

Knit Plus Ltd (Extension - 2)

PLOT NO-2036, MOUCHACK, KALIAKOIR, GAZIPUR, BANGLADESH

(24.025722, 90.298944)

7 June 2026



1. Building Information

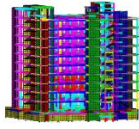
1. 10 Storied Green Building: Ten-storied (B+G+9) RC building with a basement

2. Observations

Observation-01: Stress in the columns exceeds the normal design limit considering minimum concrete strength (10 Storied Green Building)

DEA REPORT AS PER BNBC 2020
FOR 10-STORIED BUILDING OF KNIT PLUS LTD. (EXTENSION)
LOCATION: PLOT NO-288, MURCHING KALAMOR, GAZIPUR, BANGLADESH

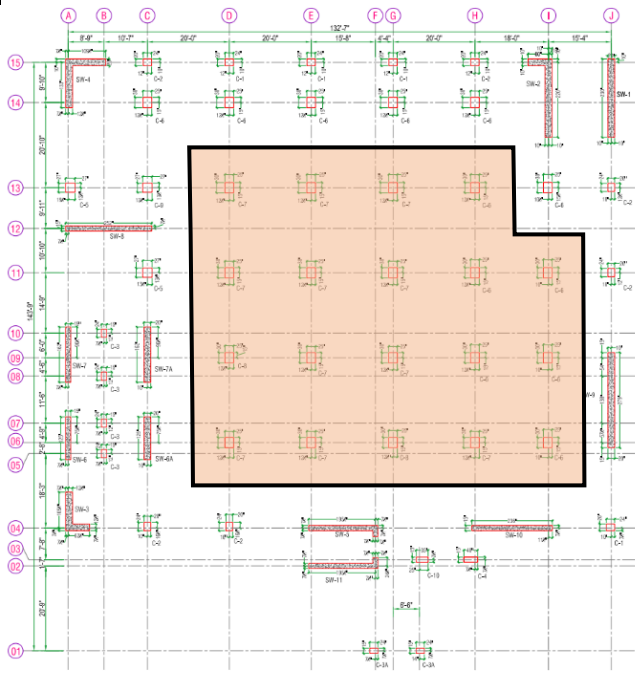
CLIENT: KNIT PLUS LTD. (EXTENSION)
Submission: 01
Revision: 00
Date: 01.01.2020



Assessed by:
Eng. Kowar Alamul
Lead Structural Engineer
B.Sc. in Civil Engg. BUET
MEB: 15-05-02

Submitted by:
INSPEACE
CONSULTANTS
INSPEACE DEVELOPMENTS

West Side of MBRT Uttara North Station,
House-7/1 (4th Floor), Room-2, Dui Bui Rd, Dhaka 1203
Cell: 01810700163, 01746320777
E-mail: inspacedevelopments@gmail.com



COLUMN LAYOUT PLAN (1ST FLOOR TO ABOVE)

2.3 MATERIAL PROPERTY

Following material properties has been used for design:

1 Yield strength of Rebar, f_y	= 60,000 lb/in ²
2 Compressive strength of concrete, f'_c (Column, Wall, Footing) (design)	= 5,000 lb/in ²

10-STORIED BUILDING OF KNIT PLUS LTD. (EXTENSION)
DEA REPORT

3 Compressive strength of concrete, f'_c (For beam, slab)	= 4,000 lb/in ² (design)
4 Young's modulus of concrete, E_c	= 57,000√ f'_c (Stone chips)

