

Shanta Washworks Limited

Plot No. 219,DEPZ (Extension Area), Ganakbari, Ashulia, Dhaka-1349
(23.942745, 90.282229)
3rd March 2021



Building Information

1. Main Production Building (G+1)
2. Utility Building (Single storied)
3. Wastage Shed (Single storied)
4. Security Guard Room (Single storied)

Observations

**Prepared Engineering Assessment (EA) needs
to be updated**

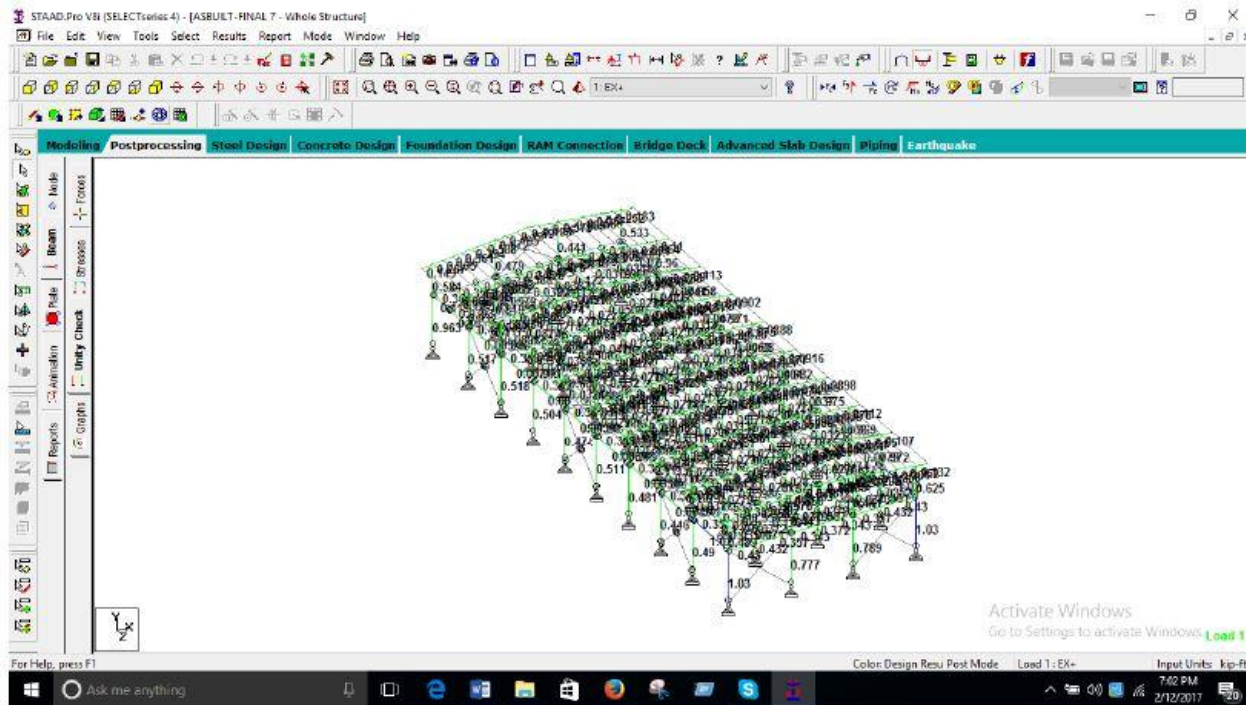
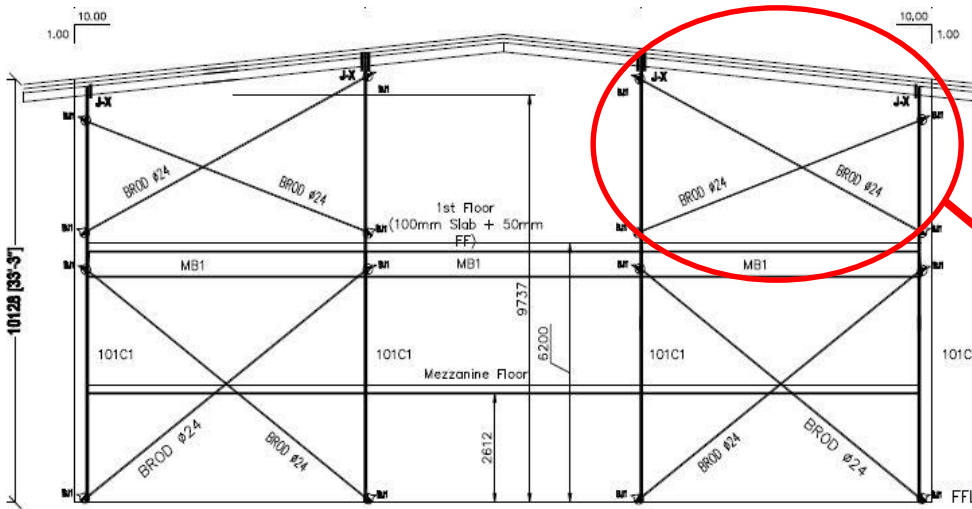


