

“Government Nehru College” Building at Sector-16, Faridabad



ECBC Compliance Report

Submitted By:

**ECBC Cell, Haryana New and Renewable Energy
Development Agency (HAREDA)**

Haryana State Designated Agency (HSDA)

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Summary

Whole Building Performance Method has been used to show compliance of project with ECBC.

Input Parameter	Baseline	Proposed	Units
Wall material	As per ECBC	230 mm AAC Block	
Wall U-value	0.0704	0.119	Btu/hrsqt F
Roof material	As per ECBC	11 mm clay tiles + 115 mm RCC + 25 mm XPS + 50 mm Wood	
Roof U-value	0.058	0.090	Btu/hrsqt F
Glazing U Value	0.53	0.264	Btu/hrsqt F
SHGC	0.27	0.27	
Window Shading	No	As per Architectural Drawings	
Cooling Sizing Ratio	1.15	1	
Heating Sizing Ratio	1.25	1	
HVAC System	VRF with DOAS sys	VRF with DOAS sys	
HVAC System Efficiency (EER)	3.02	3.5	
Lighting Power Density calculation (As per space function method- ECBC §6.3.2)			
Internal	0.91	0.72	W/ ft ²
External	0.88	0.79	W/ ft ²
Zone Cooling set point	75	75	deg F
Zone Heating set point	70	70	deg F

Project achieves energy saving of 15% when compared with ECBC baseline case. Thereby, project is meeting the ECBC compliance by 'Whole Building Performance' approach.

Description	Energy Consumption/ Generation
Proposed case energy consumption (kWh)	1422988
Base case energy consumption (kWh)	1674277
Savings %	15%
Base case EPI (kWh/Sq.m./Annum)	48.7
Proposed case EPI (kWh/Sq.m./Annum)	41.4
EPI ratio	0.85

Introduction

Government Nehru College Building at Sector-16, Faridabad, with the approved drawing, is an educational type building having G+5 floors which is under composite climate zone.

