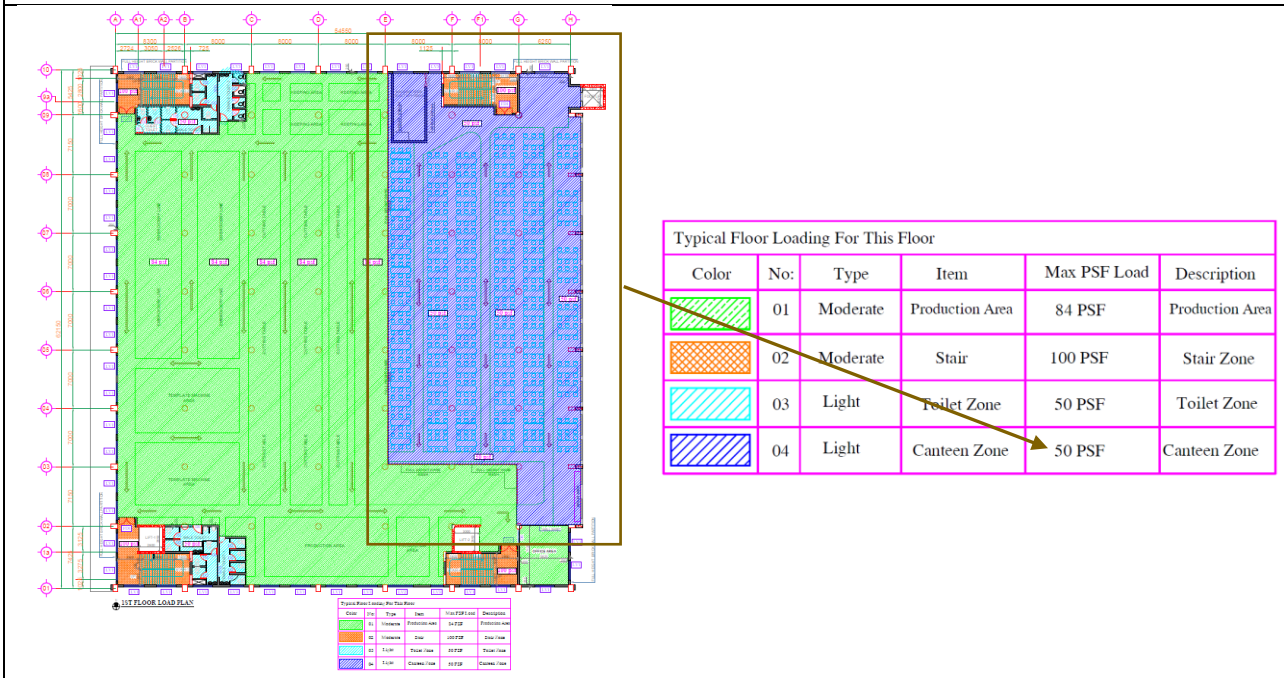
* Mode 1: Mortar failure, Mode 2: Aggregate failure, Mode 3: Combined failure

Countersigned by
Head
Department of Civil Engineering, CUET

Test Conducted by
Mohammad Saiful Islam
Assistant Professor

Description: The available test report during the inspection doesn't meet the evaluation & acceptance criteria of BNBC 2020. The building engineer is required to evaluate concrete strength by taking 4 concrete cores from lower-tier columns and 4 cores from beam/slab, as the existing cylinder test data do not meet the requirements of BNBC 5.12.1.

Observation-04: Prepared load plan doesn't comply with Table 6.2.3, BNBC 2020. [Youngone (CEPZ) Ltd. (YCL-5)]

