Mega Yarn Dyeing Mills Ltd (Extension 2)

Shardagonj, Gobindabari, Kashimpur, Gazipur, Bangladesh.

(23.965705, 90.285567)

18 December 2023



RSC RMG SUSTAINABILITY COUNCIL

Level 5, Shanta Forum, 187, 188/B,
Bir Uttam Mir Shawkat Sarak, Tejgaon,
Dhaka- 1208, Bangladesh
PABX: +8802 41081863-6
www.rsc-bd.org

1. Building Information

Building 12-New ETP building: Seven-storied (B+G+M+6) RC building with a mezzanine floor.

Building 13- Raw Yarn Store Shed: Single-storied steel structure.

Building 14-Nylon Winding Shed: Single-storied steel structure.

Building 15- Hard Winding Shed: Single-storied steel structure.

Building 16-Boiler Shed-1: Single-storied steel structure.

Building 17- Finished Yarn Store: Single-storied steel structure.

Building 18-Chemical Store: Single-storied steel structure.

Building 19- Local Winding Shed: Single-storied steel structure.

Building 20-LPG Shed: Single-storied steel structure.

Building 21- Yarn Store: Single-storied steel structure.

Building 22- Salt Store Shed: Single-storied steel structure.

Building 23-Boiler Shed-2: Single-storied steel structure.

Building 24-Wastage Shed: Single-storied steel structure.

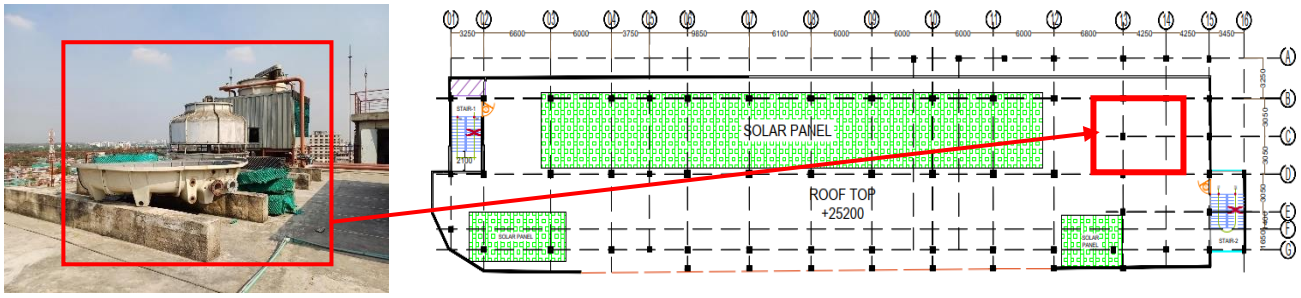
2. Observations:

Building 12-New ETP building:

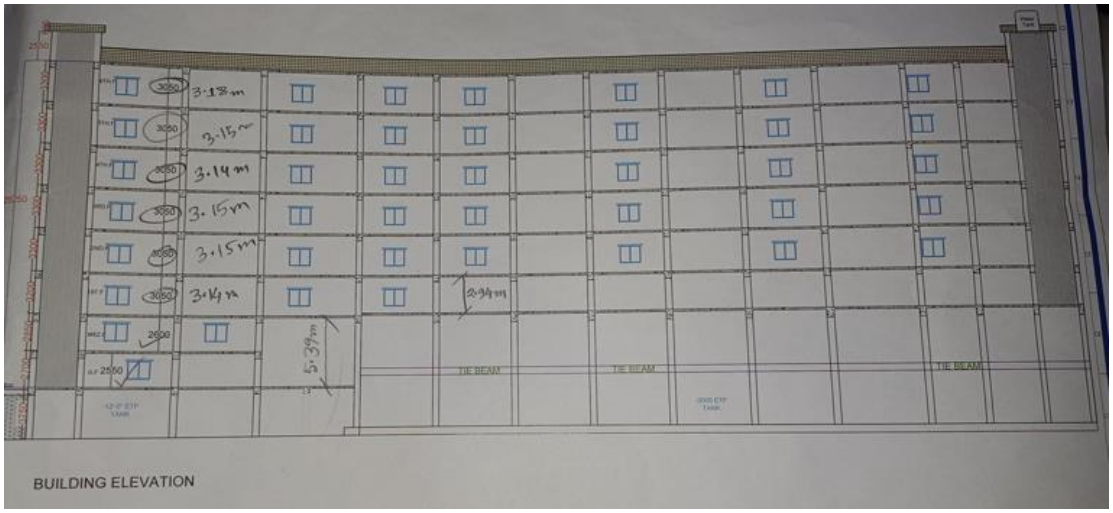
Observation-1: Absence of design report. (Building 12)

Description: As per BNBC, every building or structure designed shall have its design documents prepared following the provision of Section 1.9.1. The design document shall include a design report, a set of as-built drawings and load plans which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2, part 6 of BNBC.

