



**First of its kind Super ECBC Building in
Uttar Pradesh.**

UPNEDA Training Centre, Lucknow, U.P.



PRESENTED BY :- EEB Cell, UPNEDA

Site Plan and Area Statement

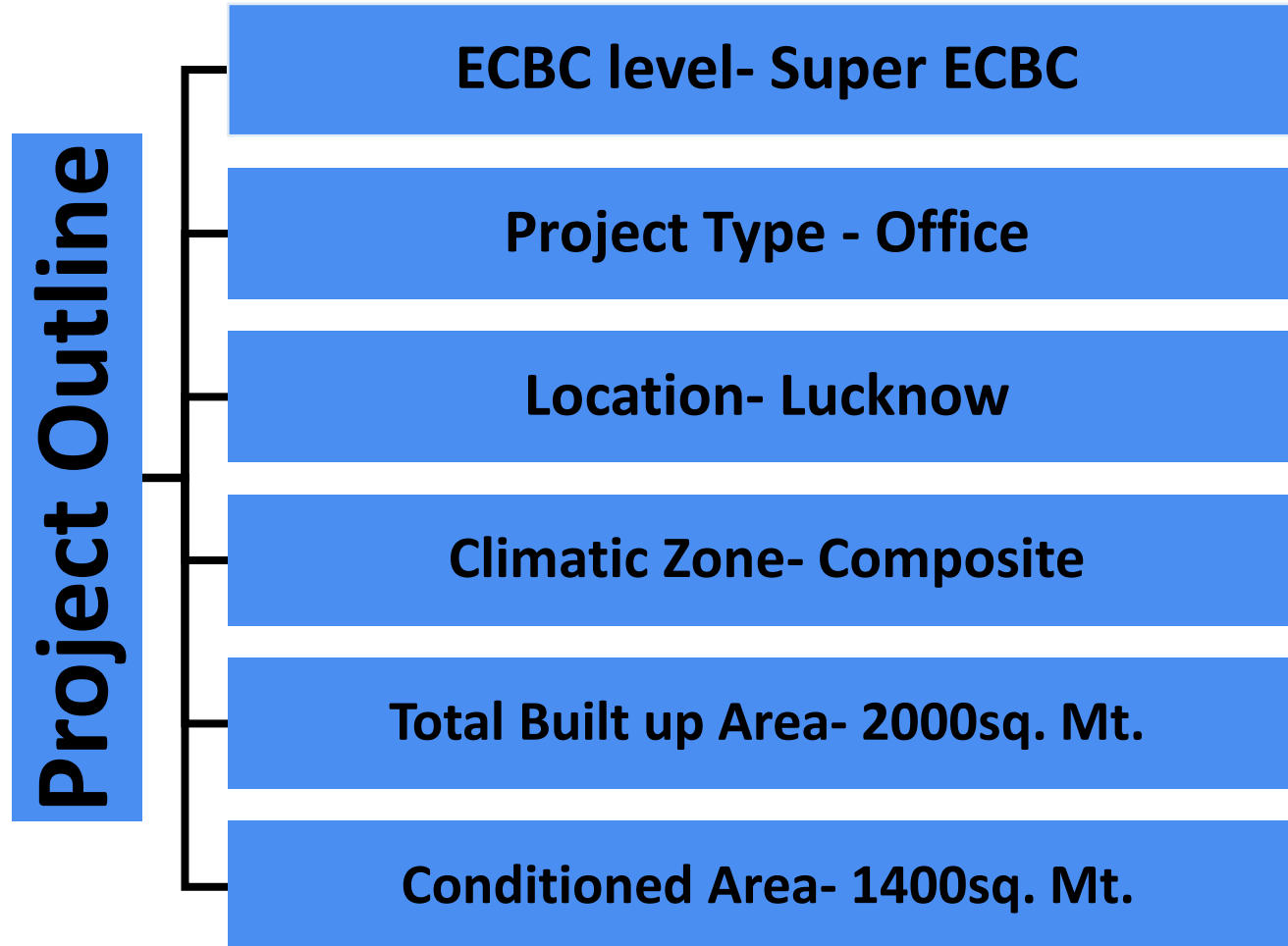


AREA ANALYSIS	
PLOT AREA (Sqm.)	1500
GROUND FLOOR (Sqm.)	1000.00
FIRST FLOOR (Sqm.)	1000.00
TOTAL BUILT-UP AREA (Sqm.)	2000.00