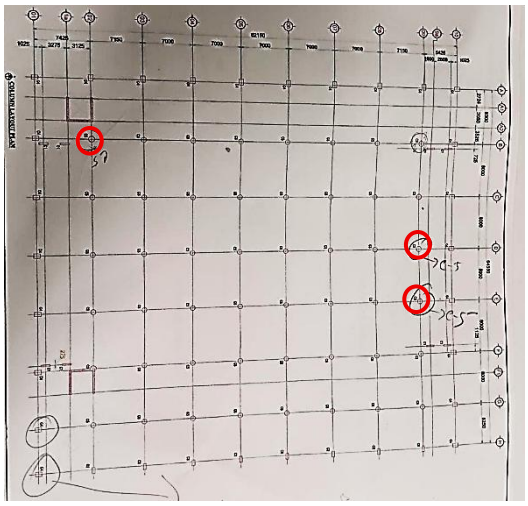


Typical Floor Loading For This Floor

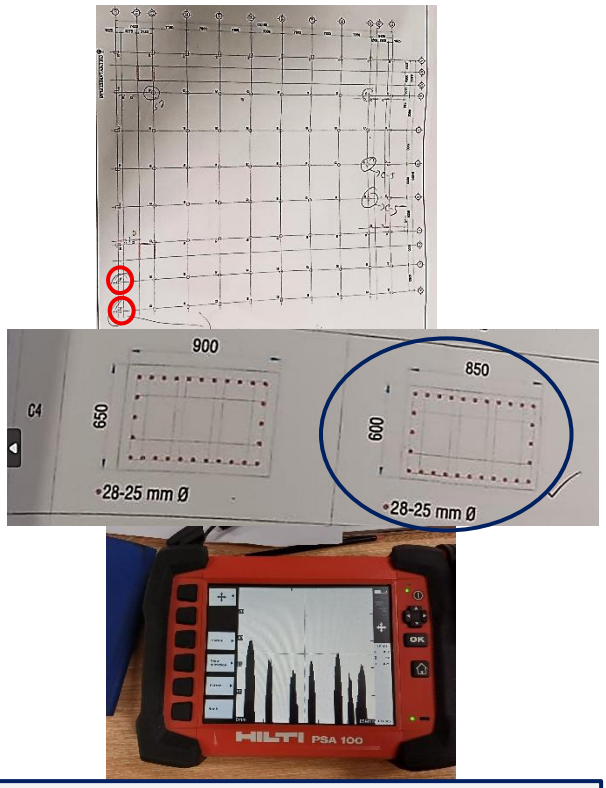
Color	No:	Type	Item	Max PSF Load	Description
	01	Moderate	Production Area	84 PSF	Production Area
	02	Moderate	Stair	100 PSF	Stair Zone
	03	Light	Toilet Zone	50 PSF	Toilet Zone
	04	Light	Canteen Zone	50 PSF	Canteen Zone

Description: During inspection, the allowable load at the canteen area is considered 50 psf, which doesn't comply with Table 6.2.3, BNBC 2020. Building engineer is required to revise the floor live load plan as per BNBC 2020.

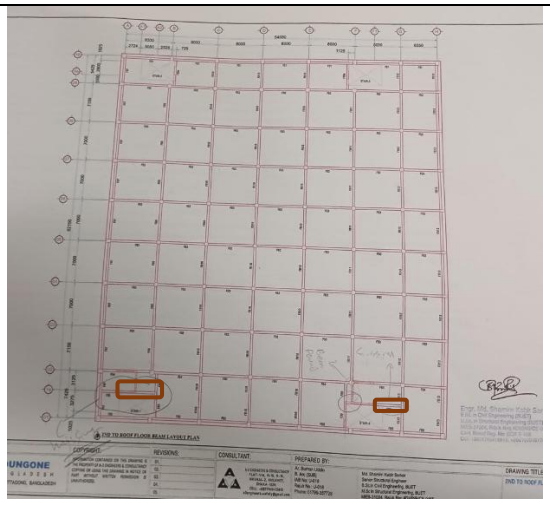
Observation-05: Discrepancies in the As-Built Drawings. [Youngone (CEPZ) Ltd. (YCL-5)]



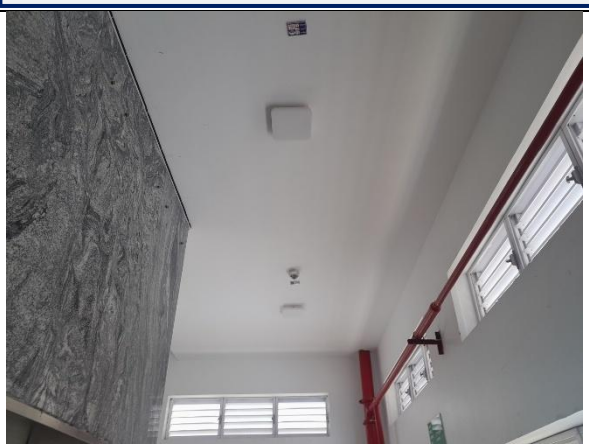
Column Dia. found 700mm instead of 800mm.



20 nos. rebar found instead of 28 nos. (C-4)



Beam missing.