Observation 2: Mismatch in as-built drawings. (Building 12)

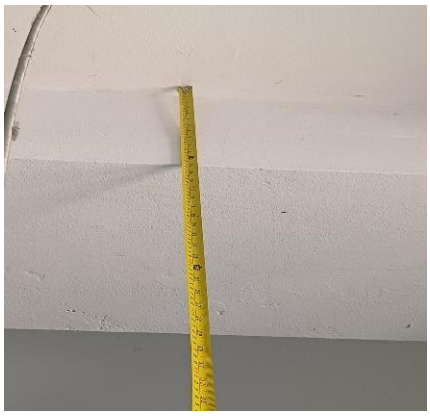


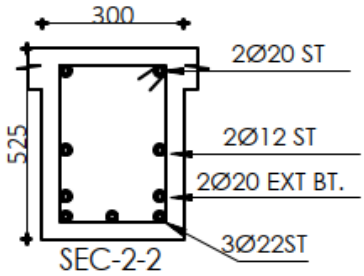
Missing cooling tower in architectural drawing



Mismatch in floor height

Mismatch in Grid distance

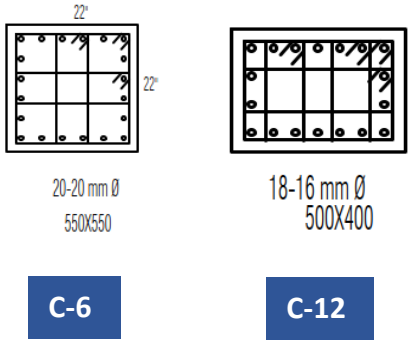




Mismatches in floor beam sizes

On-site rebar of column (Grid B-13)

On-site rebar of column (Grid D-10)



Column rebar schedule

Lack of drawings for below mentioned portion

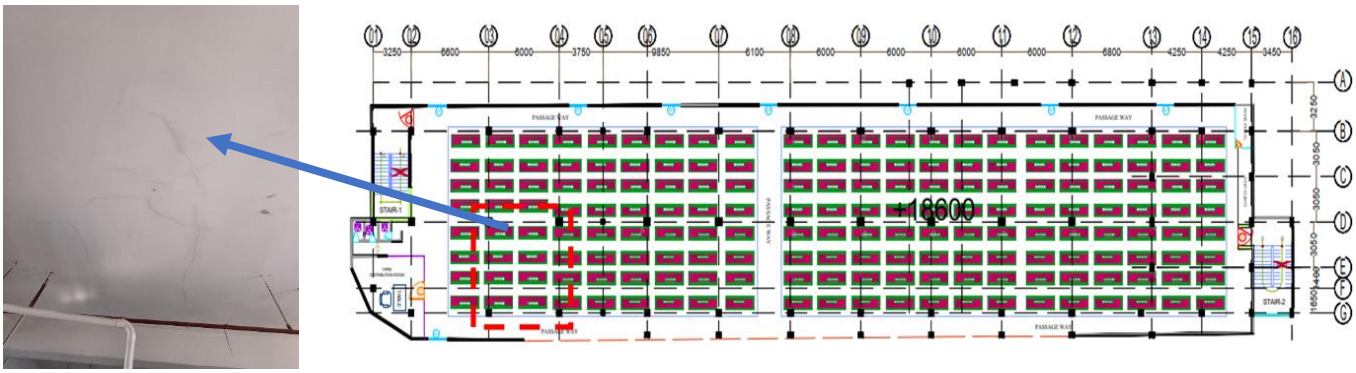
ETP Office Room

Filter Press M/C Room

Compressor Room

Description: During the inspection, mismatches were found in the as-built drawings. In the roof, a cooling tower was found on-site but in the architectural drawing, no cooling tower is shown. The floor height doesn't match the on-site condition. In structural drawing, each floor beam size is shown 300(w)X375(d/s) in the drawing; but during inspection, floor beam size was found 300(w)X300(d/s), 300(w)X400(d/s) and 300(w)X475(d/s). Grid distance at GL 13-14 & 14-15 doesn't match withdrawing. During inspection, 16nos. rebar was found instead of 20nos. rebar in the C6 column and 12nos. rebar was found instead of 18 nos. rebar in the C12 column on the 6th floor. As-built structural drawings of the ETP Office Room, Filter Press M/C Room and Compressor Room were not found on-site.