Fig: Stress Ratio is <1.05

Stress ratio of structural members shown in drawing

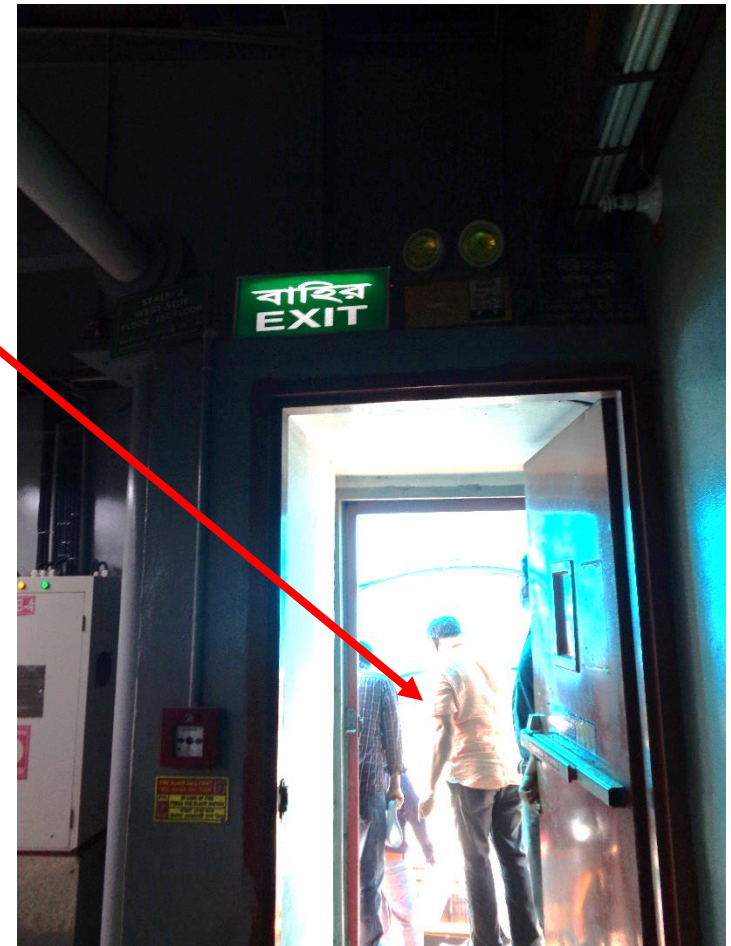
In provided Engineering Assessment (EA) report, only stress ratio of structural members are shown but no displacement and connection adequacy check have been provided. Factory engineer is required to update the prepared EA report.

