

Debonair Limited (extension)

Gorat, Ashulia, Savar, Dhaka.

(23.9434828, 90.303726)

29th December 2020

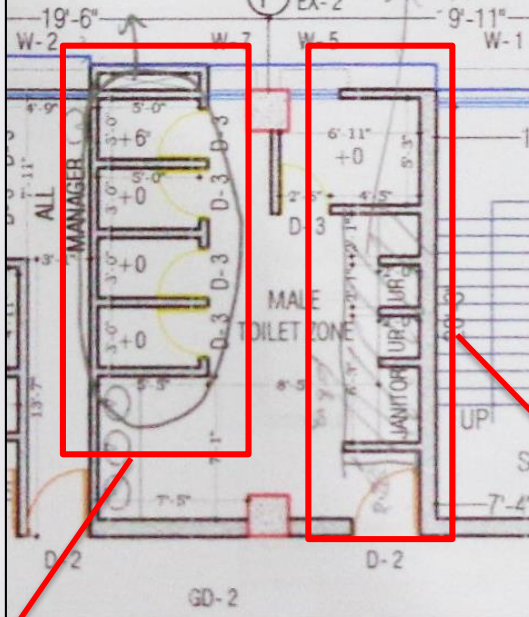
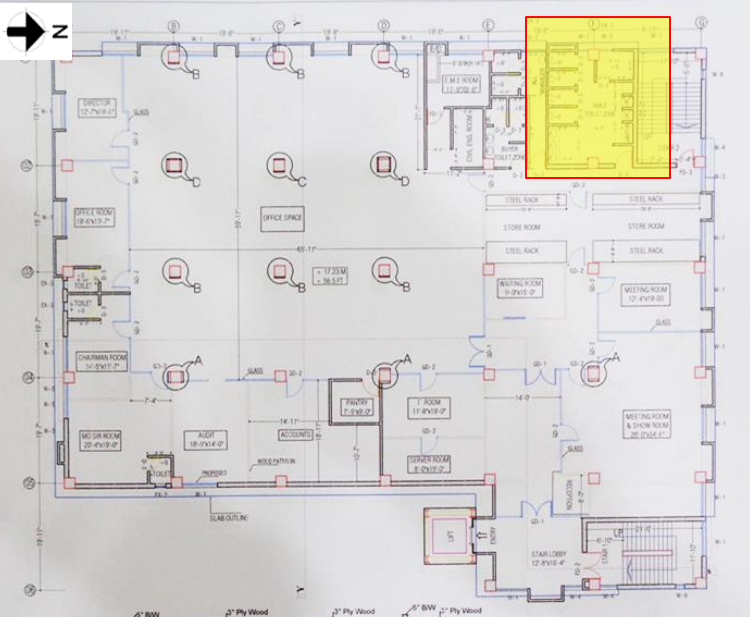


Building Information

1. Office Building (G+4)
2. Template Sewing Shed (single storied)
3. Finished Good Warehouse (Single storied)

Observations

Discrepancies in as built drawing



Maximum build up found 300 mm at 4th floor ablation zone.



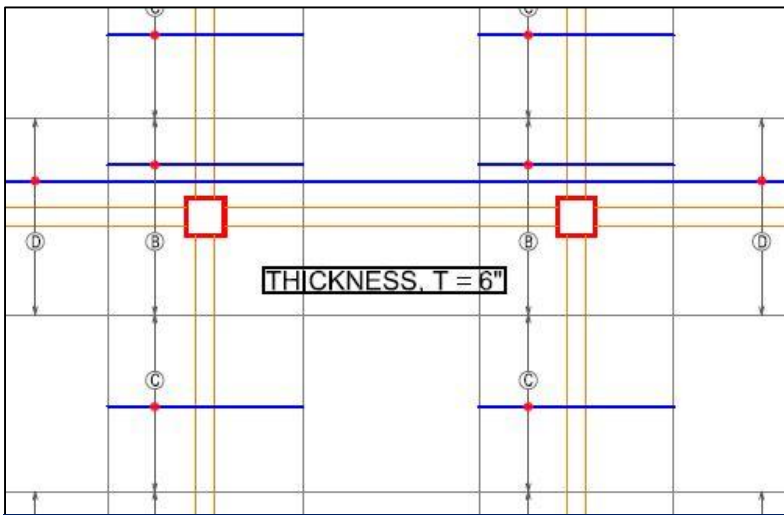
In as-built floor layout, urinal has been shown. But during inspection, ablation zone was found at that location with 300 mm buildup.