Observation-3: Cracks observed at the 6th-floor roof slab. (Building 12)



Description of observation: During the inspection, cracks were observed at the 6th-floor roof slab. The building engineer is required to investigate the reason for the crack, suggest necessary remedial actions and submit it to the RSC for review.

Observation 4: Improper racking system observed on the 1st floor.

Description: An improper racking system was found in the Dyes Chemical Storeroom on the 1st floor. Factory management is required to install a proper racking system at the store areas and provide anchorage to the non-structural elements including storage racks.

Building 14-Nylon Winding shed:

Observation-5: Lack of lateral stability.

Absence of load transfer media (Compression Strut) along transverse direction of rafter

Description: Lack of lateral stability system (compression strut & vertical bracing) was observed in the structure. The building engineer is required to carry out an Engineering Assessment (EA) to check the lateral stability of the structure and suggest proper remedial actions accordingly.

Observation 6: Loose cable bracing.

Description: Some roof cable bracings were found loose at the Nylon Winding Shed. The building engineer is required to tighten the loose bracings to transfer the lateral loads properly.

Observation-7: Corrosion on steel section.



Description: Severe corrosion was observed on steel members (steel column and rafter). The building engineer is required to remove the corrosion and provide a rust-proof coating on all steel members to protect from corrosion.

Observation-8: Gap in the connections.


Gap between baseplate and pedestal column


Gap between endplates of steel rafter

Description: During inspection, connection gaps were found in several locations. Building engineer is required to remove connection gap and take remedial actions accordingly.

Building 15-Hard winding shed:

Observation-9: Lack of design report.

Description: As per BNBC, every building or structure designed shall have its design documents prepared following the provision of Section 1.9.1. The design document shall include a design report, a set of as-built drawings and load plans which shall be prepared in compliance with section 1.9.1.1 and section 1.9.1.2, part 6 of BNBC.

Building 16-Boiler shed-1:

Observation-10: Lack of lateral stability.

Absence of load transfer media (Strut & bracings) along the transverse direction of truss

Description: Lack of lateral stability system (strut & bracings) was observed in the structure. The building engineer is required to carry out an Engineering Assessment (EA) to check the lateral stability of the structure and suggest proper remedial actions accordingly.

Building 17-Finished Yarn store:

Observation-11: Lack of lateral stability.

Description: Lack of lateral stability system (strut & bracings) was observed in the structure. The building engineer is required to carry out an Engineering Assessment (EA) to check the lateral stability of the structure and suggest proper remedial actions accordingly.

Observation-12: Corrosion on steel section.

Description: Severe corrosion was observed on steel columns. The building engineer is required to remove the corrosion and provide a rust-proof coating on all steel members to protect from corrosion.

Building 13- Raw Yarn Store Shed:

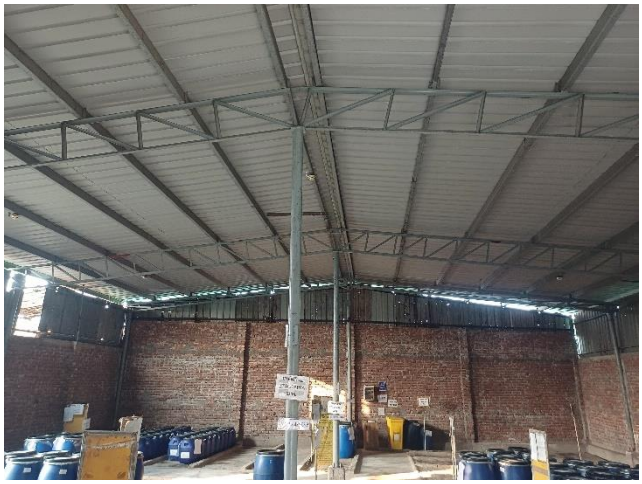
Observation 13: Lack of lateral stability and improper connections.