Discrepancy in as-built drawing with on-site condition

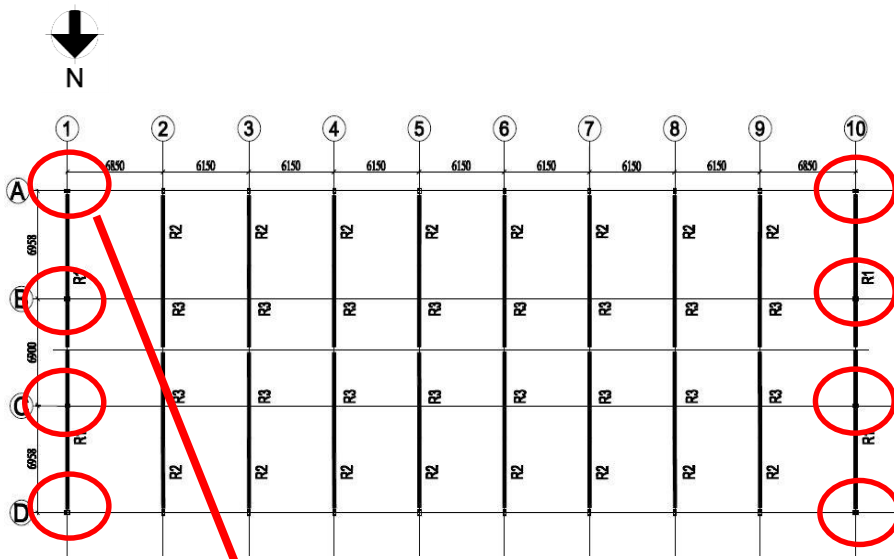


Missing bracing at first floor Grid 10 (C-D)

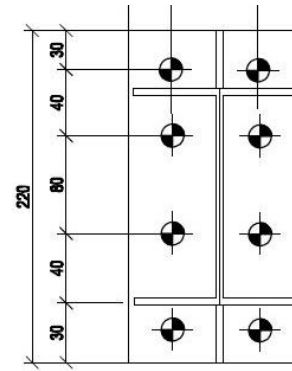
Vertical bracing was missing at first floor north-west corner (along grid-10 and between grid C and D). Factory is required to install the missing bracing as per drawing.



Missing bracing



Rafter layout



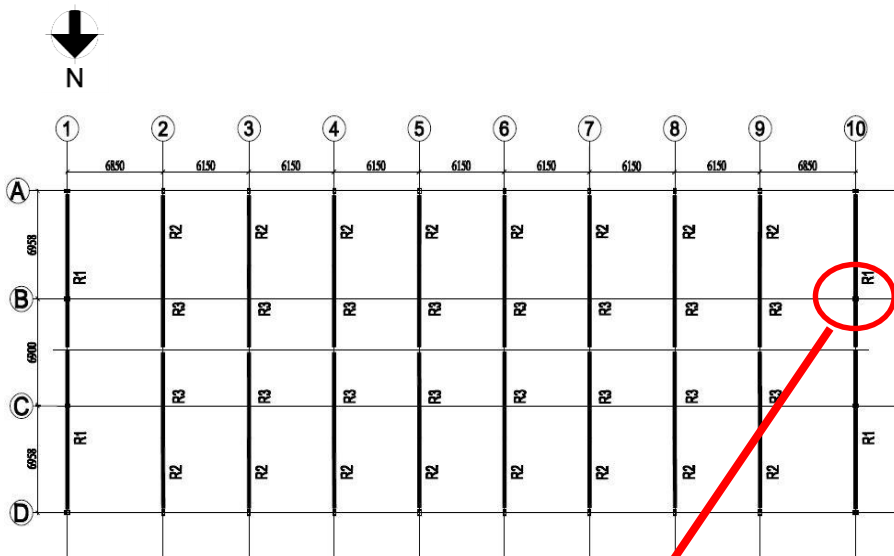
DETAILS OF J-X
 THICKNESS=10 mm
 8-20 mm Ø BOLT
 8-22 mm Ø NUT

8-Bolts shown in drawing

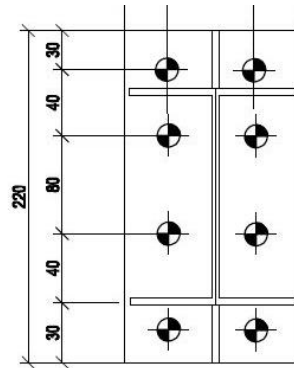


6-Bolts found physically

8-No of bolts were shown in the marked locations whereas physically 6-No of bolts were found. Factory engineer is required to survey the whole structure and update the as-built drawing as per onsite condition.