Building Floor Plan

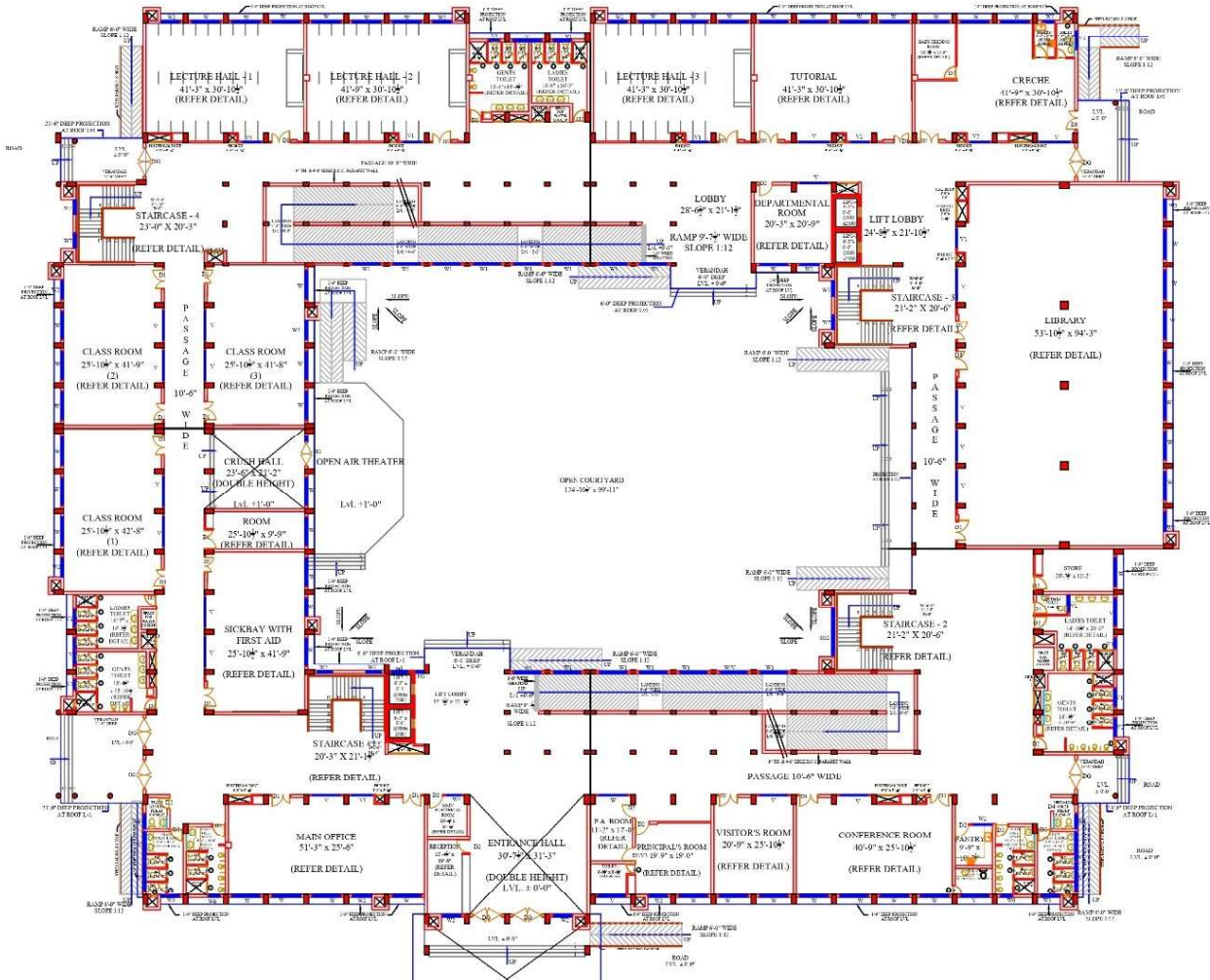


Figure 1: Ground floor plan

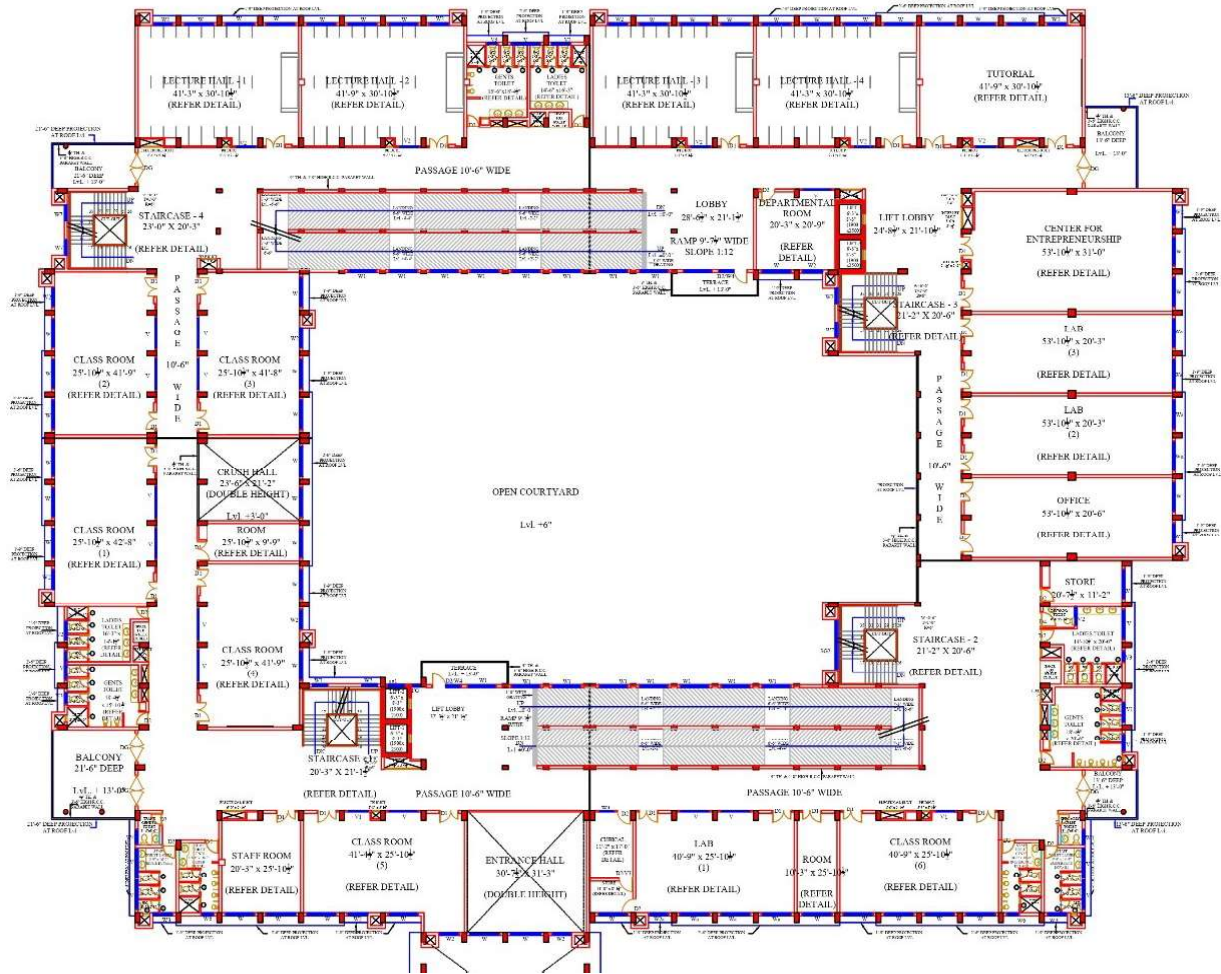


Figure 2: First floor plan

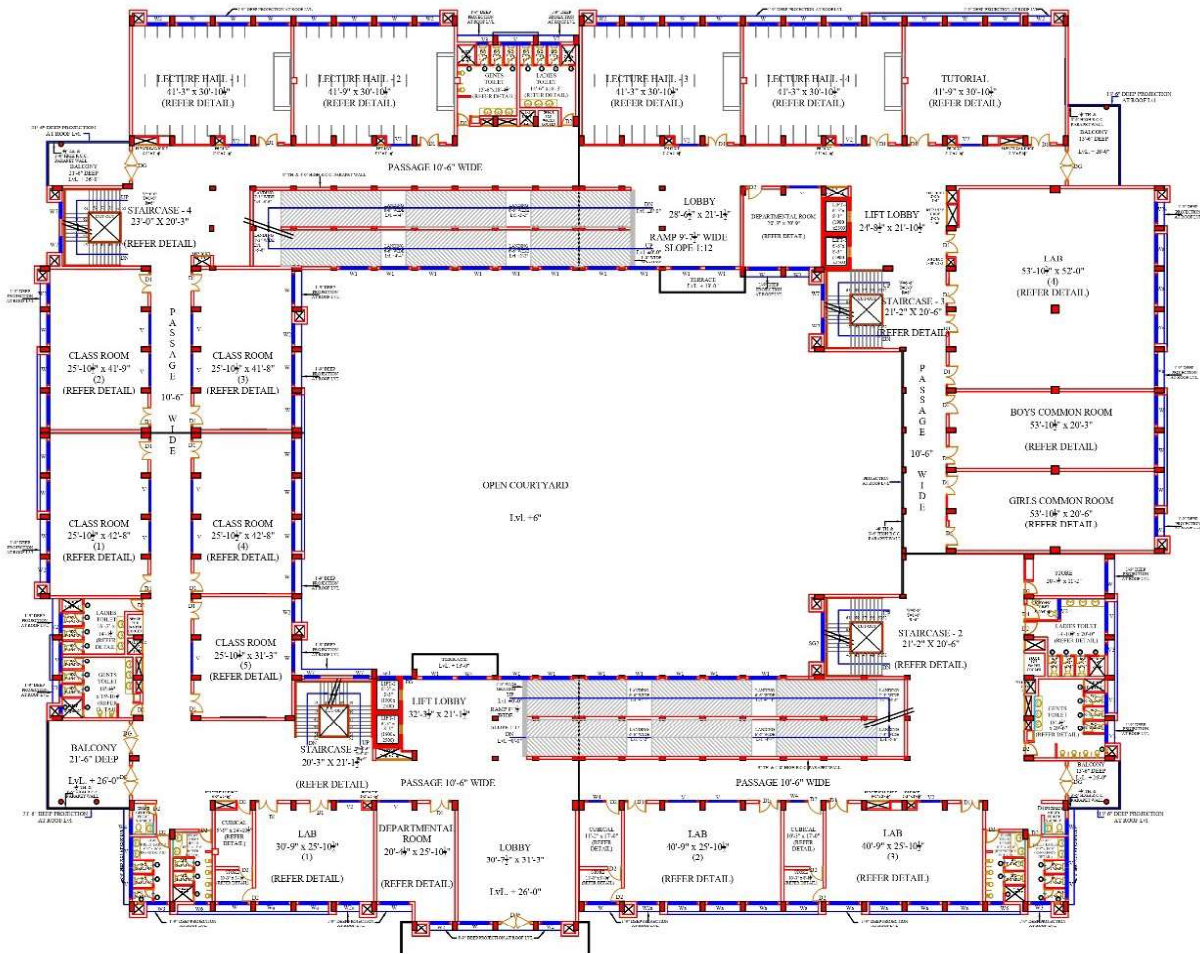


Figure 3: Second floor plan

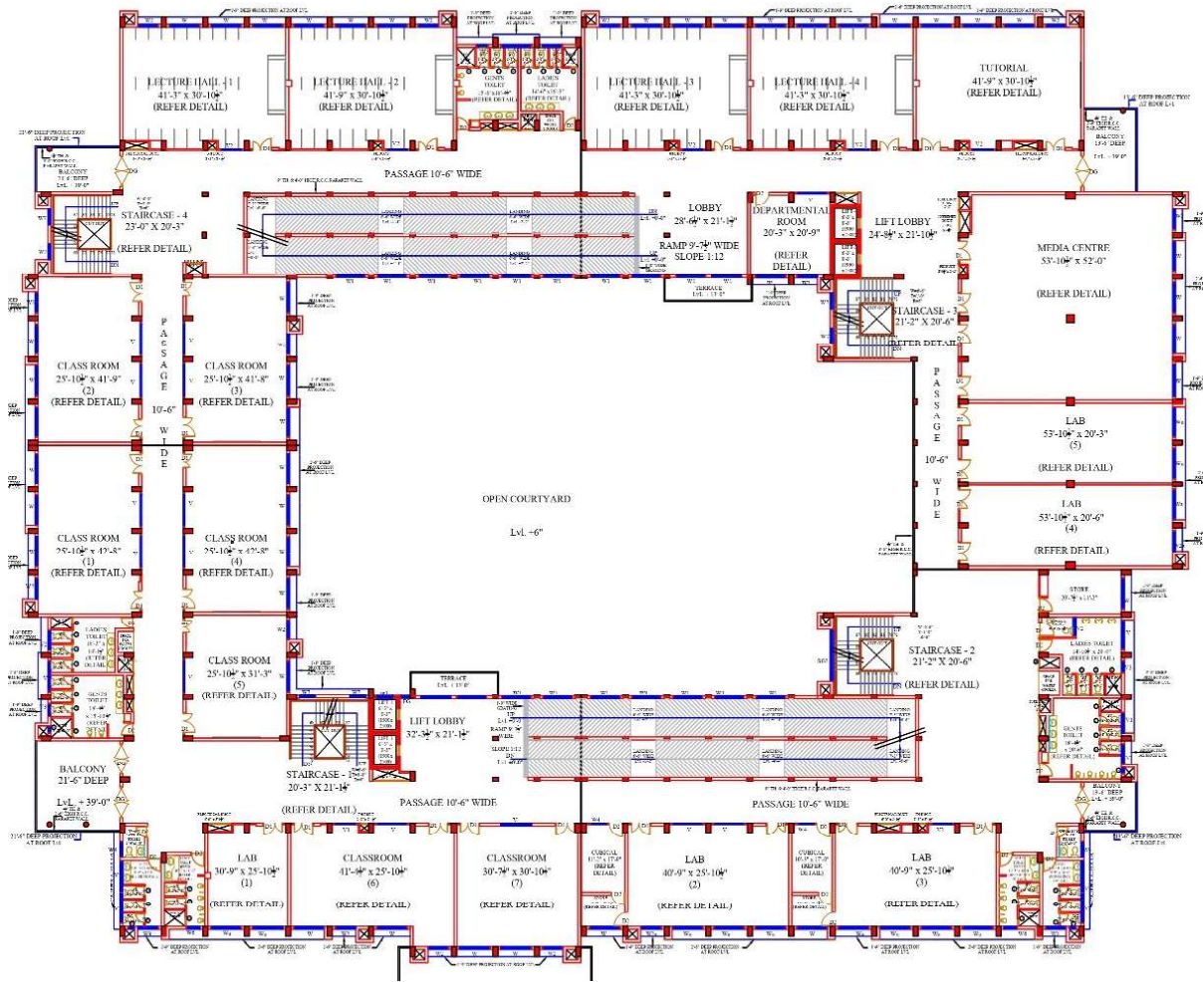


Figure 4: Third floor plan

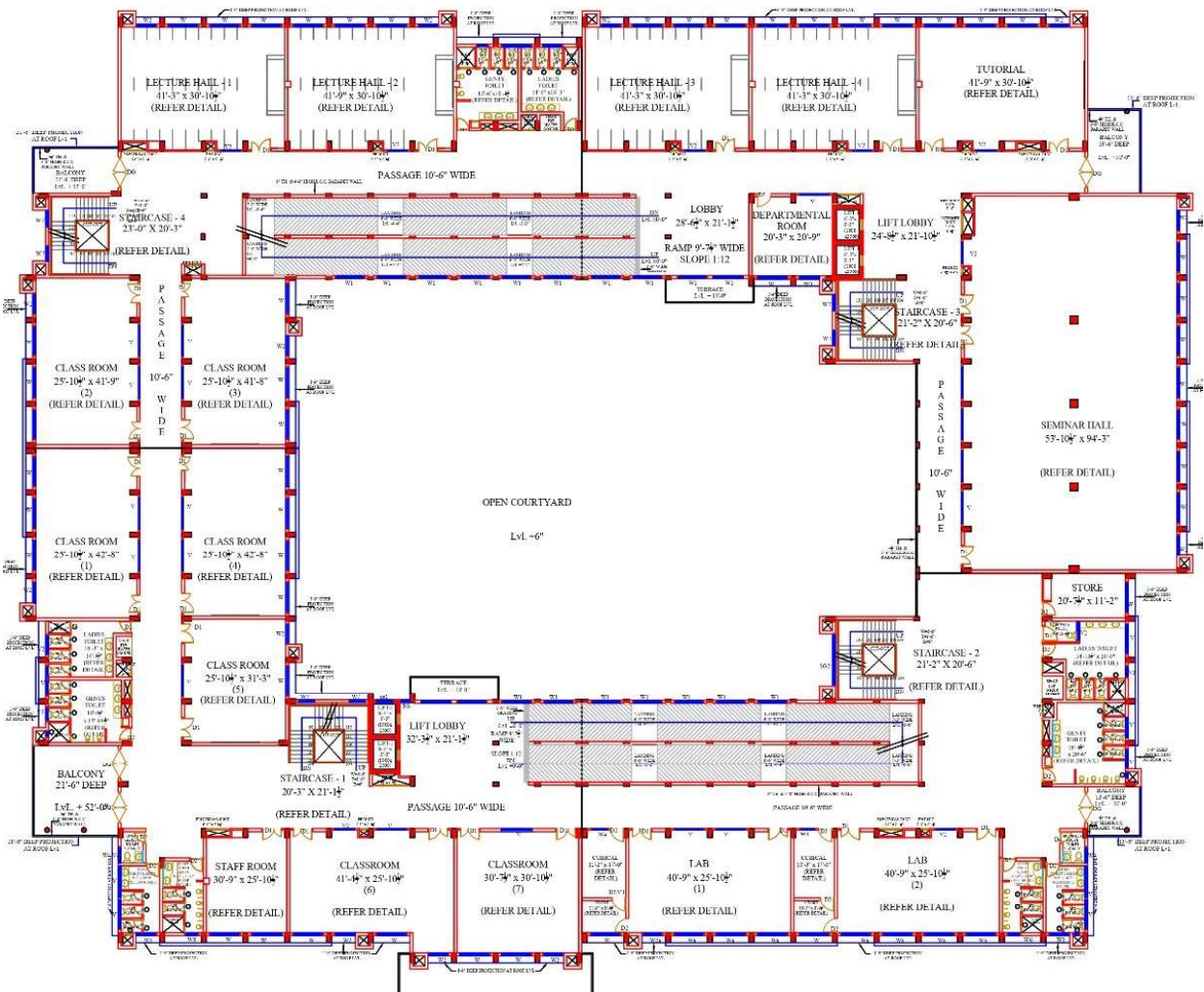


Figure 5: Fourth floor plan

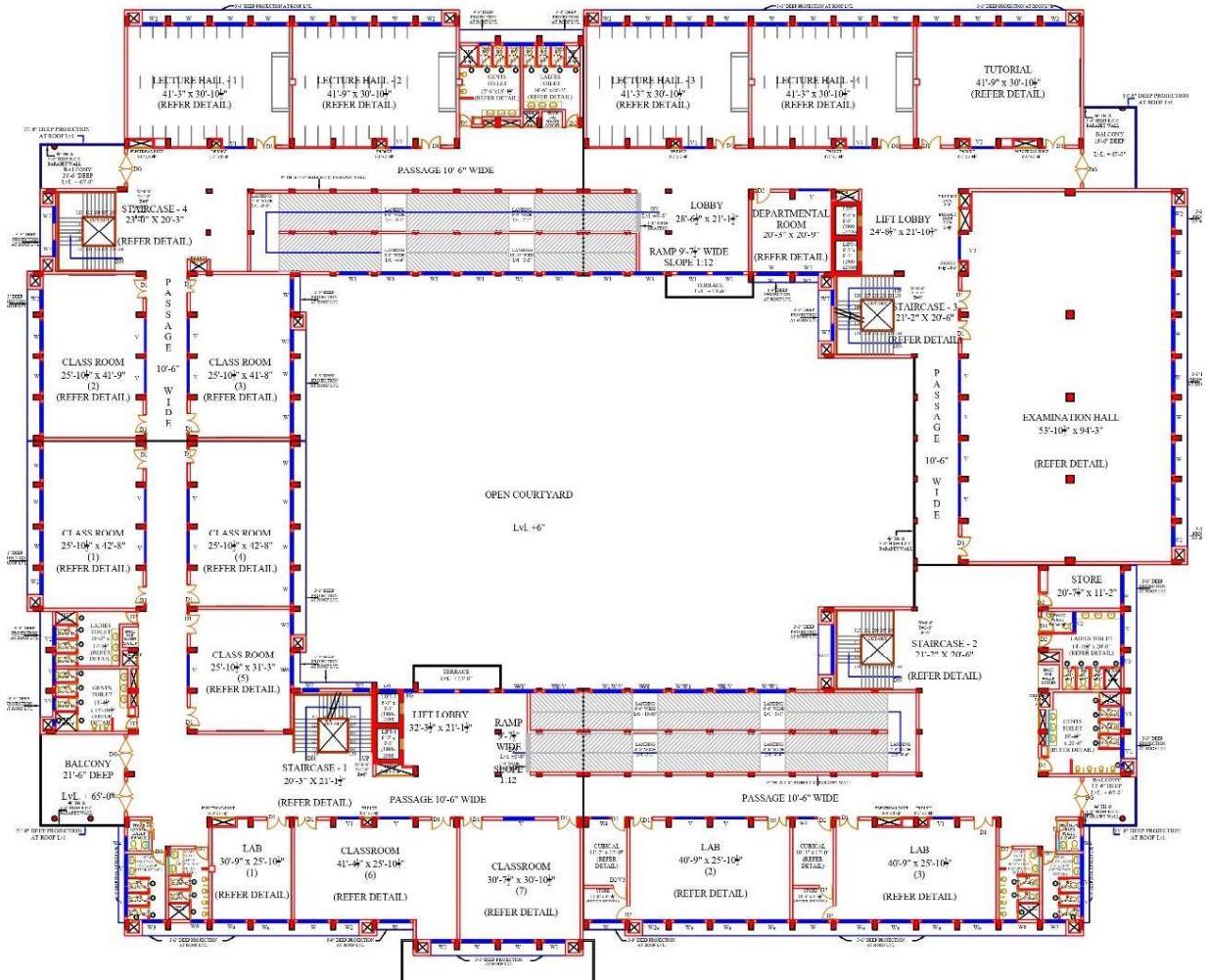


Figure 6: Fifth floor plan

Building Schedules

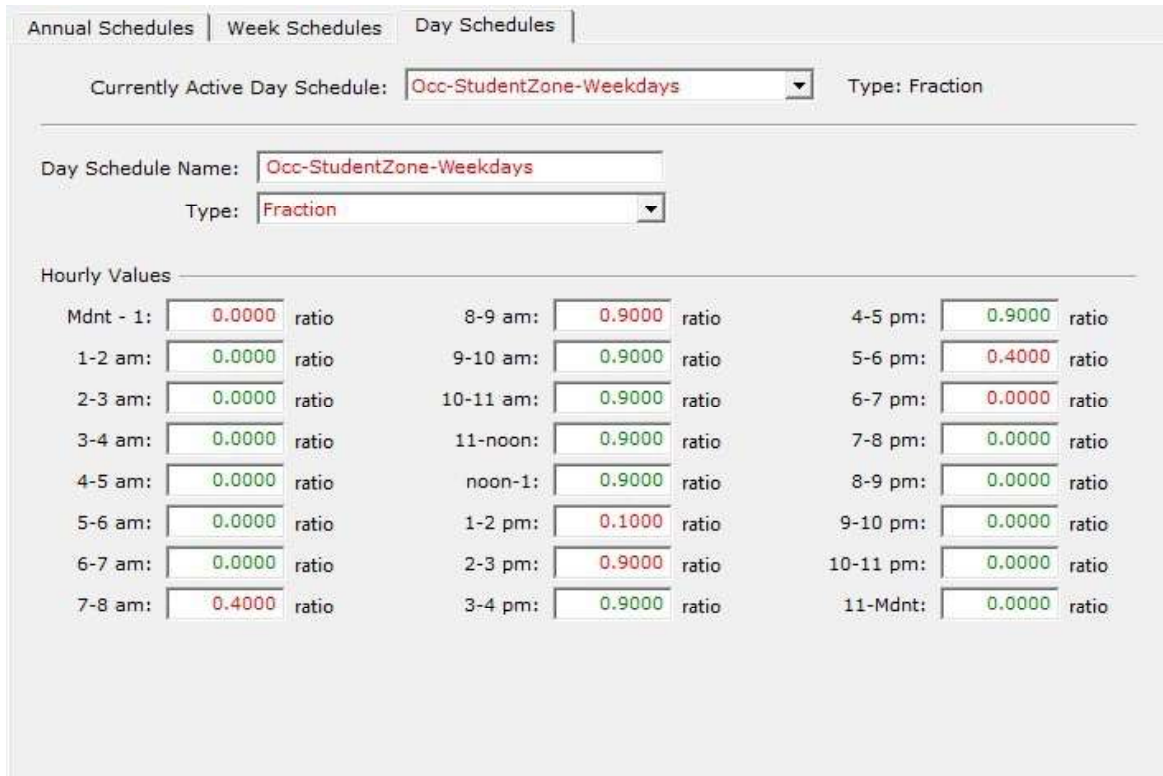


Figure 7: Educational - Student Zone occupancy weekdays

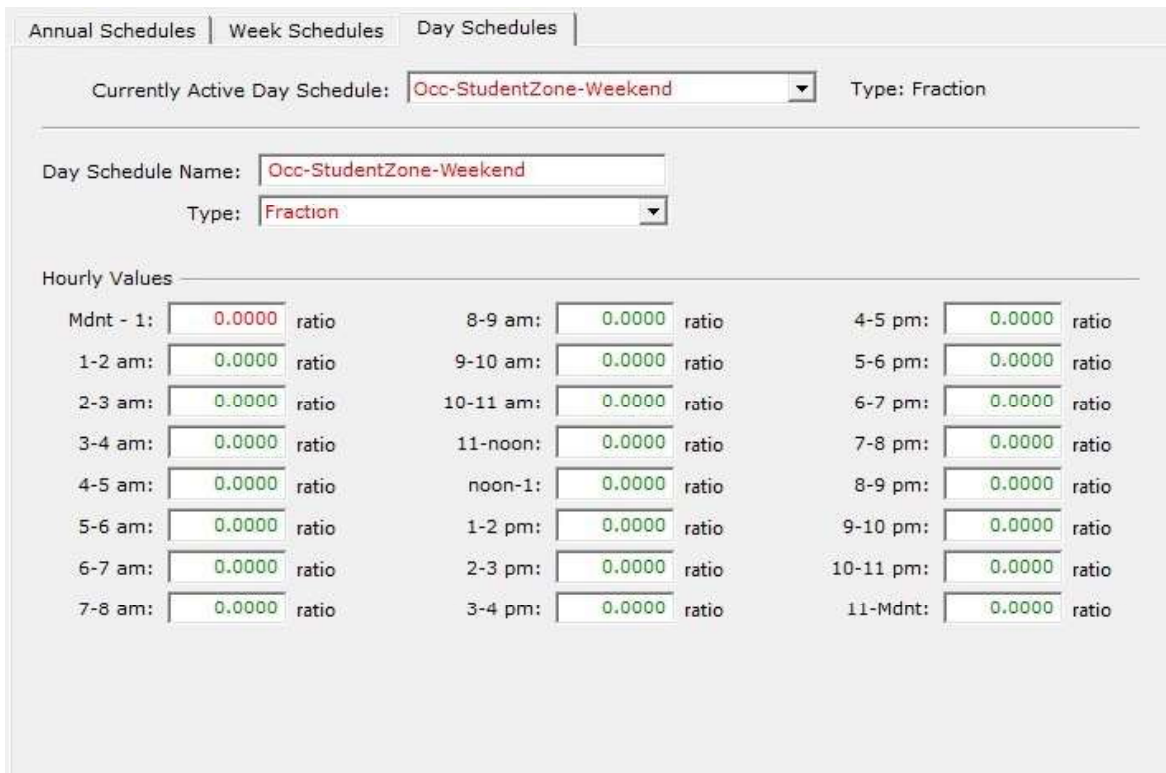


Figure 8: Educational - Student Zone occupancy weekend

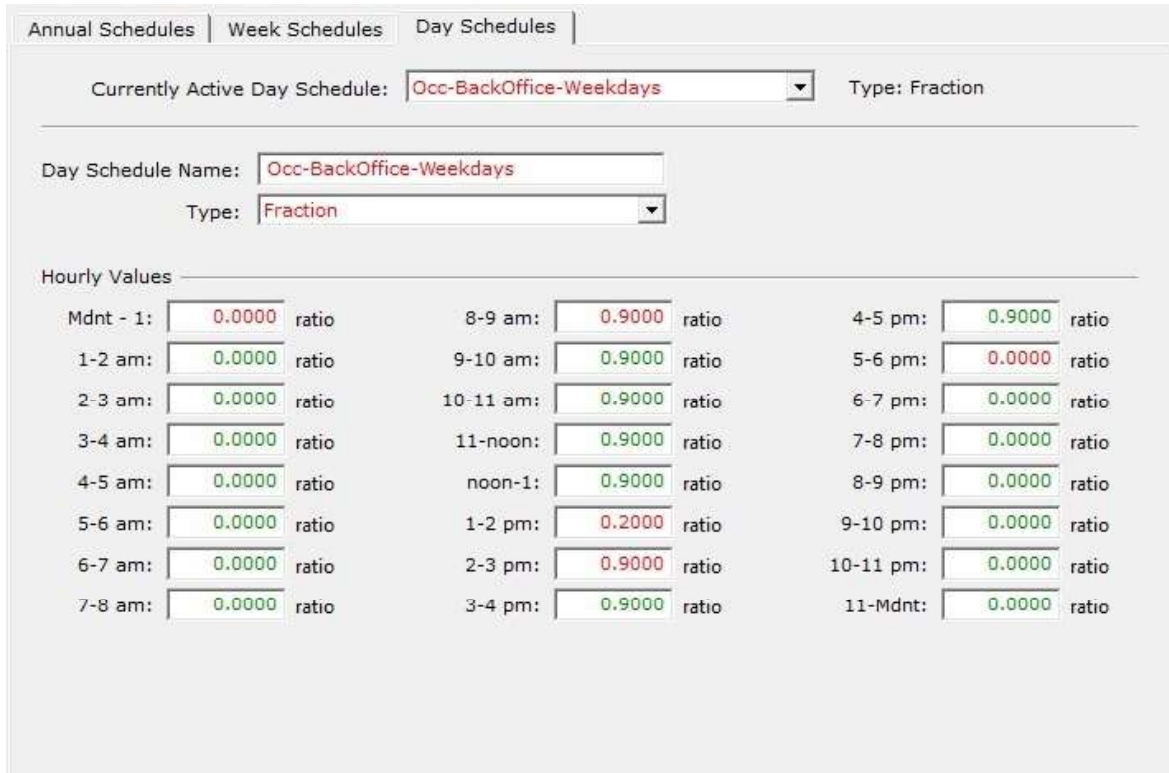


Figure 9: Educational – Back Office occupancy weekdays