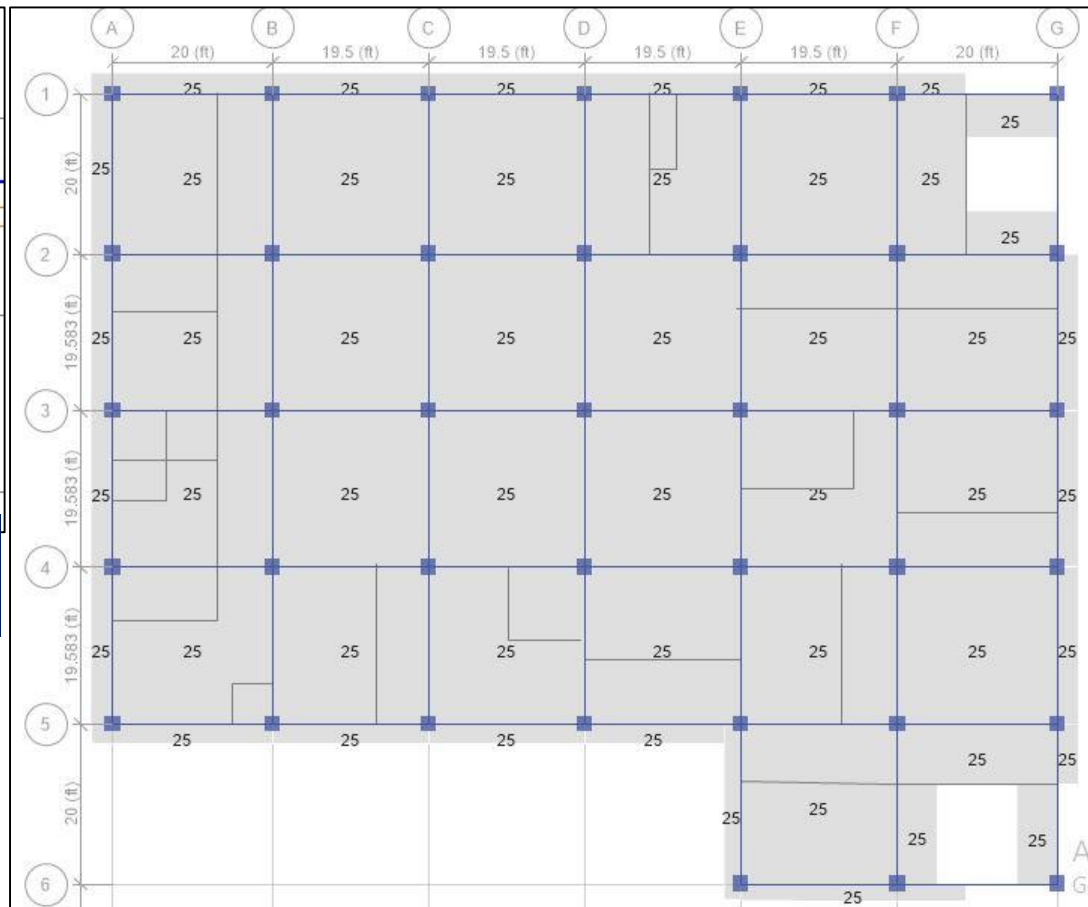
In as-built architectural drawing, the height of the toilet partition wall has not been provided. During inspection, the height of the partition wall was found 2.5 m.

Factory engineer is required to survey the whole structure and update the as-built drawing.

Design report need to be revised.



In as-built structural drawing slab thickness has been shown 150mm.