Absence of load transfer media (Strut & bracings) along long directions & improper connections

Description: Lack of lateral stability system (strut & bracings) & improper connections were observed in the structure. The building engineer is required to carry out an Engineering Assessment (EA) to check the lateral stability of the structure and suggest proper remedial actions accordingly.

Building 18- Chemical Store:

Observation 14: Lack of lateral stability.



Absence of load transfer media (strut & bracings) along the long direction

Description: Lack of lateral stability system (strut & bracings) was observed in the structure. The building engineer is required to carry out an Engineering Assessment (EA) to check the lateral stability of the structure and suggest proper remedial actions accordingly.

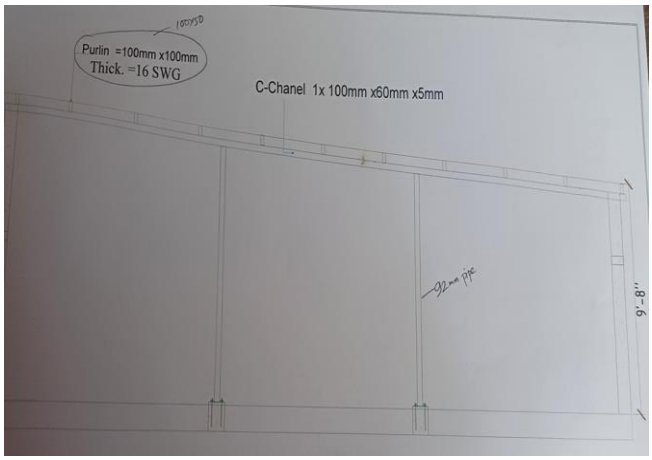
Building 19- Local Winding Shed:

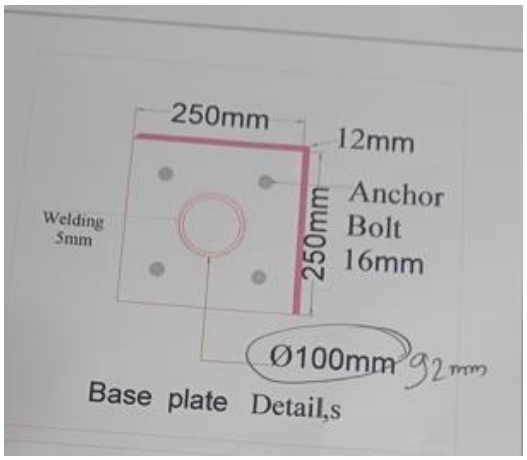
Observation 15: Lack of lateral stability and improper connections.

Absence of load transfer media (Strut & bracings) along long directions & improper connections

Description: Lack of lateral stability system (strut & bracings) & improper connections were observed in the structure. The building engineer is required to carry out an Engineering Assessment (EA) to check the lateral stability of the structure and suggest proper remedial actions accordingly.

Observation 16: Mismatch in as-built drawings.





Member size not matched in as-built drawing

Description: During the inspection, mismatches were found in the as-built drawings (member sizes did not match). The building engineer is required to survey the whole structure and revise the as-built drawing as per actual site condition.

Building 20- LPG Shed:

Observation 17: Lack of lateral stability and improper connections.

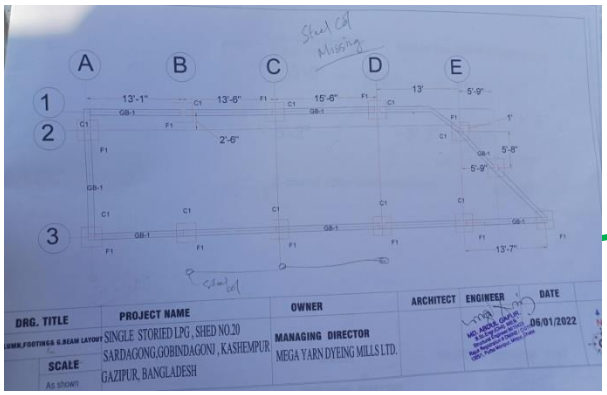
Absence of load transfer media (Strut & bracings) along long directions & improper connections

Description: Lack of lateral stability system (strut & bracings) & improper connections were observed in the structure. The building engineer is required to carry out an Engineering Assessment (EA) to check the lateral stability of the structure and suggest proper remedial actions accordingly. Submit the EA documents to RSC for review.

Observation 18: Corrosion on steel section.