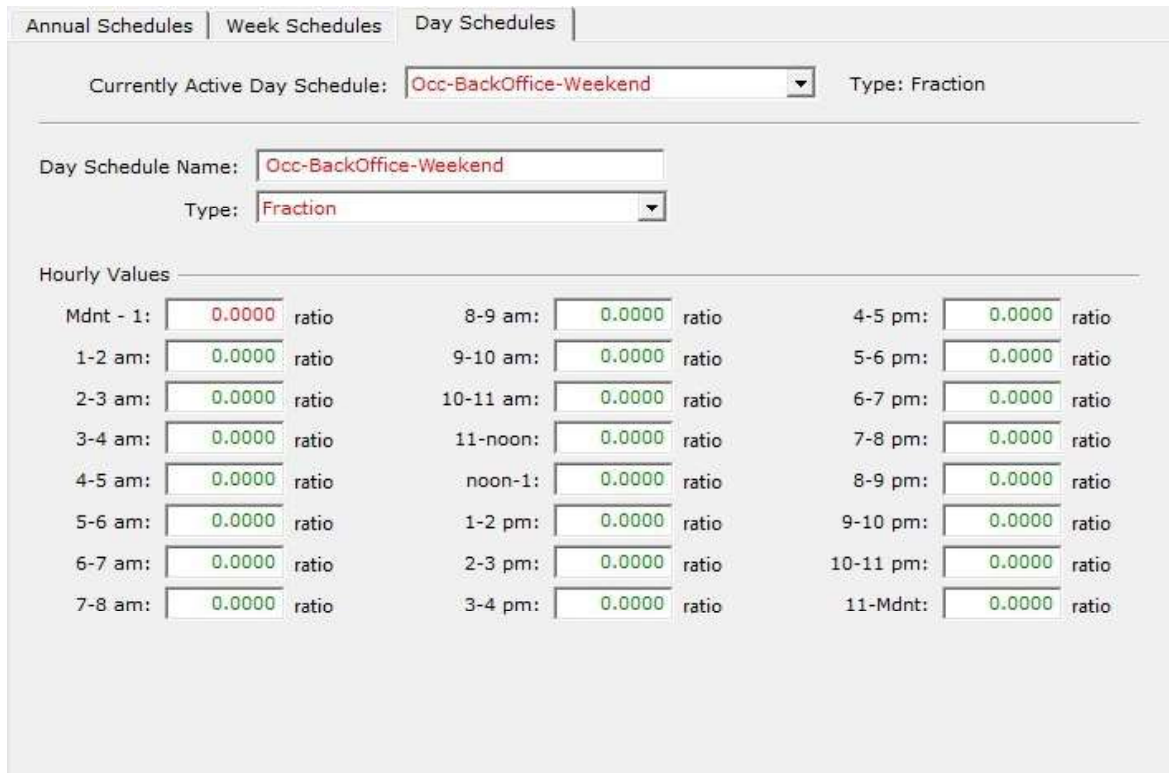


Figure 10: Educational – Back Office occupancy weekend

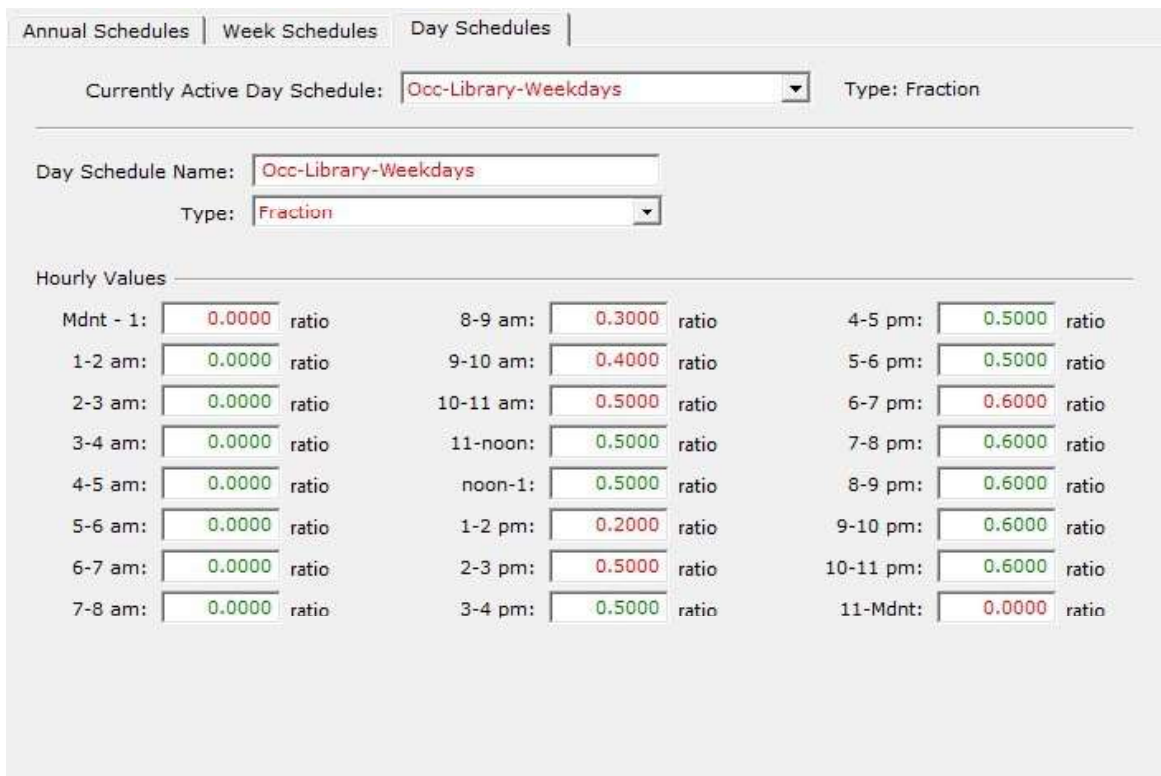


Figure 11: Educational – Library occupancy weekdays

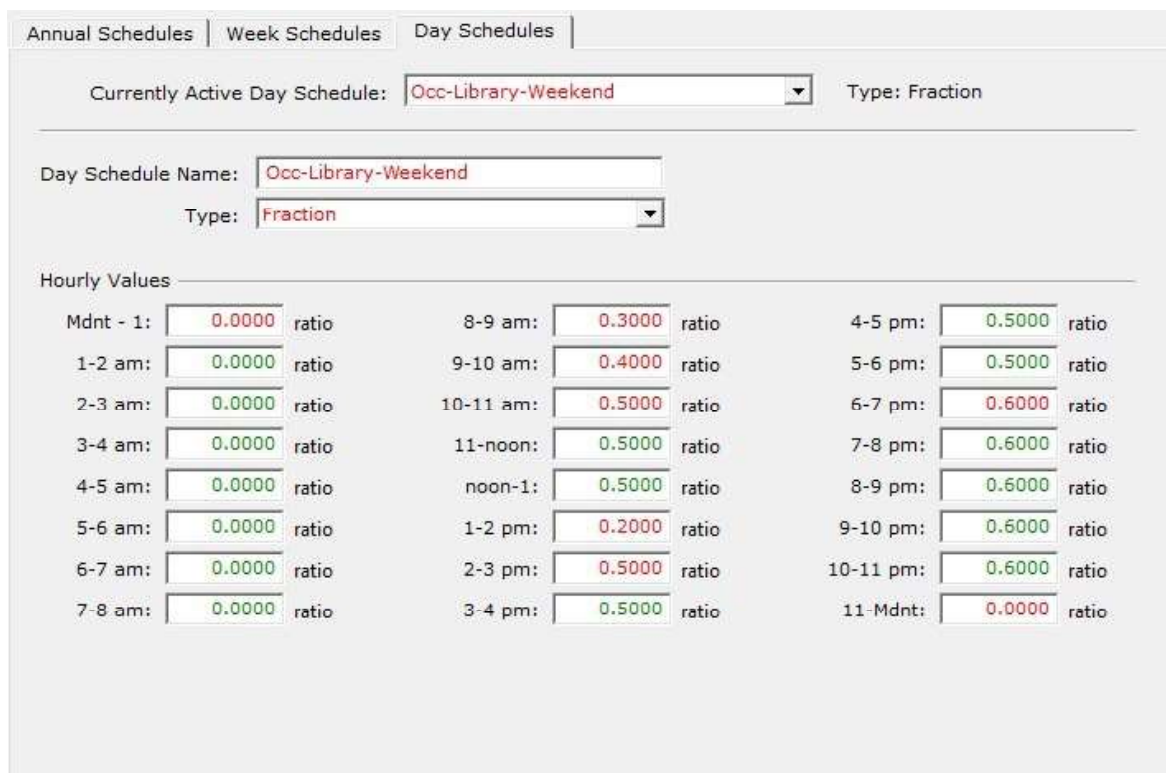


Figure 12: Educational – Library occupancy weekend

Annual Schedules | Week Schedules | Day Schedules

Currently Active Day Schedule: Type: Fraction

Day Schedule Name: Type:

Hourly Values

Mdnt - 1:	<input type="text" value="0.0000"/> ratio	8-9 am:	<input type="text" value="0.9000"/> ratio	4-5 pm:	<input type="text" value="0.9000"/> ratio
1-2 am:	<input type="text" value="0.0000"/> ratio	9-10 am:	<input type="text" value="0.9000"/> ratio	5-6 pm:	<input type="text" value="0.9000"/> ratio
