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ACCORD on Fire and Building Safety in Bangladesh

ARUP

Building Observations

Mixed use of flat slab and slab on beam

Typical beam & slab construction on majority of floors

Flat Slab construction on one floor

Building Engineer to carry out Punching Shear Checks.

Building Engineer to prepare Allowable Floor Loading Plans for each floor

Mixed use of flat slab and slab on beam

Slab penetrations through 2nd floor for new bathroom drain pipes near column

New slab penetrations. Verify that slab edge beams are designed to trim openings

Slab Penetrations

Review 1st floor structure at gridline F/8 to D/8 and confirm that beams provided are in accordance with design

1st Floor – Perimeter Beams

Are beams missing on grid F/8 to D/8

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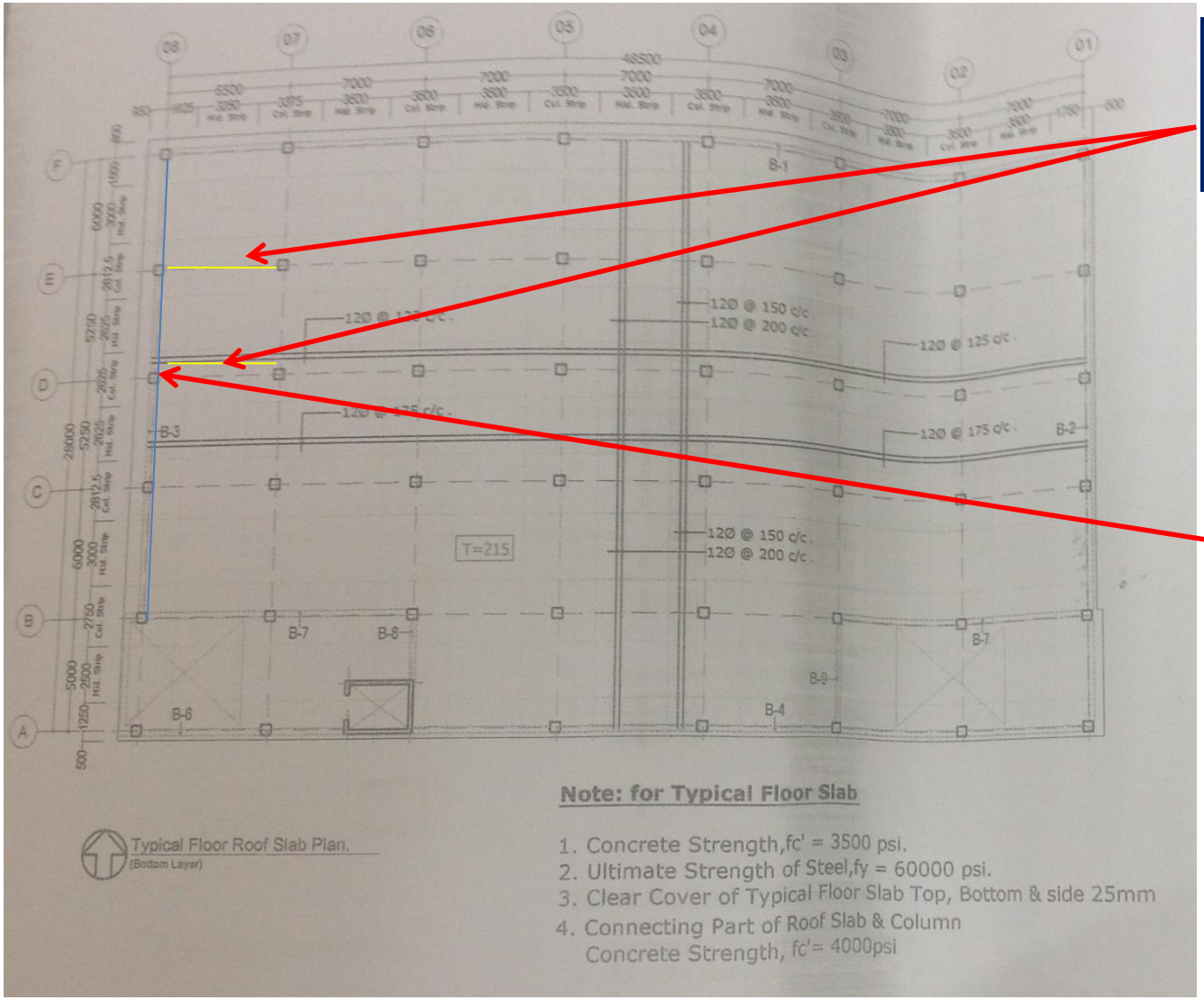

Beams as constructed and not shown on drawing

Are beams missing on grid F/8 to D/8.

Drawing provided shows beam at this location.