Description: Severe corrosion was observed on steel columns. The building engineer is required to remove the corrosion and provide rust-proof coating on all steel members to protect from corrosion.

Observation 19: Mismatch in as-built drawings.



Steel column not shown in as-built drawing

Description: During the inspection, mismatches were found in the as-built drawings. The steel columns were not shown in the as-built drawing. The building engineer is required to survey the whole structure and revise the as-built drawing as per actual site condition.

<u>Building 21- Yarn Store:</u>

Observation 20: Lack of lateral stability and improper connections.

Absence of load transfer media (Strut & bracings) along long directions & improper connections

Description: Lack of lateral stability system (strut & bracings) & improper connections were observed in the structure. The building engineer is required to carry out an Engineering Assessment (EA) to check the lateral stability of the structure and suggest proper remedial actions accordingly. Submit the EA documents to RSC for review.

Observation 21: Corrosion on steel section.

Description: Severe corrosion was observed on steel columns. The building engineer is required to remove the corrosion and provide a rust-proof coating on all steel members to protect from corrosion.

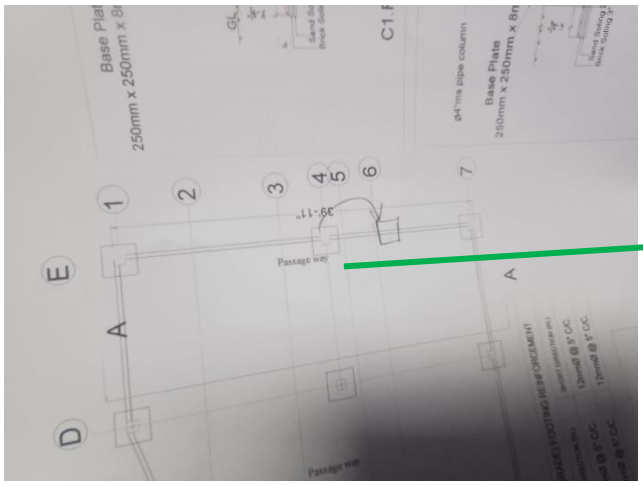
Building 22- Salt Store Shed:

Observation 22: Lack of lateral stability and improper connections.

Absence of load transfer media (Strut & bracings) along long the direction & improper connections

Description: Lack of lateral stability system (strut & bracings) & improper connections were observed in the structure. The building engineer is required to carry out an Engineering Assessment (EA) to check the lateral stability of the structure and suggest proper remedial actions accordingly. Submit the EA documents to RSC for review.

Observation 23: Mismatch in as-built drawings.



RCC column location not matched in as-built drawing

Description: During inspection, mismatches were found in the as-built drawings. The RCC column location did not match in the as-built drawing. The building engineer is required to survey the whole structure and revise the as-built drawing as per actual site condition.

Building 23- Boiler Shed-2:

Observation 24: Lack of lateral stability.

Absence of load transfer media (Strut & bracings) along long direction

Description: Lack of lateral stability system (strut & bracings) was observed in the structure. The building engineer is required to carry out Engineering Assessment (EA) to check the lateral stability of the structure and suggest proper remedial actions accordingly. Submit the EA documents to RSC for review.

Building 24- Wastage Shed:

Observation 25: Apparently non-engineered shed

Apparently non-engineered shed (supported on bamboo)

Description: During the inspection, the non-engineered bamboo-supported shed was found. The factory is required to replace the shed with a properly engineered one or demolish the shed.