Rafter layout



DETAILS OF J-X

THICKNESS=10 mm
 8-20 mm Ø BOLT
 8-22 mm Ø NUT

8-20mm diameter bolts shown in drawing



6-Bolts diameter less than 20mm

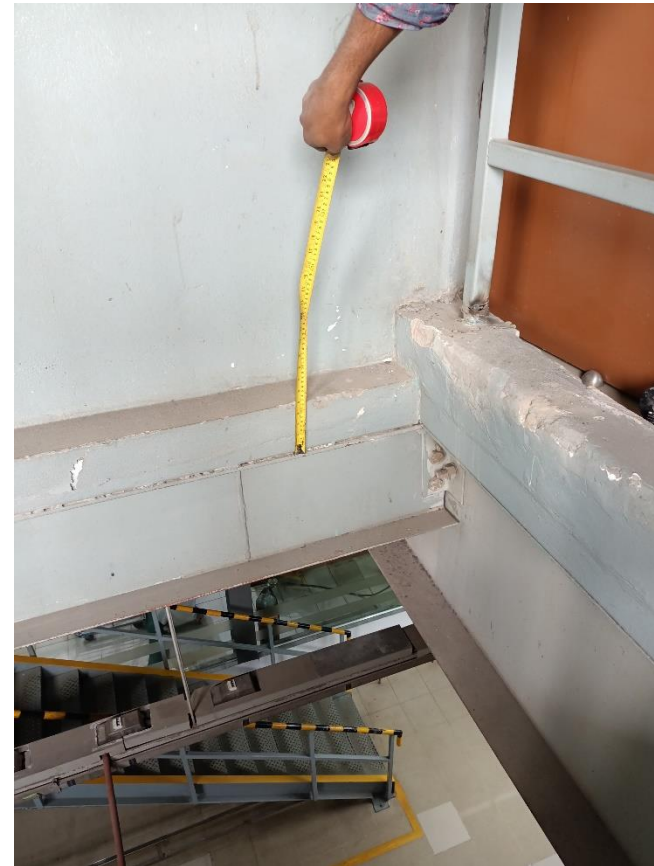
8-20mm diameter bolts were shown in the marked locations whereas physically 6-no of bolts were found which diameter less than shown in drawing (diameter couldn't be measured due to height). Factory engineer is required to survey the whole structure and update the as-built drawing as per onsite condition.

Missing information in provided drawing

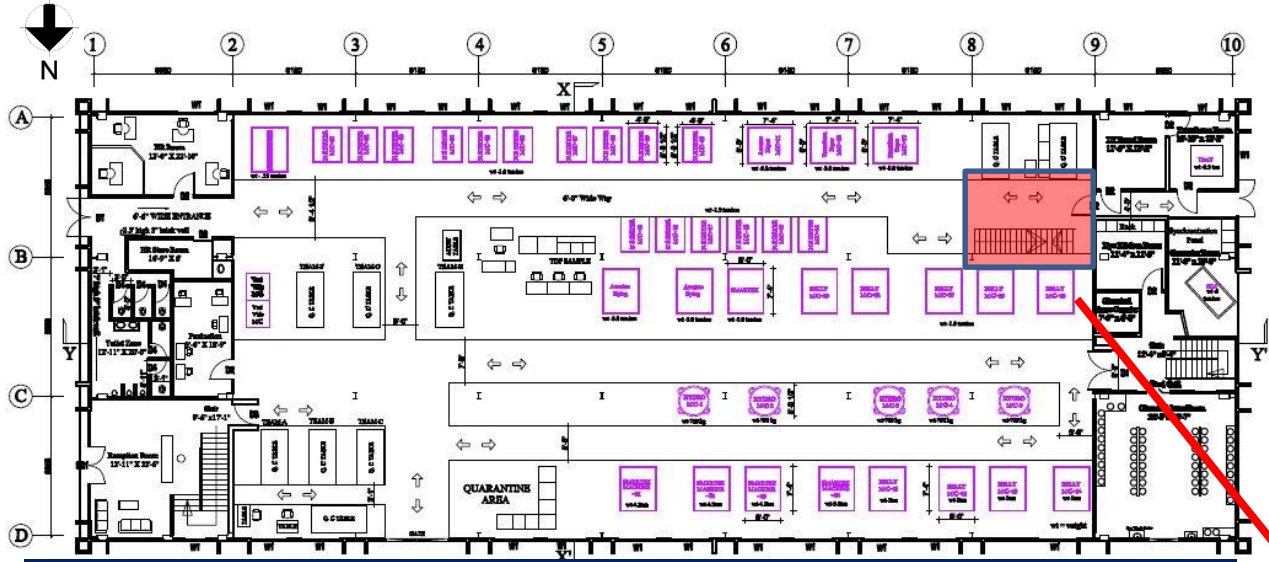


First floor found with steel deck slab

First floor is a steel deck slab with 125mm thickness but no slab detail was shown in provided drawing. Factory engineer is required to update the as-built drawing with onsite condition including the deck slab details.