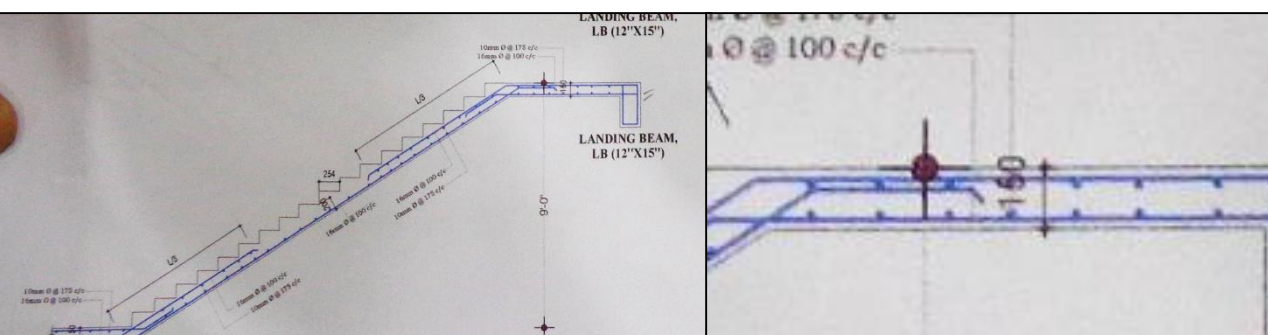
Super imposed Dead Load for Floor Finish is found 25 psf (1.2 kPa).



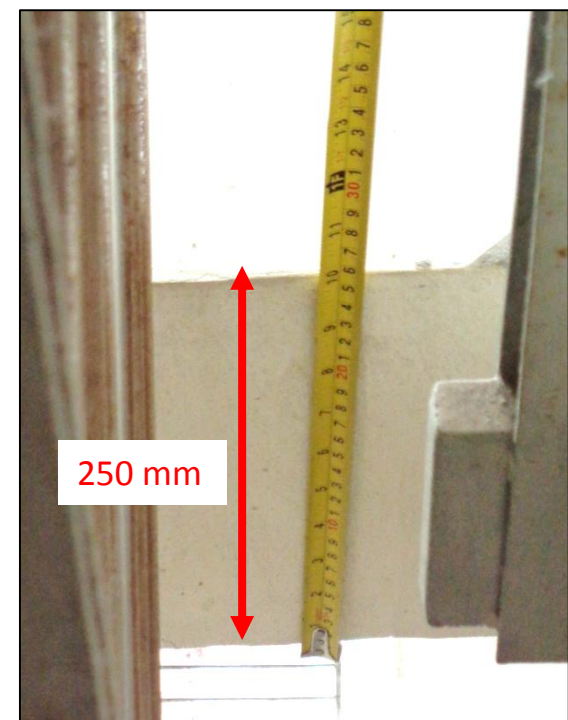
235 mm

Floor thickness including finishes

Thickness of the floor was found 235 mm including finishes. So, thickness of the floor finishes is 85 mm. In the software analysis, 25 psf (1.2 kPa) has been considered as super imposed dead load which is equivalent to 50 mm floor finishes. Factory engineer is required to review the design considering the additional super imposed dead load.



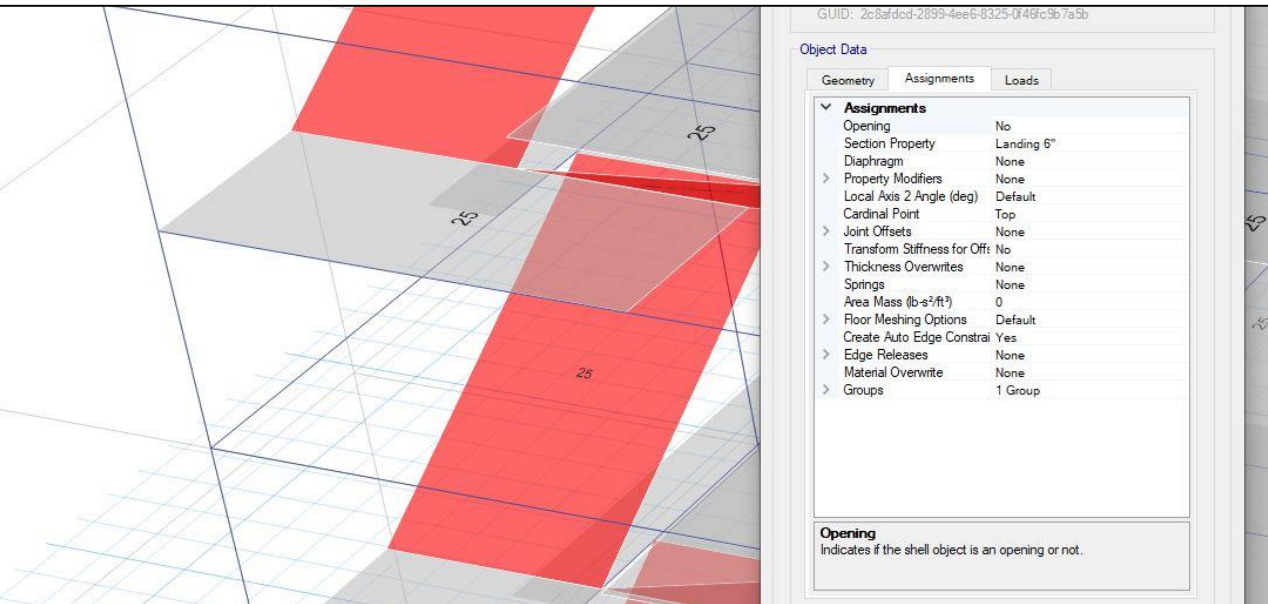
In as-built structural drawing landing slab thickness has been shown as 150 mm.