Objectives of Super Energy Efficient Building

- ❖ The project will showcase the implementation of advance energy efficient measures proposed in Uttar Energy Conservation Building Code-2018.**
- ❖ It will demonstrate the BEE 5 Star labelling program for commercial buildings.**
- ❖ This Super ECBC project will lead to set a benchmark for upcoming projects in the state.**
- ❖ To encourage architects, builders, ULB's and any construction agency replicate strategies and energy efficient measures in building sector.**

Project Outlines



Project Outline

EPI Baseline Case - 66 kWh/sqm./yr

EPI Proposed Case - 46.68 kWh/sqm./yr

EPI Ratio Achieved – 0.72

Payback Period - 5 Years

Total Project Cost – 10.00 Cr

BEE Star rating based on EPI

EPI ≤ 90

5 STAR

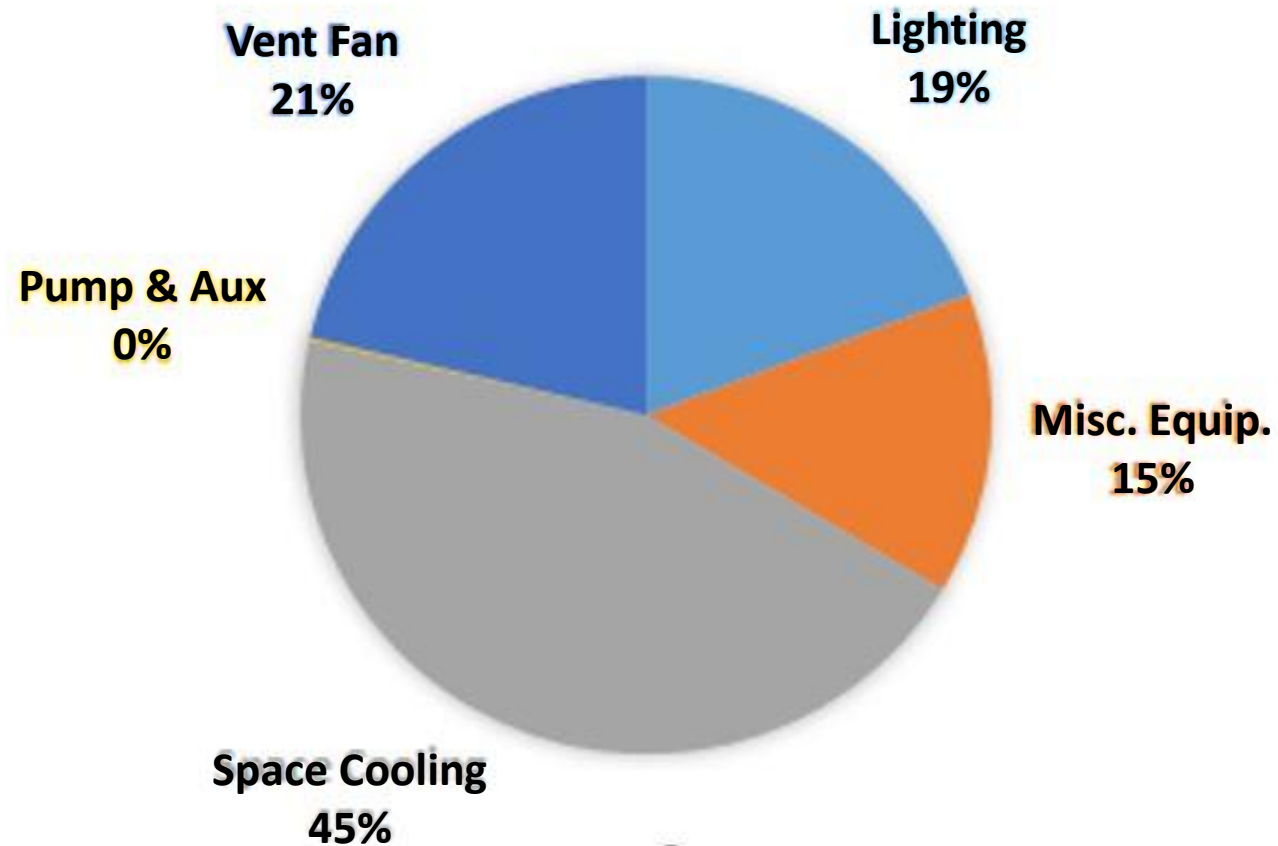
ECBC Categorization based on EPI

EPI Ratio ≤ 0.78 Super ECBC

EPI Ratio ≤ 0.88 ECBC+

EPI Ratio ≤ 1 ECBC

Energy Consumption of Various Components in The Building



Financial Justification and Payback Period of the Building

Conclusion-

- ❖ Life Cycle of the building is assumed to be 60 to 70 Years.**
- ❖ After the payback period of 5 years, the building will save approx 166000 kWh per annum from conventional building to Super efficient building during its operation.**