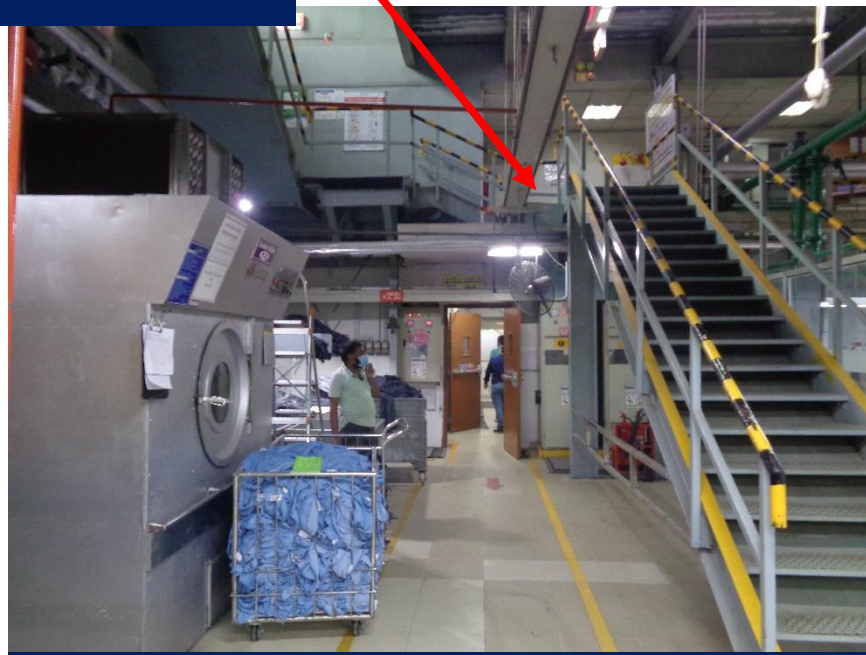


Deck slab thickness measured 125mm



Typical floor plan

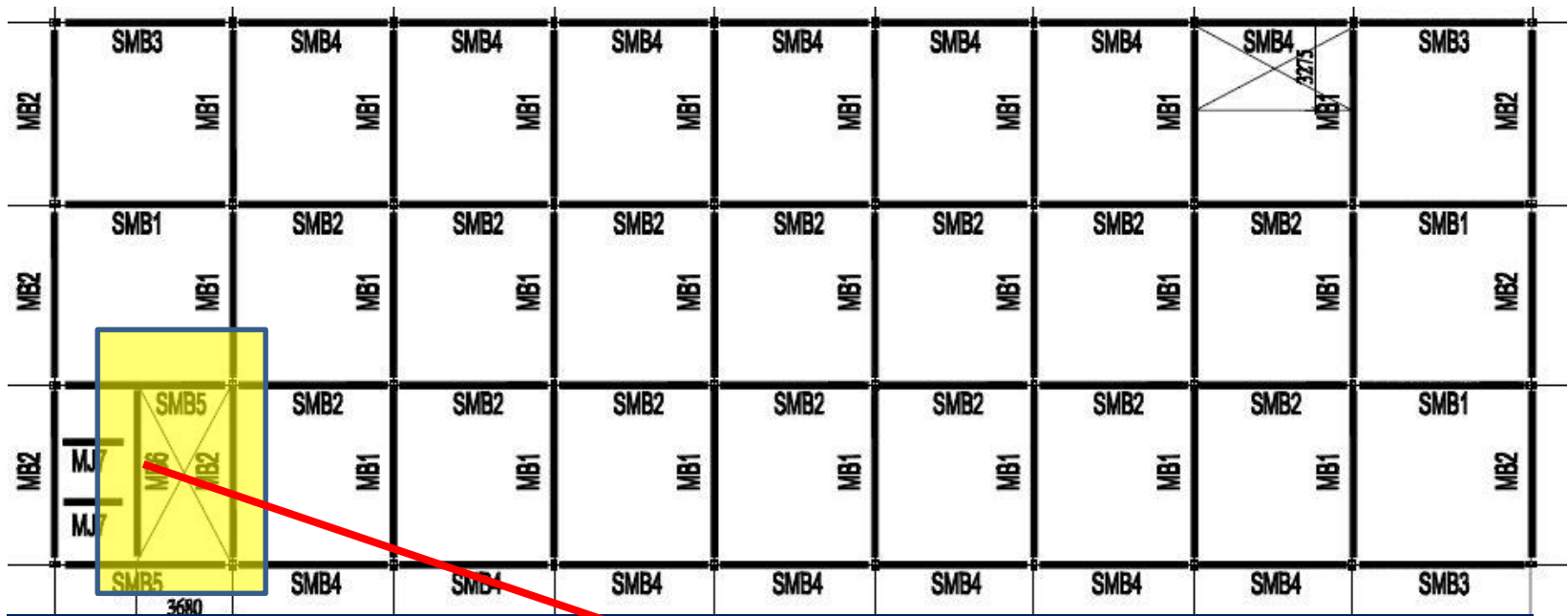
Steel stair with single landing was shown in architectural drawing at Ground floor but no detailing was shown in structural drawing. Factory is required to produce as-built structural drawing for this steel stair.



