

Project Brief



Design a G+11 office building at Kolkata  
supported on pile foundation



Structural Planning



Developed building layout, structural framing concept,  
and initial member sizing assumptions



Design Basis & Code Framework



Used Indian codes and references including:

- IS 456:2000
- IS 1893 (Part 1): 2002
- IS 875 (Part 3): 1987
  - SP 16
  - SP 34



Load Calculation



Calculated:

- slab loads
- beam loads
- column loads
- vertical loads
- wind loads
- seismic loads



Slab Design



Determined slab thickness, design loads,  
reinforcement requirements, and deflection checks



Beam Design



Estimated beam sizes and designed reinforcement

for longer and shorter spans



Column Design



Estimated column sizes and designed reinforcement

for gravity and lateral loading effects



Lateral Load Analysis



Evaluated:

- wind effects
- earthquake effects

on the multi-storey building system



Additional Structural Components



Designed:

- staircase
- pile foundation system
- pile cap



Structural Detailing



Prepared supporting design drawings for:

- floor plan
- slab reinforcement
- beam reinforcement
- column reinforcement
- staircase
- pile reinforcement



Final Outcome



Delivered a complete RCC design calculation report for a G+11 office building, integrating gravity, wind, seismic, and foundation design considerations