250 mm

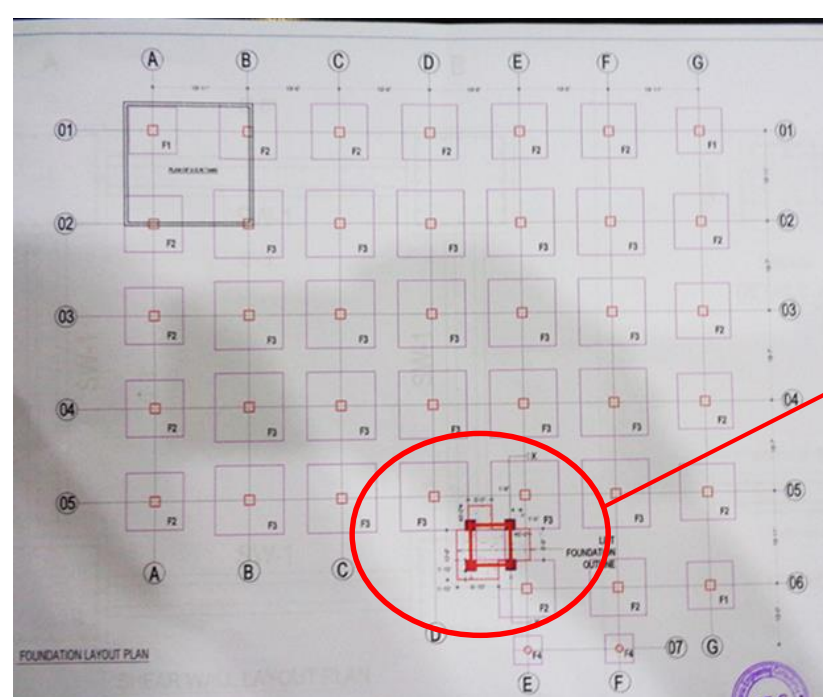
Floor thickness including finishes

Thickness of the landing was found 250 mm including finishes. So, thickness of the floor finishes in landing is 100 mm.



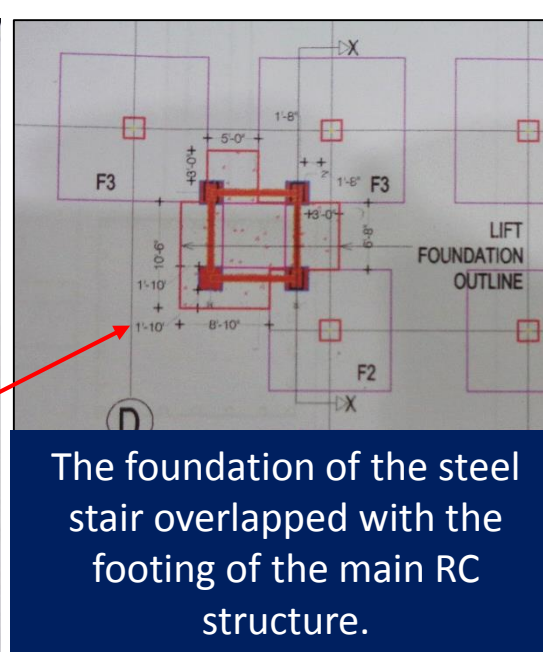
Super imposed Dead Load for Floor Finish is found 25 psf (1.2 kPa).

In the software analysis, 25 psf (1.2 kPa) has been considered as super imposed dead load for floor finishes which is equivalent to 50 mm floor finishes. Factory engineer is required to review the design considering the additional super imposed dead load.