Energy Efficiency Measures

- ❖ **Orientation in accordance with Sun-Path and Wind direction**
- ❖ **Insulated Building Wall**
- ❖ **Cool Roof**
- ❖ **High Performance DGU for Fenestration**
- ❖ **Deep Shading Device for Glare free daylight**
- ❖ **60% Window to Wall Ratio for optimum daylight**
- ❖ **Sensor based Lighting Systems**
- ❖ **Highly Efficient BEE star rated Appliances**

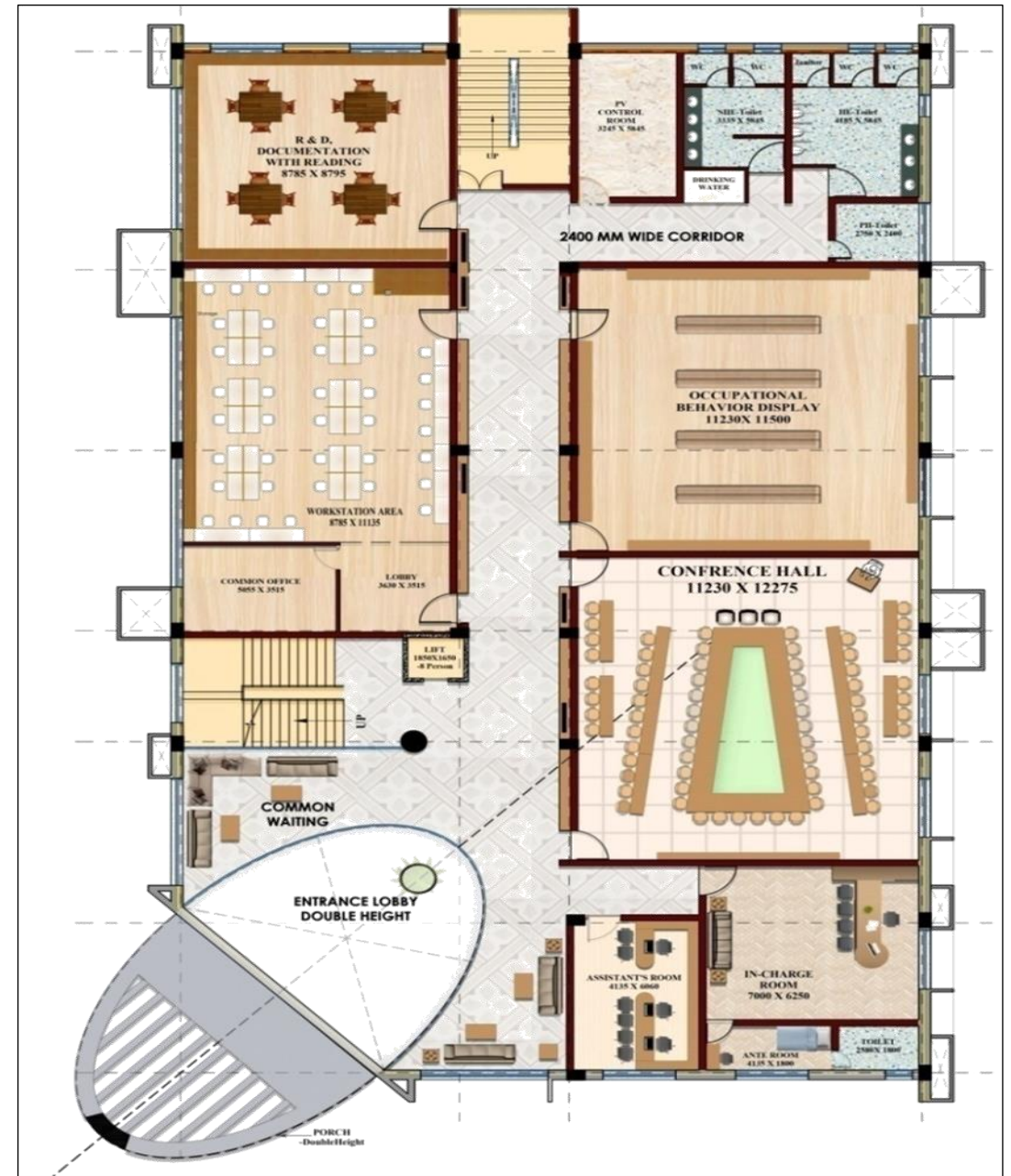
GROUND FLOOR PLAN-1000 Sq. mt.