2-3 am:	<input type="text" value="0.0000"/> ratio	10-11 am:	<input type="text" value="0.9000"/> ratio	6-7 pm:	<input type="text" value="0.0000"/> ratio
3-4 am:	<input type="text" value="0.0000"/> ratio	11-noon:	<input type="text" value="0.9000"/> ratio	7-8 pm:	<input type="text" value="0.0000"/> ratio
4-5 am:	<input type="text" value="0.0000"/> ratio	noon-1:	<input type="text" value="0.9000"/> ratio	8-9 pm:	<input type="text" value="0.0000"/> ratio
5-6 am:	<input type="text" value="0.0000"/> ratio	1-2 pm:	<input type="text" value="0.6000"/> ratio	9-10 pm:	<input type="text" value="0.0000"/> ratio
6-7 am:	<input type="text" value="0.0000"/> ratio	2-3 pm:	<input type="text" value="0.9000"/> ratio	10-11 pm:	<input type="text" value="0.0000"/> ratio
7-8 am:	<input type="text" value="0.9000"/> ratio	3-4 pm:	<input type="text" value="0.9000"/> ratio	11-Mdnt:	<input type="text" value="0.0000"/> ratio

Figure 13: Educational – Student Zone lighting weekdays

Annual Schedules | Week Schedules | Day Schedules

Currently Active Day Schedule: Type: Fraction

Day Schedule Name: Type:

Hourly Values

Mdnt - 1:	<input type="text" value="0.0000"/> ratio	8-9 am:	<input type="text" value="0.0000"/> ratio	4-5 pm:	<input type="text" value="0.0000"/> ratio
1-2 am:	<input type="text" value="0.0000"/> ratio	9-10 am:	<input type="text" value="0.0000"/> ratio	5-6 pm:	<input type="text" value="0.0000"/> ratio
2-3 am:	<input type="text" value="0.0000"/> ratio	10-11 am:	<input type="text" value="0.0000"/> ratio	6-7 pm:	<input type="text" value="0.0000"/> ratio
3-4 am:	<input type="text" value="0.0000"/> ratio	11-noon:	<input type="text" value="0.0000"/> ratio	7-8 pm:	<input type="text" value="0.0000"/> ratio
4-5 am:	<input type="text" value="0.0000"/> ratio	noon-1:	<input type="text" value="0.0000"/> ratio	8-9 pm:	<input type="text" value="0.0000"/> ratio
5-6 am:	<input type="text" value="0.0000"/> ratio	1-2 pm:	<input type="text" value="0.0000"/> ratio	9-10 pm:	<input type="text" value="0.0000"/> ratio
6-7 am:	<input type="text" value="0.0000"/> ratio	2-3 pm:	<input type="text" value="0.0000"/> ratio	10-11 pm:	<input type="text" value="0.0000"/> ratio
7-8 am:	<input type="text" value="0.0000"/> ratio	3-4 pm:	<input type="text" value="0.0000"/> ratio	11-Mdnt:	<input type="text" value="0.0000"/> ratio