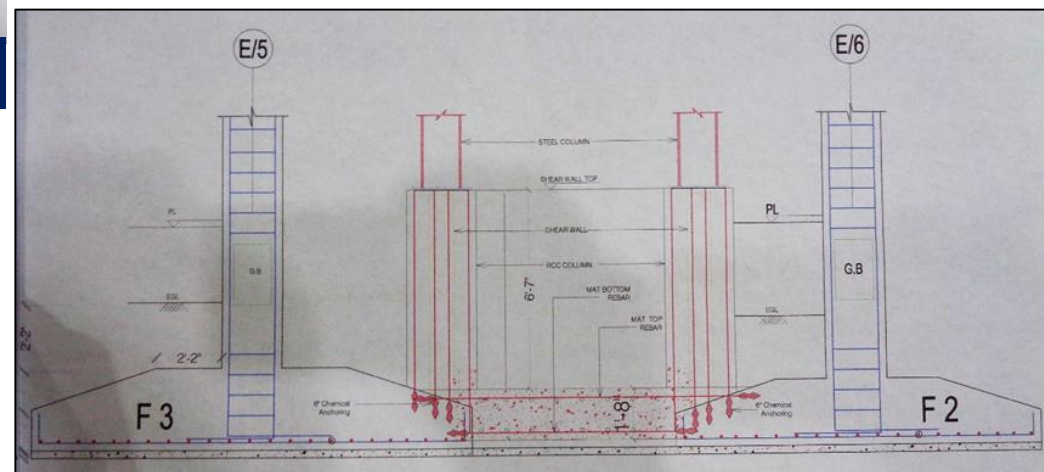


Foundation Layout plan.

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. Factory engineer is required to revise the design documents considering the present condition of the structure.



The foundation of the steel stair overlapped with the footing of the main RC structure.



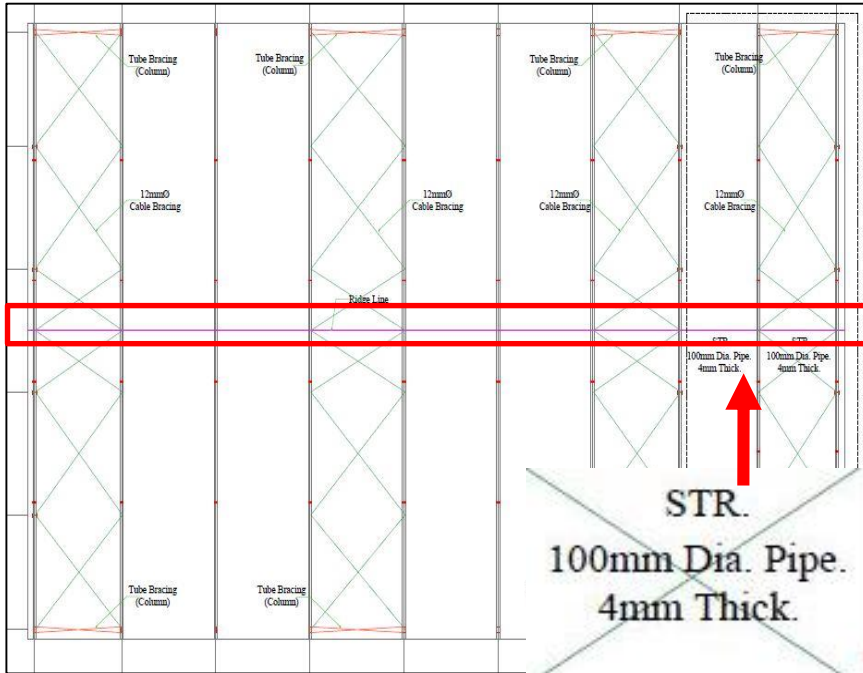
As per drawing, foundation of the steel stair has been connected with the footing of the main RC structure. This issue has not been covered in design report illustrating the capacity of the new foundation system

Damage in waterproofing



Cement-based finishes of waterproofing was found damaged in certain areas. Consequently, any cracks or damage in the surface finishes on the roof will allow water to pond and seep into the concrete slab beneath the finishes and cause long-term soaking of the slab.