GROUND FLOOR	
SUPER ECBC DEMO BUILDING	AREA(sqm)
Entrance Lobby	163.03
Reception Area	19.14
Admin office	27.00
Admin office-Store	11.01
Admin office-Toilet	4.64
Demo/Model Room	127.79
Material/Display Hall	165.75
HVAC E & M (display hall)	129.66
BMS & Lab Room	77.26
Pantry	18.96
Toilet-She	19.49
Toilet-He	24.46
Toilet-PH	6.60

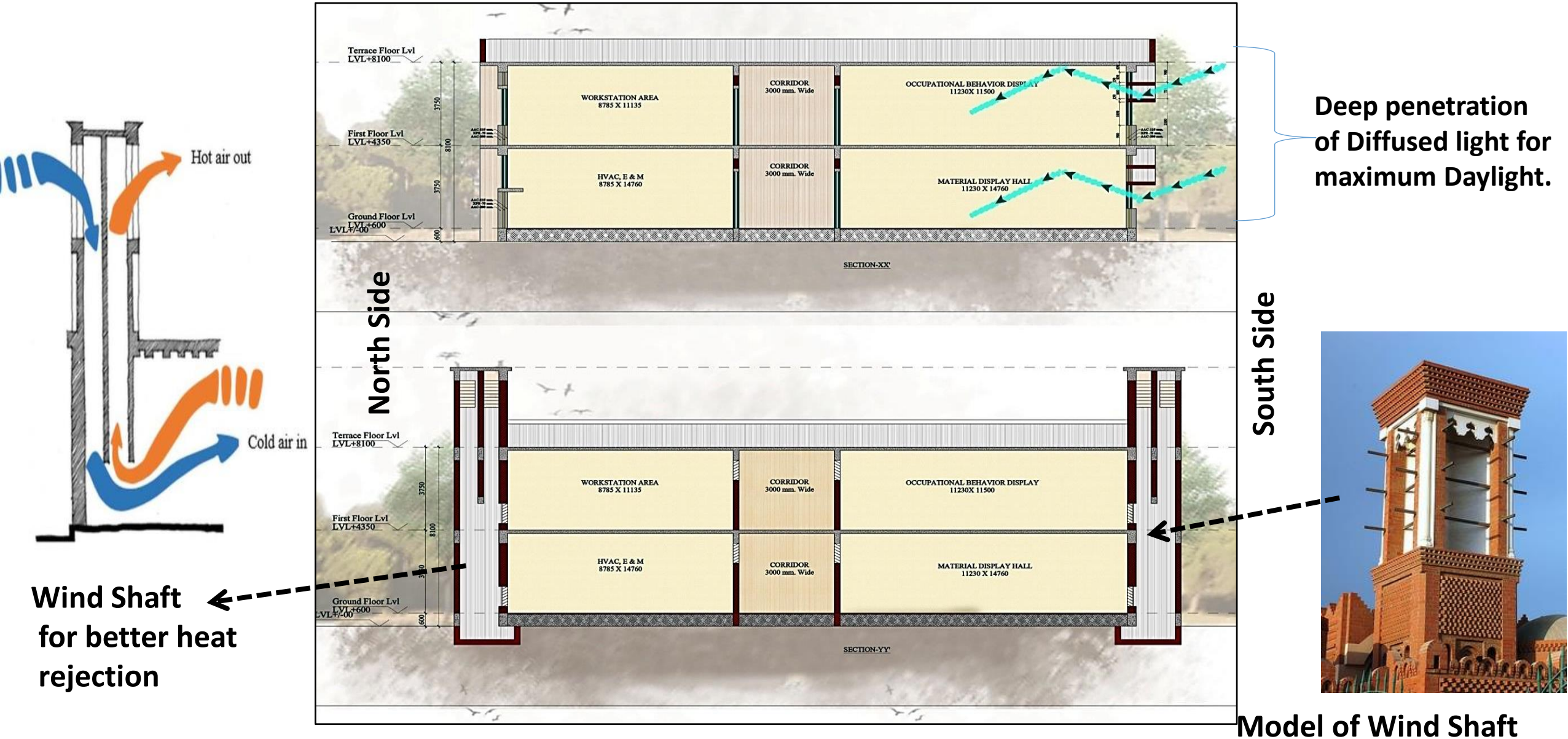


GROUND FLOOR PLAN-1000 Sq. mt.