Steel stair at Ground floor

12 **Observation: Main Production Building**

**Connection with stair slab of east side
Mezzanine at first floor to be verified**



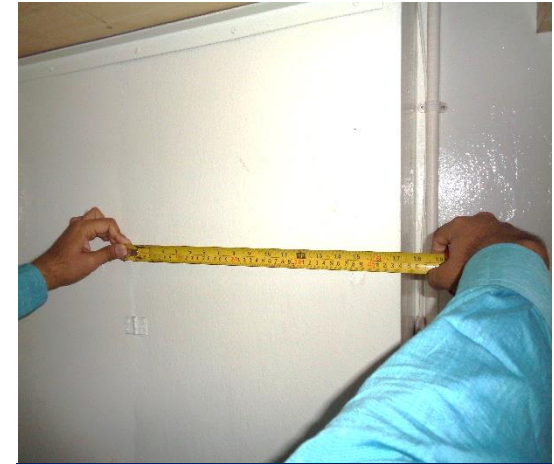
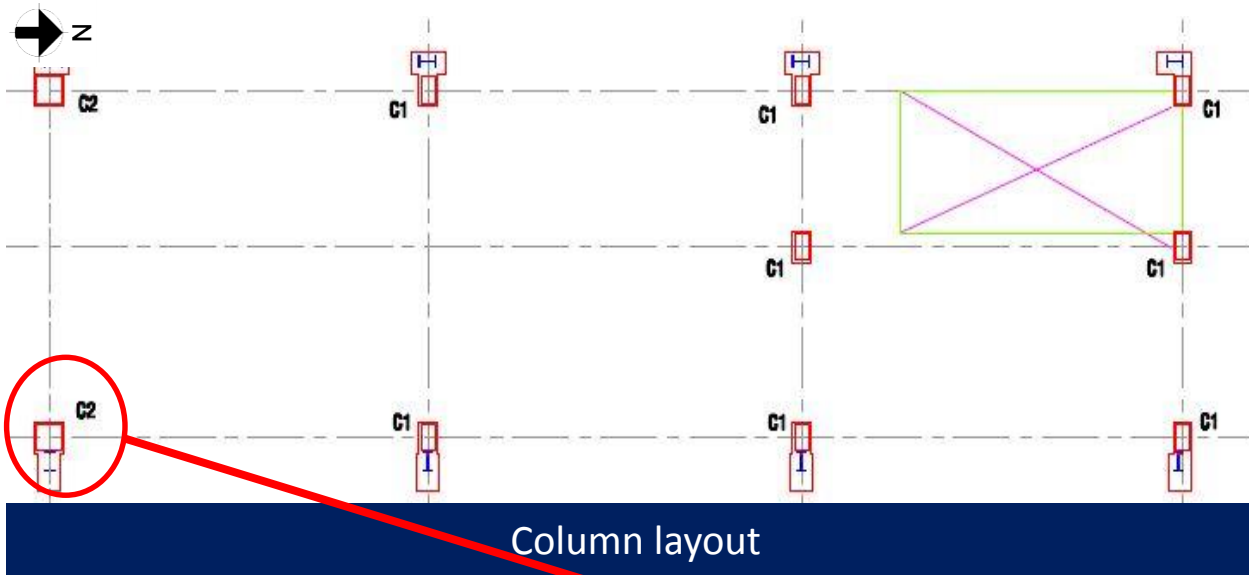
First floor beam layout