Missing lateral stability element in long direction

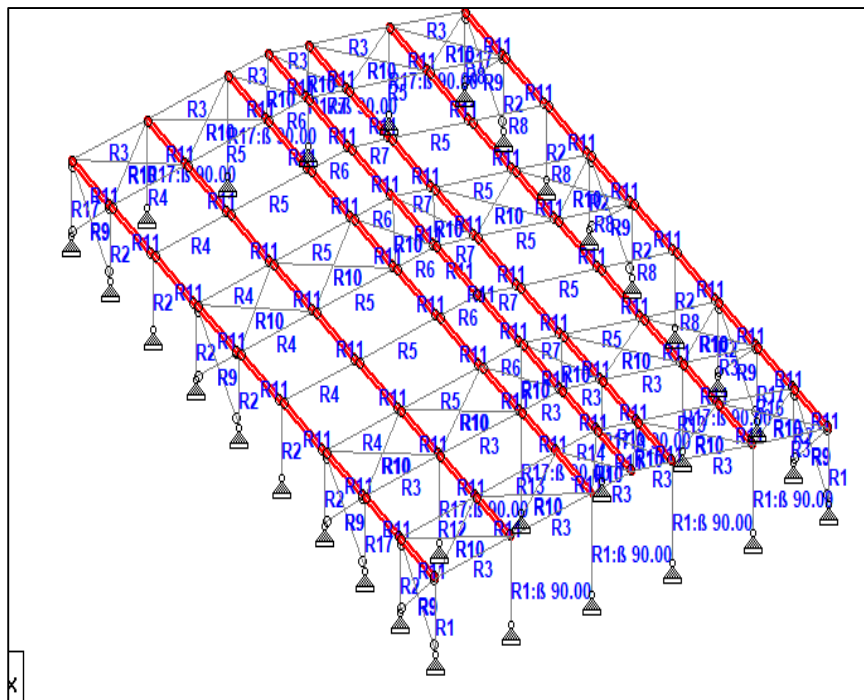


100 mm diameter pipe shown along ridge as a compression strut



No compression strut was found along ridge.

Factory engineer is required to check the lateral stability in the long direction and requirement of stability member/compression strut in that direction.
All serviceability and stability checks are required to prepare in compliance with section 1.9.1 as per BNBC.



Purlins are assigned in FEA model along rafter to rafter as compression strut



Connection of purlin to rafter

Purlins are assigned as compression strut in FEA model along rafter to rafter. Factory engineer is required to verify the Design Report considering the connection of rafter to purlin and prepare full set of drawings in compliance with section 1.9.1 as per BNBC.

