

EPYLLION STYLE LTD. (EXTENSION 2)

Bahadurpur, Bhawal, Mirzapur

(24.094832, 90.371874)

7 May 2026

Structural Inspection Report



1. Building Information

- Building 1 (Washing Building)
- Building 2 (Generator Building)

2. Observation

Observation-01: Punching shear stress in foundation exceeds normal design limit (Building 1).

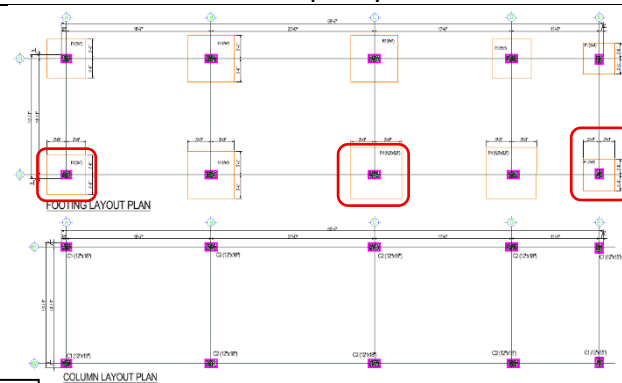


*Input cells are formatted with red text

Concentric Rectangular Footing Check			
Name of the Factory:		RSC ID	###
Footing type:			
COLUMN:			
1. Dead Load (Service) =	647.00	kN	
2. Live Load (Service) =	126.00	kN	
3. Column Size (mm) =	250	mm	
4. Area =	62500	mm ²	
FOOTING:			
1. Tensile Strength of Steel =	72.50	N/mm ²	
2. Compressive Strength of concrete =	4.50	N/mm ²	
3. Allowable Bearing Capacity of Soil =	4.00	N/mm ²	Considering F.O.S. = 3
4. Length of Footing, L =	17.00	m	
5. Width of Footing, B =	17.00	m	
6. Thickness of Footing, t =	30.00	mm	
7. Cover Depth =	3.00	mm	
8. Reinforcement (mm) =	8	mm	
SOLUTION:			
1. Factored Load =	4.18	N/mm ²	
2. Factored Load per unit area =	1.50	N/mm ²	Increase = 1%
3. Ultimate Load =	1800.00	kN	
4. Factored Load =	108.00	kN	
5. Factored Area =	10.25	m ²	
6. Allowable Bearing Capacity, q _{all} =	3.00	N/mm ²	
7. Actual Bearing Capacity =	26.26	N/mm ²	
8. Punching Shear Stress =	217.00	N/mm ²	
9. Punching Shear Stress on the perimeter, V _u =	1356.75	N/mm ²	
10. V _u (kN/mm ²) =	1356.75	N/mm ²	Increase = 1%
11. Per Thickness of Footing =	30.00	mm	
12. Moment (Long Direction) =	155.84	Nm	
13. Area =	0.88	m ²	
14. Moment =	16.67	Nm	
15. Factored Load =	4.18	N/mm ²	
16. Moment (Short Direction) =	155.84	Nm	

Description: cursory calculations indicate that some of the footings are experiencing punching shear stresses marginally exceeding the normal design limit, considering the prepared live load plan and the design concrete strength. The building engineer is required to review the design loads and foundation stresses in accordance with BNBC 2020 and submit the revised design documents to RSC for review.

Observation-02: Discrepancy in foundation size of mezzanine floor (Building 1)



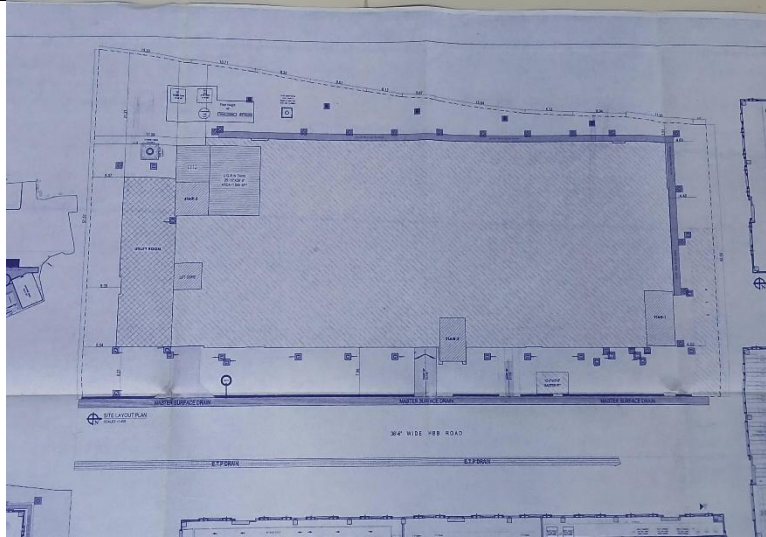
Building 1
column



Mezz.
column

Description: During inspection, the foundation of self-supported mezzanine floor was overlapped with the main building foundation as per provided drawing. The building engineer is required to survey the whole structure and update the as-built drawing and design documents as per on site condition and submit to RSC for review.

Observation-03: Lack of building permit (Building 2)



Description: During the inspection, the building permit of local authority was not found. The factory is required to obtain a building permit from the BNBC prescribed local authority.

Observation-04: Lack of Design Report (Building 2 - Generator Building)



Description: 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 as per BNBC. At the time of inspection, design documents (design report) were not available which are required to be prepared in compliance with section 1.9.1 (Part-6, BNBC 2020). Incorporate check of column slenderness issue in the design report.

Observation-05: Possible falling hazard at the loading and unloading platform (Building 1)



Description: No barrier was found at elevated platform of loading unloading zone. The building engineer is required to provide mobile barrier/railing to the elevated platform to mitigate the falling hazard.

Observation-06: Lack of anchorage in nonstructural elements (Building 1)



Description: Unanchored racks observed on the production floor. The building engineer is required to provide adequate anchorage to those racks to provide stability.