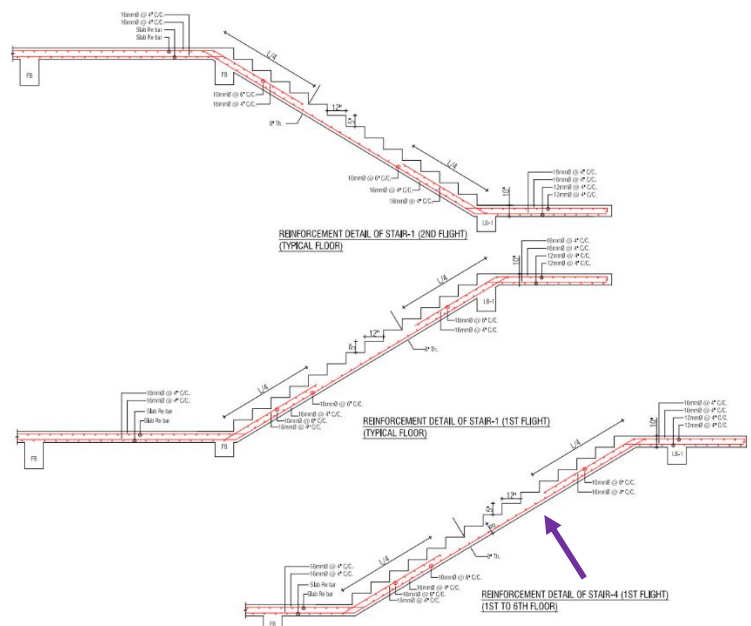
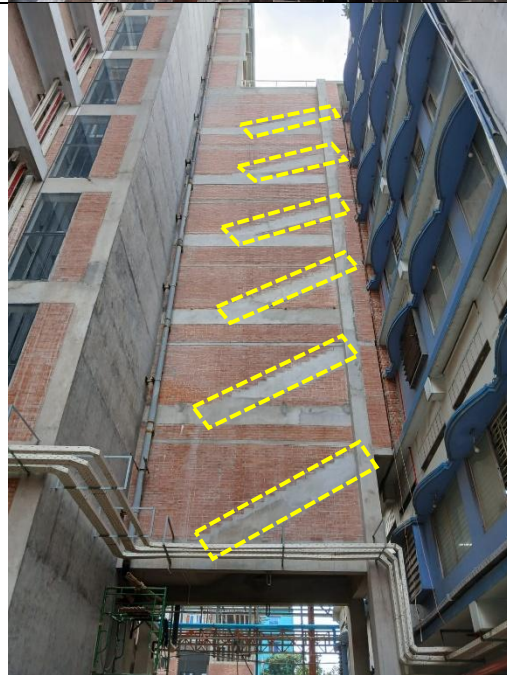
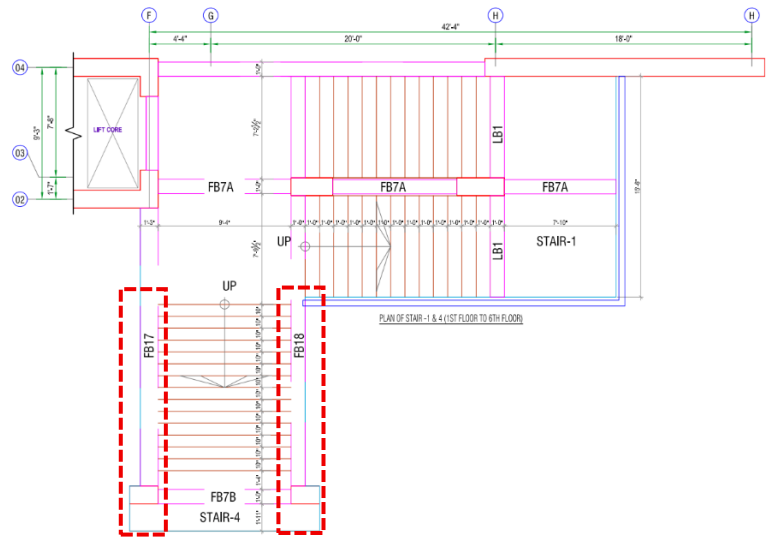
Description: Cursory calculation indicates that the marked columns are marginally overstressed considering minimum concrete strength 16.3 MPa (based on aggregate type) and prepared live load plan [4 kPa in typical floor and 6 kPa in storage area].

In the prepared design report, 5000 psi design strength was considered for columns, shear walls, and foundations, and 4000 psi for beams and slabs. During the inspection, 49 sets of cylinder test reports [Foundation = 4; Columns and Shear Walls = 26; Beams and Slabs = 19] were available, which do not meet the testing frequency requirements of BNBC 2020 (Section 5.12.2).

The building engineer is required to verify the in-situ concrete strength of each type of structural member by taking 100 mm diameter cores (minimum 4 nos.) from lower-tier columns and floor members (beams and slabs).

The building engineer is also required to check the column stress based on in-situ concrete strength, revise the design report and submit the revised design documents to RSC for detailed review against lateral forces.

Observation-02: Lack of information in as-built drawing (10 Storied Green Building)



Description: Inclined beam was provided below the waist slab of Stair-4. The inclined beam was not found in the provided drawings. The building engineer is required to survey the whole structure and update the drawings to reflect the actual on-site conditions.

Observation-03: Column susceptible to vehicle impact (10 Storied Green Building)



Description: Columns in the basement and ramp areas are susceptible to vehicle impact. The building engineer is required to provide separate protective guards around the columns to avoid potential vehicle impact.

Observation-04: Possible falling hazard at ground floor (10 Storied Green Building)



Description: No railing was found at the elevated area of the ground floor, and the manhole cover was found to be improperly placed. The building engineer is required to provide edge protection and ensure proper covering of the manhole to mitigate falling hazards.

Observation-05: Cracks in brick wall joints (10 Storied Green Building)



Description: Cracks were observed in the brick wall joints. The building engineer is required to investigate the cause and extent of the cracks and repair them using a suitable method.

Observation-06: Lack of anchorage in non-structural elements (10 Storied Green Building)



Description: Unanchored racks observed on the production and storage floors. The building engineer is required to anchor/brace all non-structural elements within the building including the storage racks.

3. Action Plan

Item No	Observations	Action Plan	Timeline
1.	Stress in the columns exceeds the normal design limit considering minimum concrete strength (10 Storied Green Building)	The building engineer is required to verify the in-situ concrete strength of each type of structural member by taking 100 mm diameter cores (minimum 4 nos.) from lower-tier columns and floor members (beams and slabs).	within 6 weeks
2.		The building engineer is also required to check the column stress based on in-situ concrete strength, revise the design report and submit the revised design documents to RSC for detailed review against lateral forces.	within 6 weeks
3.		Implement remediation work if required.	within 6 months
4.	Lack of information in as-built drawing (10 Storied Green Building)	The building engineer is required to survey the whole structure and update the drawings to reflect the actual on-site conditions.	within 6 weeks
5.	Column susceptible to vehicle impact (10 Storied Green Building)	The building engineer is required to provide separate protective guards around the columns to avoid potential vehicle impact.	within 6 weeks
6.	Possible falling hazard at ground floor (10 Storied Green Building)	The building engineer is required to provide edge protection and ensure proper covering of the manhole to mitigate falling hazards.	within 6 weeks
7.	Cracks in brick wall joints (10 Storied Green Building)	The building engineer is required to investigate the cause and extent of the cracks and repair them using a suitable method.	within 6 weeks
8.	Lack of anchorage in non-structural elements (10 Storied Green Building)	The building engineer is required to anchor/brace all non-structural elements within the building including the storage racks.	within 6 weeks