Description: Discrepancies observed in the as-built drawing. Building engineer is required to survey the structure and prepare accurate and detailed as-built drawings.

Observation-06: Verification required for the Structural connection and contribution to the lateral load-resisting system of the lift core. [Youngone (CEPZ) Ltd. (YCL-5)]

Description: An external lift core was constructed up to the 3rd floor of the building. The structural connection and contribution to the lateral load-resisting system of the lift core is required to be verified. If the building is separated from the building, the building engineer is required to check the lateral stability of the lift core.

Observation-07: Water ponding on the roof. [Youngone (CEPZ) Ltd. (YCL-5)]


Description: During inspection, water ponding was found on the roof. Building engineer is required to improve the drainage system, maintaining adequate slope and drainage pipe.

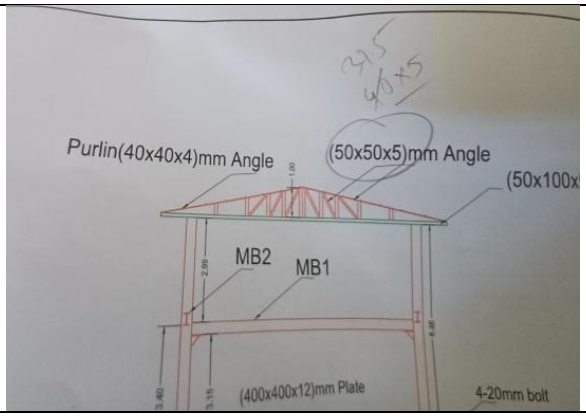
Observation-08: Non-structural elements found unbraced/not anchored. [Youngone (CEPZ) Ltd. (YCL-5)]

Description: During inspection, non-anchored racking system was found on-site. Building engineer is required to adequately brace or anchor all the non-structural elements.

Observation-09: Lack of lateral load resisting system. (Compressor Shed)

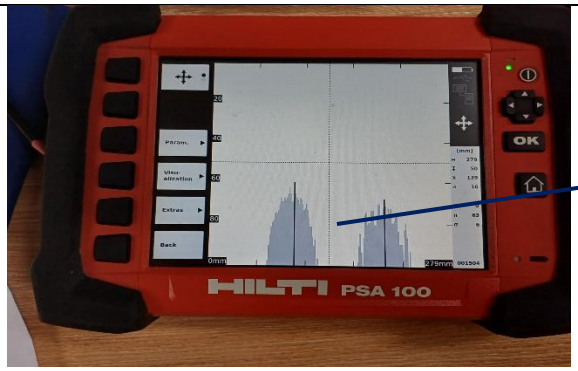
Description: Lack of lateral load resisting system observed (No Bracing, Compression Strut, Flexible diaphragm system) in the Compressor Shed. Building engineer is required to check the lateral stability system as part of the Engineering Assessment (EA).

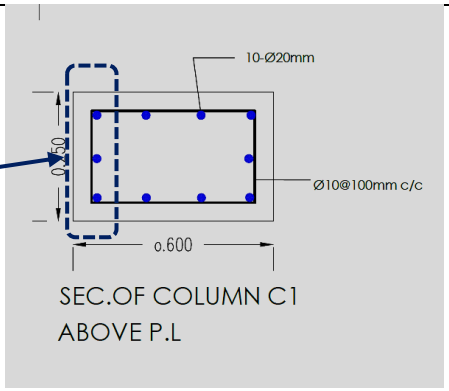
Observation-10: Discrepancies in the as-built drawing. (Compressor Shed)



Description: Mismatch found in the as-built drawing, angle size found 37.5mm X 37.5mm X 5mm instead of 50mm X 50mm X 5mm. Additionally, extended north portion was not incorporated in the as-built drawings. Building engineer is required to prepare a detailed and accurate as-built drawing.

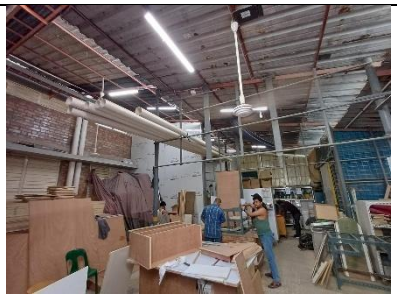
Observation-11: Discrepancies in the as-built drawing. (Security Office-01)





Description: Column rebar found 2 on one side by ferro scanning, whereas the drawing shows 3 rebar on that side. Building engineer is required to prepare a detailed and accurate as-built drawing and keep it on site.