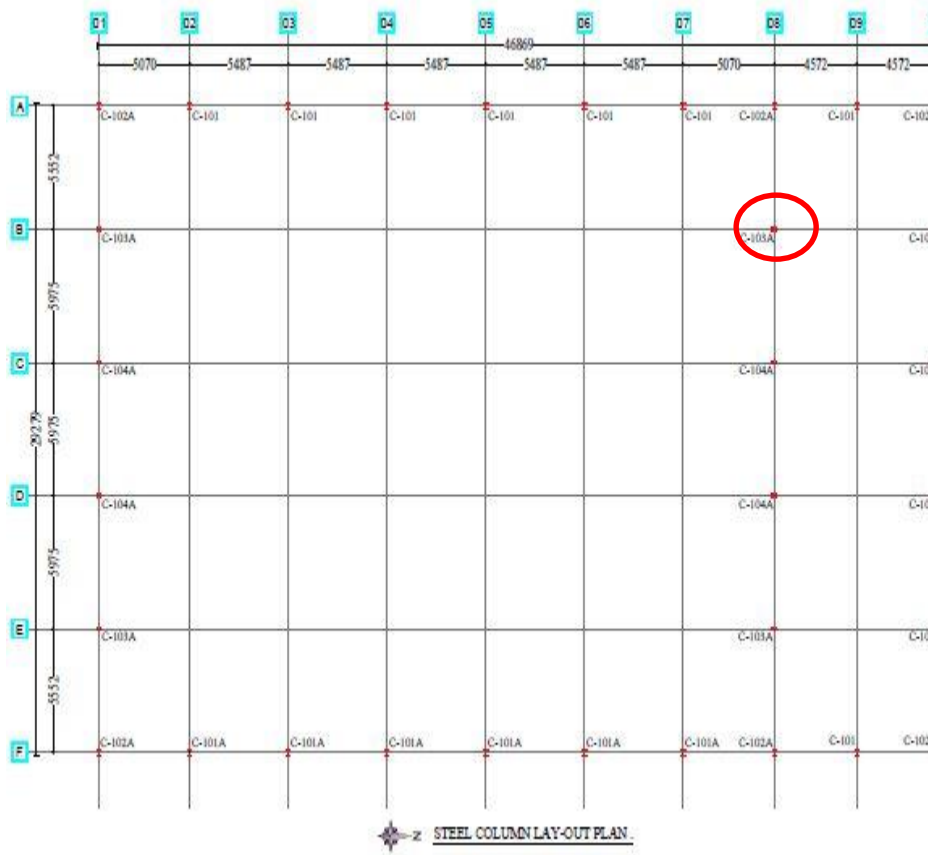
Cracks in brick wall



Crack in brick wall

During inspection crack was found in several locations of brick wall. Factory engineer is required to investigate the cause of crack and repair the crack as per recommendation from investigation report.

Corrosion in steel column



Corrosion in steel column

During inspection corrosion was found in the steel column at Template Sewing Shed. Factory is required to provide rust proof paint on the corroded areas to protect the steel members from corrosion.

Loose cable bracing



Loose cable bracing

Loose cable bracing was found in several locations. Factory engineers is required to tighten all loose bracing.

Capacity of steel rack to be reviewed



Storage load resting on multi storied steel rack

Storage was found resting on multi storied steel racks inside the Finished Goods Warehouse Shed. Storage was found maximum 2 kPa on the rack's floors. No design documents and allowable load plan were available. Factory engineer is required to produce load plan according to the capacity of steel rack.