1st Floor – Perimeter Beams

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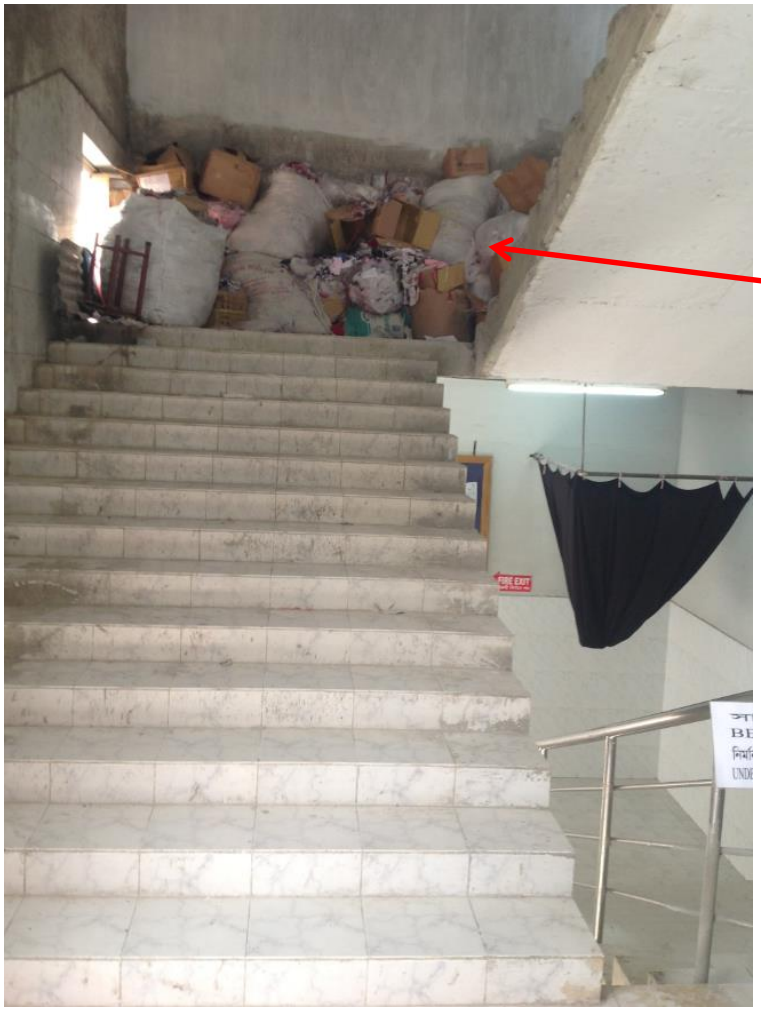
Non Structural Observation - Construction Site Safety



Construction site. Stairs without handrails, used as loading area.

Stairs may be used by construction & factory workers

Construction Site Safety

Priority Actions

Problems Observed

1. Concrete strength

2. Mixed use of flat slab and slab on beam construction – punching shear check required and preparation of Allowable Floor Loading Plans

3. Slab penetrations through 2nd floor for new bathroom drain pipes are adjacent to a column

4. 1st floor structure at gridline F/8 to D/8 – structure observed does not correspond with information provided on drawings

Item No.	Observation	Recommended Action Plan	Recommended Timeline
1	Concrete strength	Factory Engineer to review design, loads and columns stresses in all columns identified above	**6-weeks**
2	Concrete strength	Verify insitu concrete stresses either by cores or existing cylinder strength data for all columns.	**6-weeks**
3	Concrete strength	Produce and actively manage a loading plan for all floor plates within the factory giving consideration to floor capacity and column capacity.	**6-months**
4	Mixed use of flat slab and slab on beam construction – punching shear check required and preparation of Allowable Floor Loading Plans	Carry out punching shear design checks on the flat slab	**6-weeks**
5	Mixed use of flat slab and slab on beam construction – punching shear check required and preparation of Allowable Floor Loading Plans	Prepare Allowable Floor Loading plans based on the floor and column capacity for each floor level.	**6-weeks**

Item No.	Observation	Recommended Action Plan	Recommended Timeline
6	Mixed use of flat slab and slab on beam construction – punching shear check required and preparation of Allowable Floor Loading Plans	Monitor correct implementation of loading plans	**6-months**
7	Slab penetrations through 2nd floor for new bathroom drain pipes are adjacent to a column	Building Engineer to verify that slab and edge beams have adequate design capacity to trim openings which have been formed adjacent to column.	**6-weeks**
8	1st floor structure at gridline F/8 to D/8 – structure observed does not correspond with information provided on drawings	Review 1st floor structure at gridline F/8 to D/8 and confirm that beams provided are in accordance with design	**6-weeks**
9	1st floor structure at gridline F/8 to D/8 – structure observed does not correspond with information provided on drawings	Record construction drawings to be amended, if required.	**6-weeks**