Figure 14: Educational – Student Zone lighting weekend

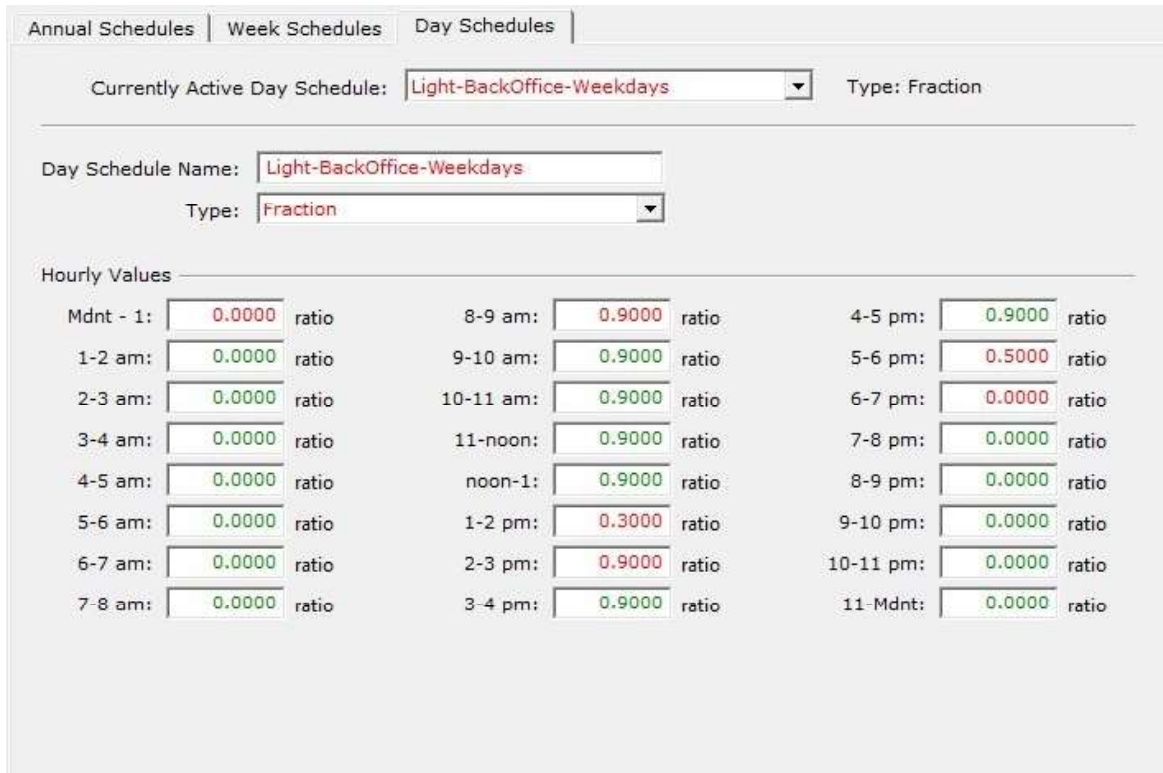


Figure 15: Educational – Back-office lighting weekdays

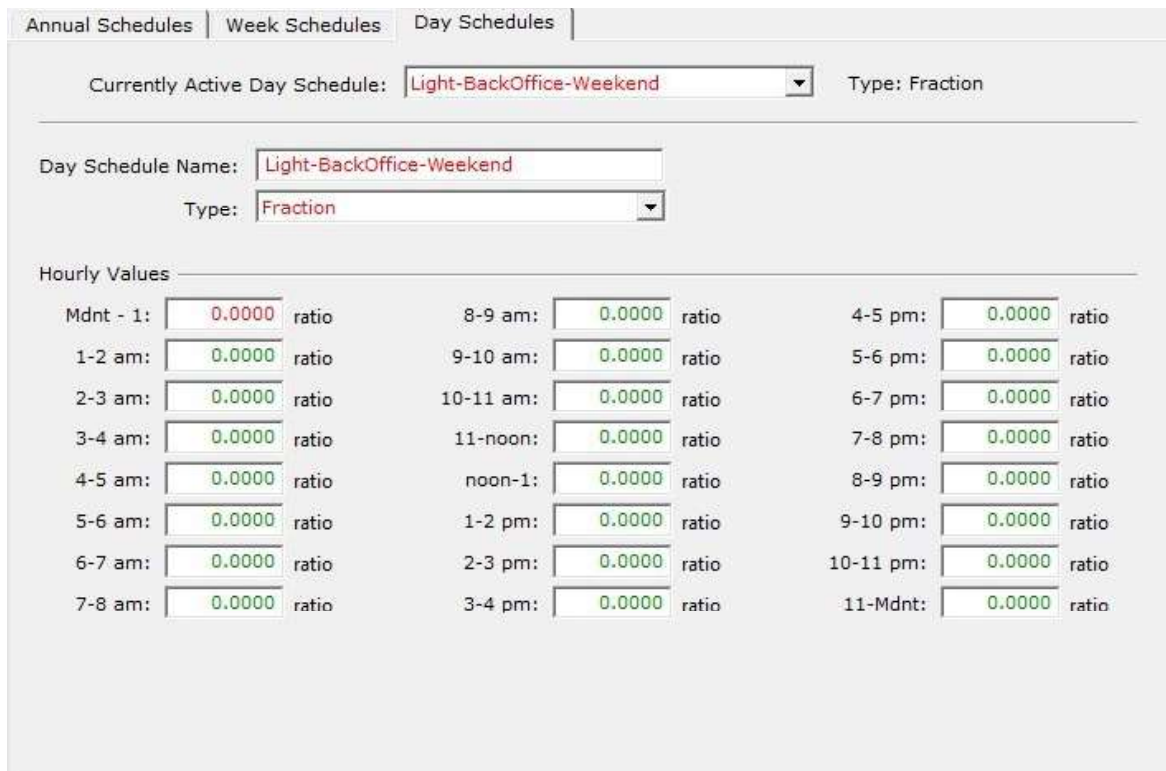


Figure 16: Educational – Back-office lighting weekend

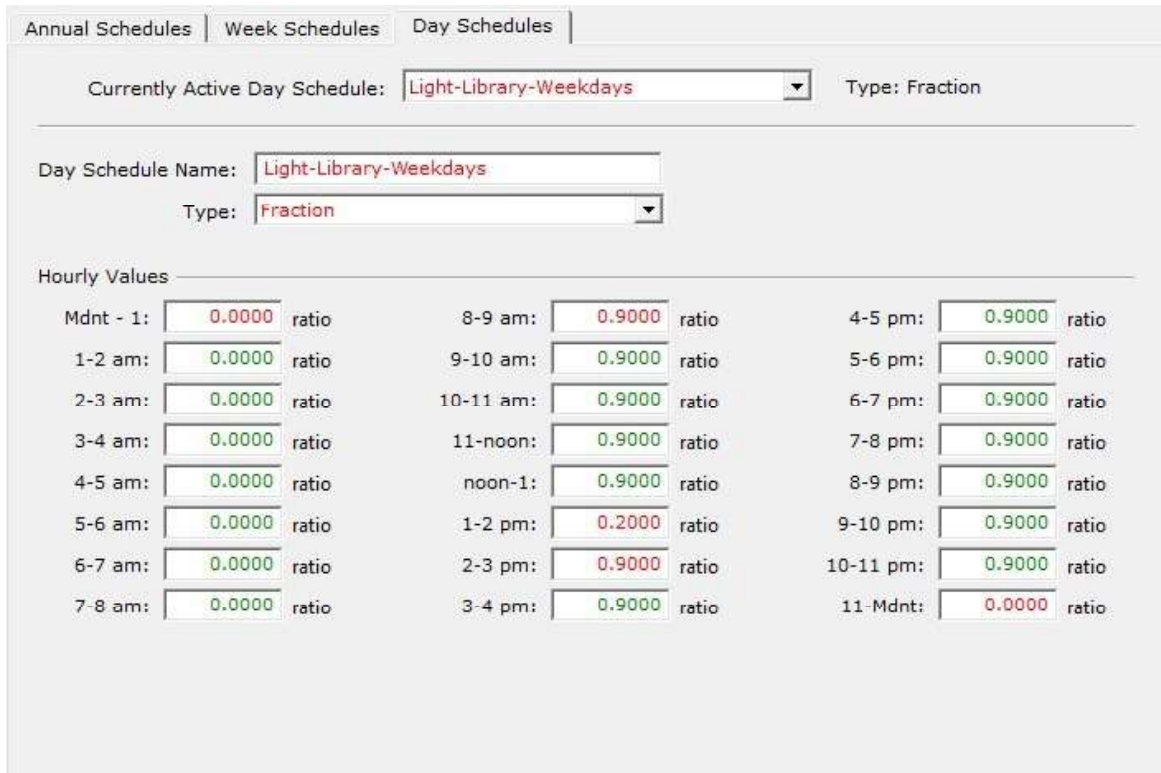


Figure 17: Educational – Library lighting weekdays

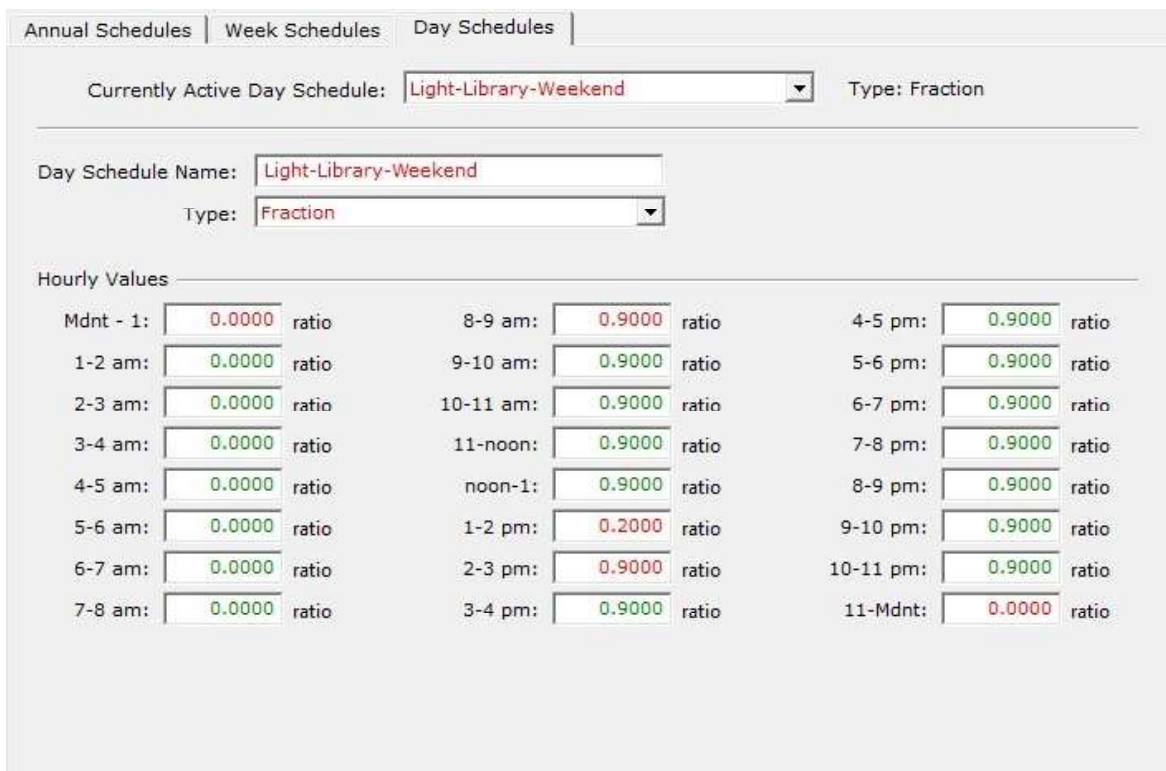


Figure 18: Educational – Library lighting weekend

Annual Schedules | Week Schedules | Day Schedules

Currently Active Day Schedule: Type: Fraction

Day Schedule Name: Type:

Hourly Values

Mdnt - 1:	<input type="text" value="0.0000"/> ratio	8-9 am:	<input type="text" value="0.9500"/> ratio	4-5 pm:	<input type="text" value="0.9500"/> ratio
1-2 am:	<input type="text" value="0.0000"/> ratio	9-10 am:	<input type="text" value="0.9500"/> ratio	5-6 pm:	<input type="text" value="0.9500"/> ratio
2-3 am:	<input type="text" value="0.0000"/> ratio	10-11 am:	<input type="text" value="0.9500"/> ratio	6-7 pm:	<input type="text" value="0.0000"/> ratio
3-4 am:	<input type="text" value="0.0000"/> ratio	11-noon:	<input type="text" value="0.9500"/> ratio	7-8 pm:	<input type="text" value="0.0000"/> ratio
4-5 am:	<input type="text" value="0.0000"/> ratio	noon-1:	<input type="text" value="0.9500"/> ratio	8-9 pm:	<input type="text" value="0.0000"/> ratio
5-6 am:	<input type="text" value="0.0000"/> ratio	1-2 pm:	<input type="text" value="0.2000"/> ratio	9-10 pm:	<input type="text" value="0.0000"/> ratio
6-7 am:	<input type="text" value="0.0000"/> ratio	2-3 pm:	<input type="text" value="0.9500"/> ratio	10-11 pm:	<input type="text" value="0.0000"/> ratio
7-8 am:	<input type="text" value="0.3500"/> ratio	3-4 pm:	<input type="text" value="0.9500"/> ratio	11-Mdnt:	<input type="text" value="0.0000"/> ratio

Figure 19: Educational – Student zone equipment weekdays

Annual Schedules | Week Schedules | Day Schedules

Currently Active Day Schedule: Type: Fraction

Day Schedule Name: Type:

Hourly Values

Mdnt - 1:	<input type="text" value="0.0000"/> ratio	8-9 am:	<input type="text" value="0.0000"/> ratio	4-5 pm:	<input type="text" value="0.0000"/> ratio
1-2 am:	<input type="text" value="0.0000"/> ratio	9-10 am:	<input type="text" value="0.0000"/> ratio	5-6 pm:	<input type="text" value="0.0000"/> ratio
2-3 am:	<input type="text" value="0.0000"/> ratio	10-11 am:	<input type="text" value="0.0000"/> ratio	6-7 pm:	<input type="text" value="0.0000"/> ratio
3-4 am:	<input type="text" value="0.0000"/> ratio	11-noon:	<input type="text" value="0.0000"/> ratio	7-8 pm:	<input type="text" value="0.0000"/> ratio
4-5 am:	<input type="text" value="0.0000"/> ratio	noon-1:	<input type="text" value="0.0000"/> ratio	8-9 pm:	<input type="text" value="0.0000"/> ratio
5-6 am:	<input type="text" value="0.0000"/> ratio	1-2 pm:	<input type="text" value="0.0000"/> ratio	9-10 pm:	<input type="text" value="0.0000"/> ratio
6-7 am:	<input type="text" value="0.0000"/> ratio	2-3 pm:	<input type="text" value="0.0000"/> ratio	10-11 pm:	<input type="text" value="0.0000"/> ratio
7-8 am:	<input type="text" value="0.0000"/> ratio	3-4 pm:	<input type="text" value="0.0000"/> ratio	11-Mdnt:	<input type="text" value="0.0000"/> ratio