As per provided drawing, Mezzanine part is a RC structure and Main Production Building is a steel structure with deck slab. However, separation of Mezzanine part and Main production Building was not clear. Factory engineer is required to investigate the area and establish separation between the two structures. Otherwise analyze the two structures as a whole.



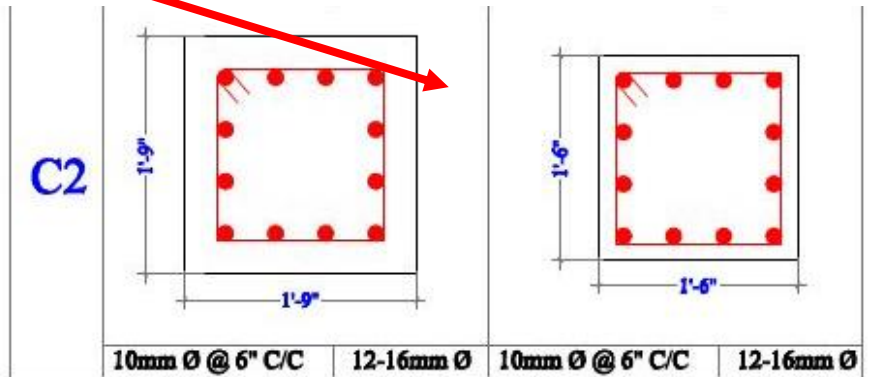
No separation was visible between RC and Deck slab

Discrepancy in as-built drawing with on-site condition



Column C-2 measured
450mmX450mm

Dimension of column C-2 at highlighted location was measured 400mmX400mm instead of 450mmX450mm. Factory engineer is required to update the as-built drawing with onsite condition.



Dimension of column C2 shown
450mmX450mm

Apparently non engineered ancillary structure



Internal part of Waste room

Connection of the steel members appears to be non engineered and there was no framing along short direction. Factory engineer is required to check the adequacy of the shed otherwise replace with an engineered one.

Problems Observed

Main Production Building:

Item 01: Prepared Engineering Assessment (EA) needs to be updated

Item 02: Discrepancy in as-built drawing with on-site condition

Item 03: Missing information in provided drawing

Mezzanine (East side):

Item 04: Discrepancy in as-built drawing with on-site condition

Wastage Shed:

Item 05: Apparently non engineered ancillary structure

Priority Action

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Prepared Engineering Assessment (EA) needs to be updated (Main Production Building)	Factory engineer is required to update the prepared EA report.	within 6-weeks
2	Prepared Engineering Assessment (EA) needs to be updated (Main Production Building)	Implement remediation work deemed necessary.	within 6-months
3	Discrepancy in as-built drawing with on-site condition (Main Production Building)	Factory engineer is required to survey the whole structure and update the as-built drawing as per on-site condition.	within 6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
4	Missing information in provided drawing (Main Production Building)	Factory engineer is required to survey the whole structure and prepare “as constructed” drawings which reflect the actual site dimensions and complete structural information.	within 6-weeks
5	Discrepancy in as-built drawing with on-site condition (Mezzanine-East side)	Factory engineer is required to survey the whole structure and prepare “as constructed” drawings which reflect the actual site dimensions and complete structural information.	within 6-weeks

Item No.	Observation	Recommended Action Plan	Recommended Timeline
6	Apparently non engineered ancillary structure (Wastage Shed)	Factory engineer is required to check the adequacy of the shed otherwise replace with an engineered one.	within 6-weeks
7	Apparently non engineered ancillary structure (Wastage Shed)	Implement remediation work deemed necessary.	within 6-months