Storage load resting on multi storied steel rack

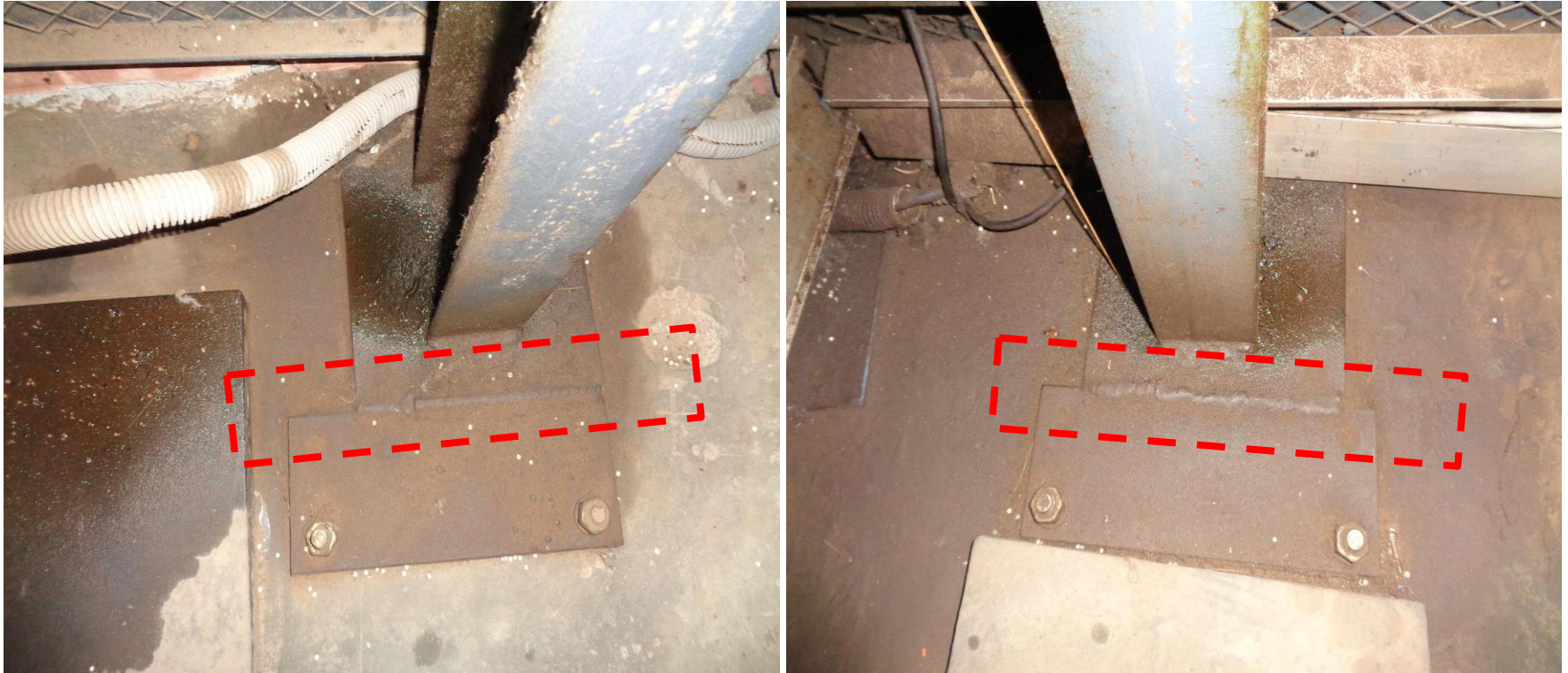
Missing bolts at support of steel rack



Missing bolts at support

During inspection bolts were missing in support at several locations of steel rack. Factory is required to install all missing bolts as per guidance by the factory engineer.

Apparently inadequate support system of lift column



Support system of column is appeared to be unstable

Baseplate of steel column of lift was found welded horizontally with another plate which is appeared to be inadequate. Factory is required to check the adequacy of the support system and implement remediation if required.

Problems Observed

Office Building:

Item 01: Discrepancies in as built drawing.

Item 02: Design report needs to be revised.

Item 03: Damage in waterproofing.

Template Sewing Shed:

Item-04: Missing lateral stability element in long direction.

Item-05: Crack in Brick wall

Item-06: Corrosion in steel column

Finish Goods Warehouse Shed:

Item-07: Loose cable bracing

Item-08: Capacity of steel rack to be verified

Item-09: Missing bolts at support of steel rack

Item-10: Apparently inadequate support system of lift column.

Priority Actions

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Discrepancies in as built drawing (Office Building)	Building Engineer to survey the structure and update the as-built (architectural and structural) drawings that are compliance with section 1.9.1.2 as per BNBC (part-6, BNBC).	6-weeks
2	Design report need to be revised (Office Building)	Building engineer to update the design document including design report that in compliance with section 1.9.1.1 as per BNBC.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
3	Design report need to be revised (Office Building)	Complete implementation of any remedial works deemed necessary by the Design Report.	6-months
4	Damage in waterproofing (Office Building)	The factory engineer to repair the damaged area of the finish to prevent water ponding and long-term soaking of the slab.	6-months

Item No.	Observation	Recommended Action Plan	Recommended Timeline
5	Missing lateral stability element in long direction. (Template Sewing Shed)	Factory engineer is required to check the lateral stability in the long direction and requirement of stability member/compression strut in that direction.	6-weeks
6	Missing lateral stability element in long direction. (Template Sewing Shed)	All serviceability and stability checks are required to prepare in compliance with section 1.9.1 as per BNBC.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
7	Missing lateral stability element in long direction. (Template Sewing Shed)	Implement any remediation work where necessary.	6-months
8	Crack in Brick wall (Template Sewing Shed)	Factory engineer is required to investigate the cause of crack and repair the crack as per recommendation from investigation report.	6-weeks
9	Corrosion in steel column (Template Sewing Shed)	Factory is required to provide rust proof paint on the corroded areas to protect the steel members from corrosion.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
10	Loose cable bracing (Finished Goods Warehouse Shed)	Factory is required to tighten all loose bracing as per guidance by the factory engineer.	6-weeks
11	Capacity of steel rack to be verified (Finished Goods Warehouse Shed)	Factory engineer is required to carryout the capacity of the rack considering the storage loading.	6-weeks
12	Capacity of steel rack to be verified (Finished Goods Warehouse Shed)	Produce and actively manage load plan according to the structural capacity of the steel rack.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
13	Capacity of steel rack to be verified (Finished Goods Warehouse Shed)	Implement load management plan.	6-months
14	Missing bolts at support of steel rack (Finished Goods Warehouse Shed)	Install all the missing bolts.	6-weeks
15	Apparently inadequate support system of lift column (Finished Goods Warehouse Shed)	Factory is required to check the adequacy of the support system.	6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
16	Apparently inadequate support system of lift column (Finished Goods Warehouse Shed)	Implement any remediation work if required.	6-months