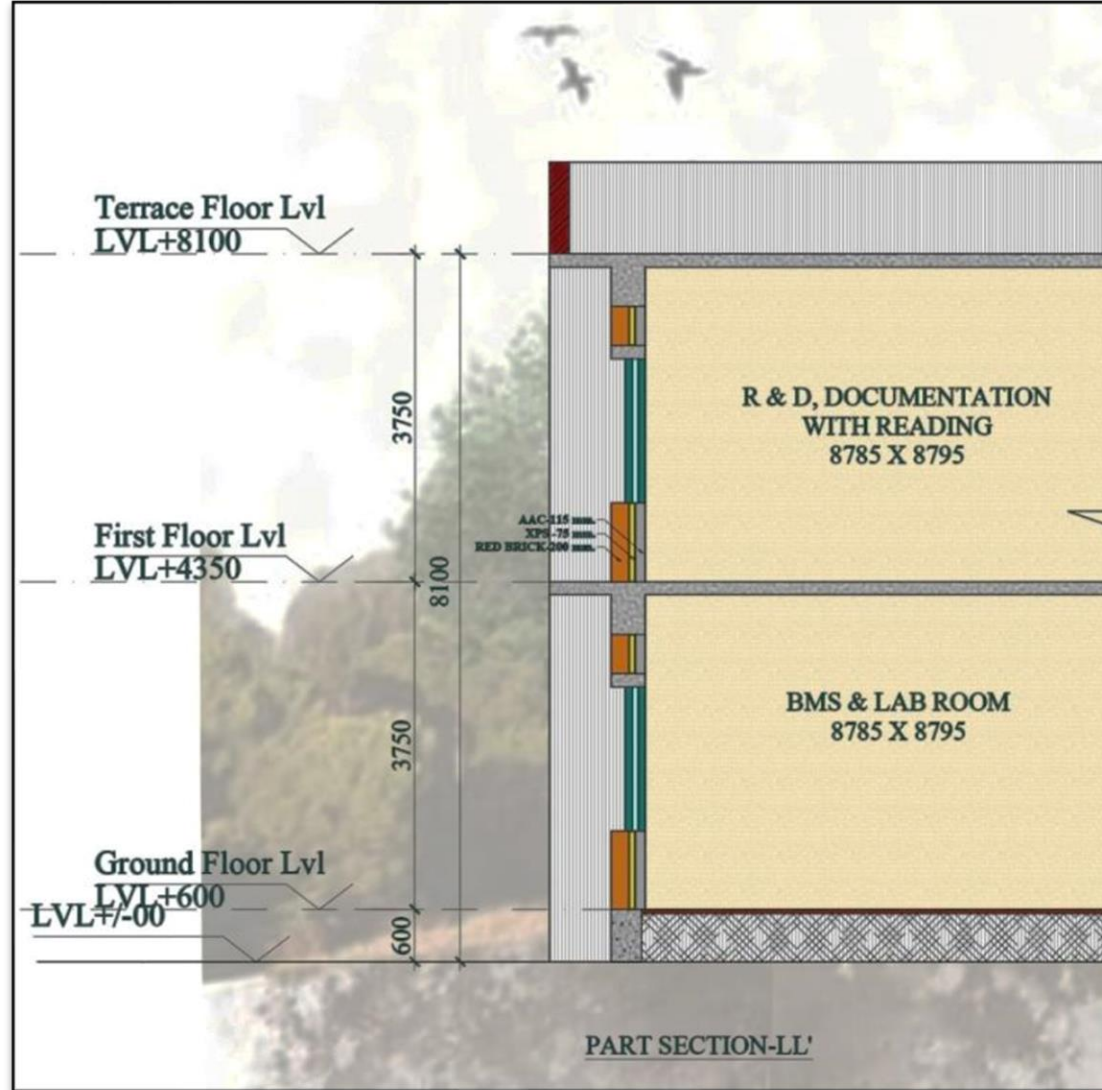
FIRST FLOOR	
SUPER ECBC DEMO BUILDING	AREA(sqm)
Assistant’s Room	25.05
In-Charge Room	43.75
Conference Room	137.84
Occupational Behavior Display Hall	129.14
Workstation Area	97.43
Workstation-Lobby	12.75
Workstation -Common Office	17.76
R & D-Documentation with Reading	77.26
PV Control Room	18.96
Toilet-She	19.49
Toilet-He	24.46
Toilet-PH	6.60