3. Action Plan:

Serial	Observation	Action Plan	Timeline
1	Absence of design report. (Building 12)	The building engineer is required to prepare design report in compliance with section 1.9.1.1 and section 1.9.1.2, part 6 of BNBC.	within 6 weeks
2	Absence of design report. (Building 12)	Carry out remedial work where required.	within 6 months
3	Mismatch in as-built drawings. (Building 12)	The building engineer is required to revise the as-built drawing as per the actual site condition.	within 6 weeks
4	Cracks observed at the 6th floor roof slab. (Building 12)	The building engineer is required to investigate the reasons behind the crack and suggest proper remedial actions.	within 6 weeks
5	Cracks observed at the 6th floor roof slab. (Building 12)	Carry out remedial work where required.	within 6 months
6	Improper racking system observed on the 1st floor (Building 12)	Building engineer is required to brace/anchor all the non-structural elements	within 6 weeks
7	Lack of lateral stability and improper connections. (Building 13)	Building engineer is required to check the lateral stability of the shed as part of the Engineering Assessment (EA).	within 6 weeks
8	Lack of lateral stability and improper connections. (Building 13)	Carry out remedial work where required.	within 6 months
9	Lack of lateral stability. (Building 14)	Building engineer is required to check the lateral stability of the shed as part of the Engineering Assessment (EA).	within 6 weeks
10	Lack of lateral stability. (Building 14)	Carry out remedial work where required.	within 6 months
11	Loose cable bracing. (Building 14)	Building engineer is required to tighten all the loose cable bracings.	within 6 weeks
12	Corrosion on steel section. (Building 14)	Building engineer is required to remove the corrosion and provide a rust-proof coating on all steel members to protect from corrosion.	within 6 weeks
13	Gap in the connections. (Building 14)	Building engineer is required to survey the whole structure identify the locations of the connection gaps and suggest proper remediation.	within 6 weeks
14	Lack of design report. (Building 15)	The building engineer is required to prepared design report in compliance with section 1.9.1.1 and section 1.9.1.2, part-6 of BNBC.	within 6 weeks

15	Lack of design report. (Building 15)	Carry out remedial work where required.	within 6 months
16	Lack of lateral stability. (Building 16)	Building engineer is required to check the lateral stability of the shed as part of the Engineering Assessment (EA).	within 6 weeks
17	Lack of lateral stability. (Building 16)	Carry out remedial work where required.	within 6 months
18	Lack of lateral stability. (Building 17)	Building engineer is required to check the lateral stability of the shed as part of the Engineering Assessment (EA).	within 6 weeks
19	Lack of lateral stability. (Building 17)	Carry out remedial work where required.	within 6 months
20	Corrosion on steel section. (Building 17)	Building engineer is required to remove the corrosion and provide rust-proof coating on all steel members to protect from corrosion.	within 6 weeks
21	Lack of lateral stability. (Building 18)	Building engineer is required to check the lateral stability of the shed as part of the Engineering Assessment (EA).	within 6 weeks
22	Lack of lateral stability. (Building 18)	Carry out remedial work where required.	within 6 months
23	Lack of lateral stability and improper connections. (Building 19)	Building engineer is required to check the lateral stability of the shed as part of the Engineering Assessment (EA).	within 6 weeks
24	Lack of lateral stability and improper connections. (Building 19)	Carry out remedial work where required.	within 6 months
25	Mismatch in as-built drawings. (Building 19)	The building engineer is required to survey the whole structure and revise the as-built drawing as per actual site condition.	within 6 weeks
26	Lack of lateral stability and improper connections. (Building 20)	Building engineer is required to check the lateral stability of the shed as part of the Engineering Assessment (EA).	within 6 weeks
27	Lack of lateral stability and improper connections. (Building 20)	Carry out remedial work where required.	within 6 months
28	Corrosion on steel section. (Building 20)	Building engineer is required to remove the corrosion and provide rust-proof coating on all steel members to protect from corrosion.	within 6 weeks
29	Mismatch in as-built drawings. (Building 20)	The building engineer is required to survey the whole structure and revise the as-built drawing as per actual site condition.	within 6 weeks
30	Lack of lateral stability and improper connections. (Building 21)	Building engineer is required to check the lateral stability of the shed as part of the Engineering Assessment (EA).	within 6 weeks
31	Lack of lateral stability and improper connections. (Building 21)	Carry out remedial work where required.	within 6 months

32	Corrosion on steel section. (Building 21)	Building engineer is required to remove the corrosion and provide rust-proof coating on all steel members to protect from corrosion.	within 6 weeks
33	Lack of lateral stability and improper connections. (Building 22)	Building engineer is required to check the lateral stability of the shed as part of the Engineering Assessment (EA).	within 6 weeks
34	Lack of lateral stability and improper connections. (Building 22)	Carry out remedial work where required.	within 6 months
35	Mismatch in as-built drawings. (Building 22)	The building engineer is required to survey the whole structure and revise the as-built drawing as per actual site condition.	within 6 weeks
36	Lack of lateral stability. (Building 23)	Building engineer is required to check the lateral stability of the shed as part of the Engineering Assessment (EA).	within 6 weeks
37	Lack of lateral stability. (Building 23)	Carry out remedial work where required.	within 6 months
38	Apparently non-engineered shed. (Building 24)	The factory is required to replace the shed with a properly engineered one or demolish the shed.	within 6 weeks