Observation-12: Lack of lateral stability and as-built drawing. (YCL-5 Compressor, AC Maintenance Room and Carpenter Shed)



Description: Inadequate member sizes, poor connection details were observed on the sheds. A safety check report according to the Accord Building Standard is required to be prepared to check the inadequacies.

3. Action Plan

Item No	Observation	Action Plan	Timeline
1.	Inconsistency in design philosophy between the Construction Drawings and the As-Built Drawings. [Youngone (CEPZ) Ltd. (YCL-5)]	Building engineer is required to check the design philosophy of the building and confirm the seismic requirements of the building as per BNBC as part of the Engineering Assessment (EA)	within 6 weeks
2.		Building engineer is required to investigate the on-site condition by visual inspection and Non Destructive Testing (NDT) to confirm the accuracy of the as-built drawing.	within 6 weeks
3.	Columns to be marginally stressed above the normal design limit. [Youngone (CEPZ) Ltd. (YCL-5)]	Building engineer is required to review design load and column stress.	within 6 weeks
4.		Carry out suggested remedial works where required.	within 6 months
5.	Insufficient concrete strength test reports. [Youngone (CEPZ) Ltd. (YCL-5)]	Verify in-situ concrete strength by taking 4 concrete cores from lower-tier columns and 4 cores from beam/slab, as the existing cylinder test data do not meet the requirements of BNBC 5.12.1	within 6 weeks
6.	Prepared load plan doesn't comply with Table 6.2.3, BNBC 2020. [Youngone (CEPZ) Ltd. (YCL-5)]	Building engineer is required to revise the floor live load plan as per BNBC 2020. Implement the floor load management plan.	within 6 weeks
7.	Discrepancies in the As-Built Drawings. [Youngone (CEPZ) Ltd. (YCL-5)]	Building engineer is required to survey the structure and prepare accurate and detailed as-built drawings.	within 6 weeks
8.	Verification required for the Structural connection and contribution to the lateral load-resisting system of the lift core. [Youngone (CEPZ) Ltd. (YCL-5)]	The structural connection and contribution to the lateral load-resisting system of the lift core is required to be verified. If the building is separated from the building, the building engineer is required to check the lateral stability of the lift core.	within 6 weeks
9.	Water ponding on the roof. [Youngone (CEPZ) Ltd. (YCL-5)]	Building engineer is required to improve the drainage system, maintaining adequate slope and drainage pipe.	within 6 weeks
10.	Non-structural elements found unbraced/not anchored. [Youngone (CEPZ) Ltd. (YCL-5)]	Building engineer is required to adequately brace or anchor all the non-structural elements.	within 6 weeks

11.	Lack of lateral load resisting system. (Compressor Shed)	Building engineer is required to check the lateral stability system as part of the Engineering Assessment (EA).	within 6 weeks
12.		Carry out suggested remedial works where required.	within 6 months
13.	Discrepancies in the as-built drawing. (Compressor Shed)	Building engineer is required to survey the structure and prepare accurate and detailed as-built drawings.	within 6 weeks
14.	Discrepancies in the as-built drawing. (Security Office-01)	Building engineer is required to prepare a detailed and accurate as-built drawing and keep it on site.	within 6 weeks
15.	Lack of lateral stability and as-built drawing. (YCL-5 Compressor)	A safety check report according to the Accord Building Standard is required to be prepared to check the inadequacies.	within 6 weeks
16.		Building engineer is required to survey the structure and prepare accurate and detailed as-built drawings.	within 6 weeks
17.		Carry out suggested remedial works where required.	within 6 months
18.	Lack of lateral stability and as-built drawing. (AC Maintenance Room)	A safety check report according to the Accord Building Standard is required to be prepared to check the inadequacies.	within 6 weeks
19.		Building engineer is required to survey the structure and prepare accurate and detailed as-built drawings.	within 6 weeks
20.		Carry out suggested remedial works if required.	within 6 months
21.	Lack of lateral stability and as-built drawing. (Carpenter Shed)	A safety check report according to the Accord Building Standard is required to be prepared to check the inadequacies.	within 6 weeks
22.		Building engineer is required to survey the structure and prepare accurate and detailed as-built drawings.	within 6 weeks
23.		Carry out the suggested remedial works if required.	within 6 months