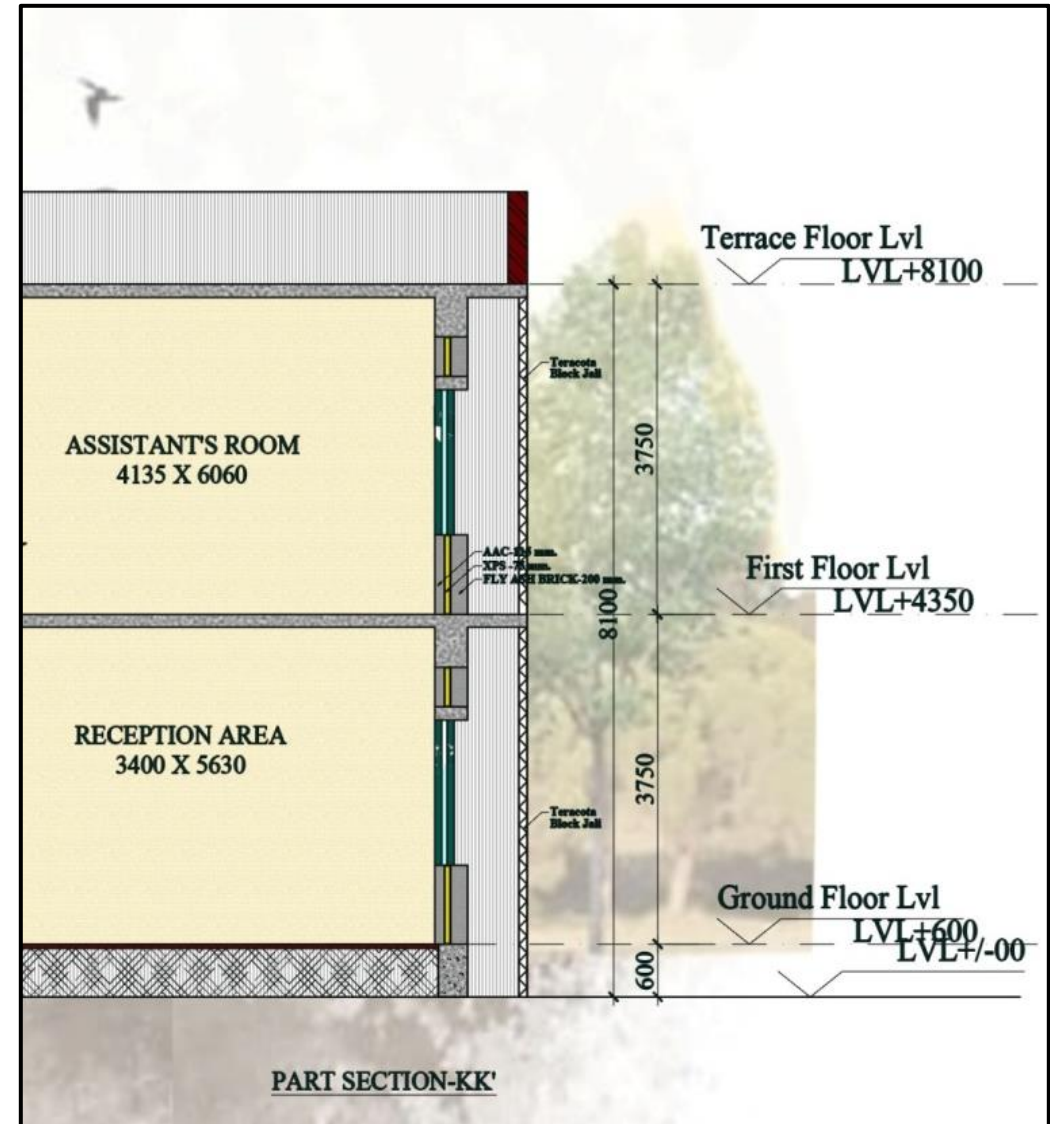
Passive Strategies Incorporated In The Buildings



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East Side



West Side

VIEW (AXONOMETRIC)



VIEW (AXONOMETRIC)





Thanks