Figure 20: Educational – Student zone equipment weekend

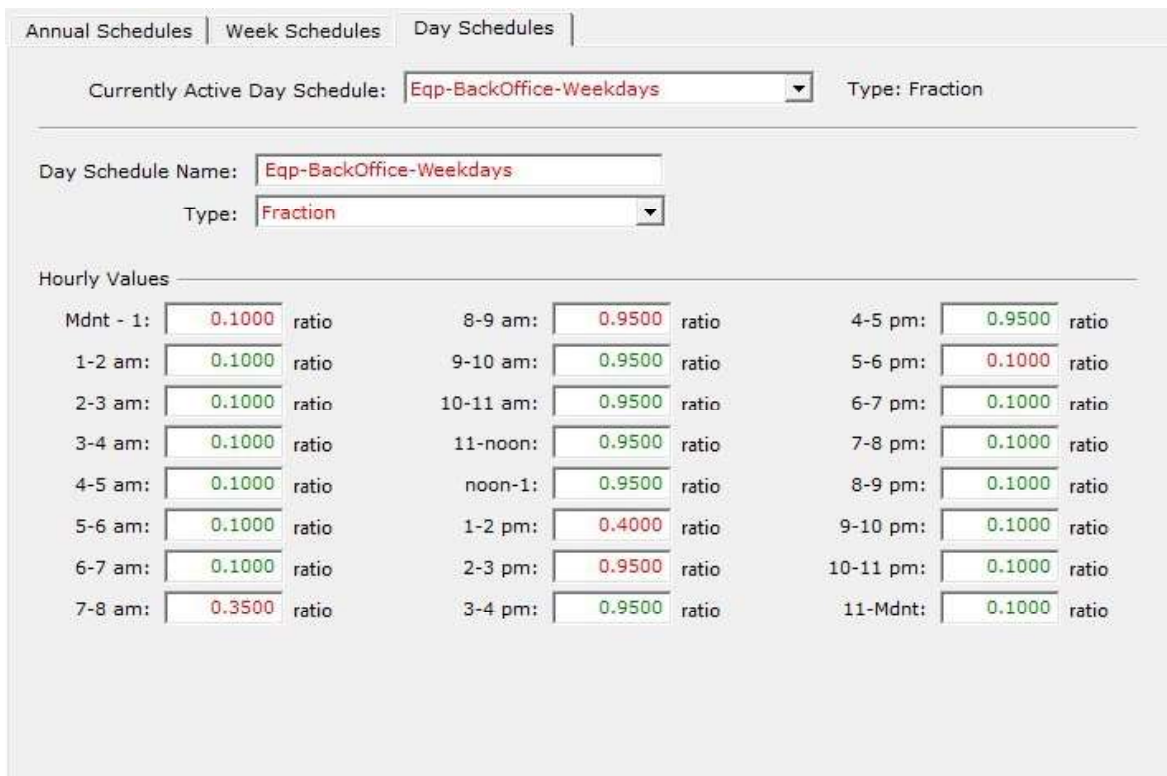


Figure 21: Educational – Back-office equipment weekdays

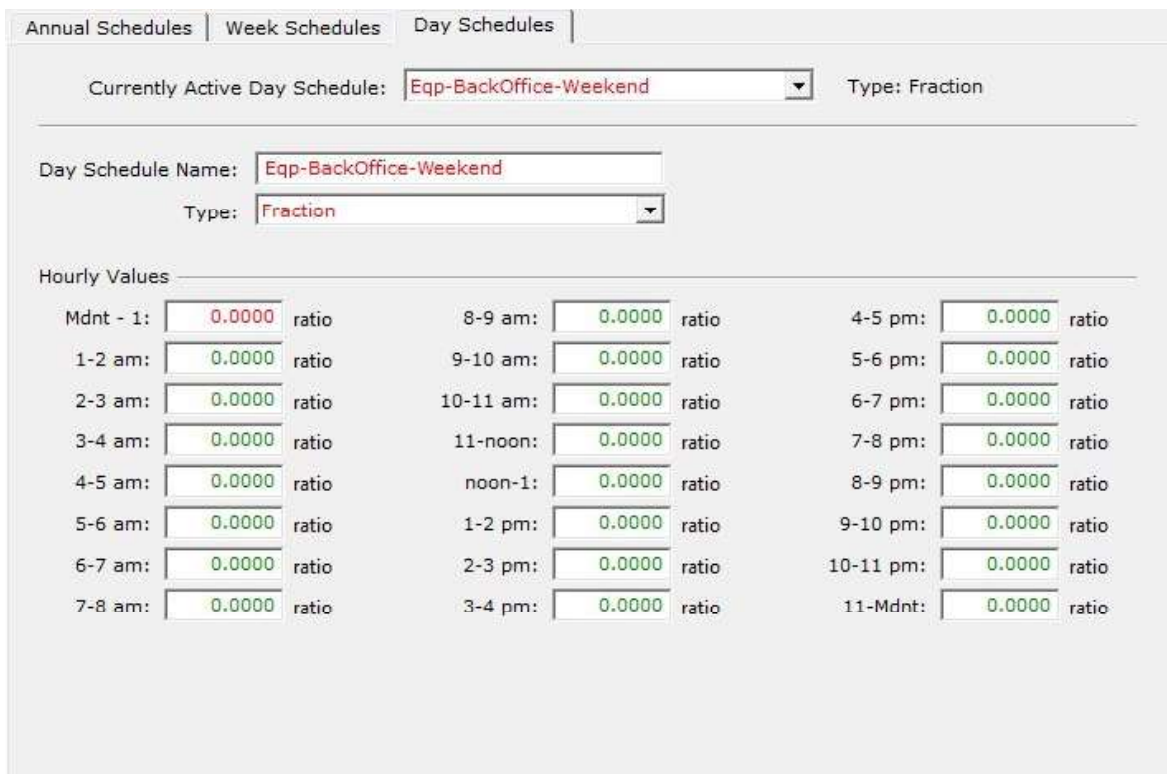


Figure 22: Educational – Back-office equipment weekend

Annual Schedules | Week Schedules | Day Schedules

Currently Active Day Schedule: Type: Fraction

Day Schedule Name: Type:

Hourly Values

Mdnt - 1:	<input type="text" value="0.1000"/> ratio	8-9 am:	<input type="text" value="0.7000"/> ratio	4-5 pm:	<input type="text" value="0.7000"/> ratio
1-2 am:	<input type="text" value="0.1000"/> ratio	9-10 am:	<input type="text" value="0.7000"/> ratio	5-6 pm:	<input type="text" value="0.8000"/> ratio
2-3 am:	<input type="text" value="0.1000"/> ratio	10-11 am:	<input type="text" value="0.7000"/> ratio	6-7 pm:	<input type="text" value="0.8000"/> ratio
3-4 am:	<input type="text" value="0.1000"/> ratio	11-noon:	<input type="text" value="0.7000"/> ratio	7-8 pm:	<input type="text" value="0.8000"/> ratio
4-5 am:	<input type="text" value="0.1000"/> ratio	noon-1:	<input type="text" value="0.7000"/> ratio	8-9 pm:	<input type="text" value="0.8000"/> ratio
5-6 am:	<input type="text" value="0.1000"/> ratio	1-2 pm:	<input type="text" value="0.7000"/> ratio	9-10 pm:	<input type="text" value="0.8000"/> ratio
6-7 am:	<input type="text" value="0.1000"/> ratio	2-3 pm:	<input type="text" value="0.7000"/> ratio	10-11 pm:	<input type="text" value="0.8000"/> ratio
7-8 am:	<input type="text" value="0.1000"/> ratio	3-4 pm:	<input type="text" value="0.7000"/> ratio	11-Mdnt:	<input type="text" value="0.0000"/> ratio

Figure 23: Educational – Library equipment weekdays

Annual Schedules | Week Schedules | Day Schedules

Currently Active Day Schedule: Type: Fraction

Day Schedule Name: Type:

Hourly Values

Mdnt - 1:	<input type="text" value="0.1000"/> ratio	8-9 am:	<input type="text" value="0.7000"/> ratio	4-5 pm:	<input type="text" value="0.7000"/> ratio
1-2 am:	<input type="text" value="0.1000"/> ratio	9-10 am:	<input type="text" value="0.7000"/> ratio	5-6 pm:	<input type="text" value="0.8000"/> ratio
2-3 am:	<input type="text" value="0.1000"/> ratio	10-11 am:	<input type="text" value="0.7000"/> ratio	6-7 pm:	<input type="text" value="0.8000"/> ratio
3-4 am:	<input type="text" value="0.1000"/> ratio	11-noon:	<input type="text" value="0.7000"/> ratio	7-8 pm:	<input type="text" value="0.8000"/> ratio
4-5 am:	<input type="text" value="0.1000"/> ratio	noon-1:	<input type="text" value="0.7000"/> ratio	8-9 pm:	<input type="text" value="0.8000"/> ratio
5-6 am:	<input type="text" value="0.1000"/> ratio	1-2 pm:	<input type="text" value="0.7000"/> ratio	9-10 pm:	<input type="text" value="0.8000"/> ratio
6-7 am:	<input type="text" value="0.1000"/> ratio	2-3 pm:	<input type="text" value="0.7000"/> ratio	10-11 pm:	<input type="text" value="0.8000"/> ratio
7-8 am:	<input type="text" value="0.1000"/> ratio	3-4 pm:	<input type="text" value="0.7000"/> ratio	11-Mdnt:	<input type="text" value="0.0000"/> ratio

Figure 24: Educational – Library equipment weekend

Annual Schedules | Week Schedules | Day Schedules

Currently Active Day Schedule: **Fan-StudentZone-Weekdays** Type: On/Off

Day Schedule Name: **Fan-StudentZone-Weekdays**
 Type: **On/Off**

Hourly Values

Mdnt - 1:	<input type="text" value="0"/>	8-9 am:	<input type="text" value="1"/>	4-5 pm:	<input type="text" value="1"/>
1-2 am:	<input type="text" value="0"/>	9-10 am:	<input type="text" value="1"/>	5-6 pm:	<input type="text" value="1"/>
2-3 am:	<input type="text" value="0"/>	10-11 am:	<input type="text" value="1"/>	6-7 pm:	<input type="text" value="0"/>
3-4 am:	<input type="text" value="0"/>	11-noon:	<input type="text" value="1"/>	7-8 pm:	<input type="text" value="0"/>
4-5 am:	<input type="text" value="0"/>	noon-1:	<input type="text" value="1"/>	8-9 pm:	<input type="text" value="0"/>
5-6 am:	<input type="text" value="0"/>	1-2 pm:	<input type="text" value="1"/>	9-10 pm:	<input type="text" value="0"/>
6-7 am:	<input type="text" value="0"/>	2-3 pm:	<input type="text" value="1"/>	10-11 pm:	<input type="text" value="0"/>
7-8 am:	<input type="text" value="1"/>	3-4 pm:	<input type="text" value="1"/>	11-Mdnt:	<input type="text" value="0"/>

Figure 25: HVAC Fan – Student zone weekdays

Annual Schedules | Week Schedules | Day Schedules

Currently Active Day Schedule: **Fan-StudentZOne-Weekend** Type: On/Off

Day Schedule Name: **Fan-StudentZOne-Weekend**
 Type: **On/Off**

Hourly Values

Mdnt - 1:	<input type="text" value="0"/>	8-9 am:	<input type="text" value="0"/>	4-5 pm:	<input type="text" value="0"/>
1-2 am:	<input type="text" value="0"/>	9-10 am:	<input type="text" value="0"/>	5-6 pm:	<input type="text" value="0"/>
2-3 am:	<input type="text" value="0"/>	10-11 am:	<input type="text" value="0"/>	6-7 pm:	<input type="text" value="0"/>
3-4 am:	<input type="text" value="0"/>	11-noon:	<input type="text" value="0"/>	7-8 pm:	<input type="text" value="0"/>
4-5 am:	<input type="text" value="0"/>	noon-1:	<input type="text" value="0"/>	8-9 pm:	<input type="text" value="0"/>
5-6 am:	<input type="text" value="0"/>	1-2 pm:	<input type="text" value="0"/>	9-10 pm:	<input type="text" value="0"/>
6-7 am:	<input type="text" value="0"/>	2-3 pm:	<input type="text" value="0"/>	10-11 pm:	<input type="text" value="0"/>
7-8 am:	<input type="text" value="0"/>	3-4 pm:	<input type="text" value="0"/>	11-Mdnt:	<input type="text" value="0"/>

Figure 26: HVAC Fan Student zone weekend

Annual Schedules | Week Schedules | Day Schedules |

Currently Active Day Schedule: **Fan-BackOffice-Weekdays** Type: On/Off

Day Schedule Name: **Fan-BackOffice-Weekdays**
 Type: **On/Off**

Hourly Values

Mdnt - 1:	<input type="text" value="0"/>	8-9 am:	<input type="text" value="1"/>	4-5 pm:	<input type="text" value="1"/>
1-2 am:	<input type="text" value="0"/>	9-10 am:	<input type="text" value="1"/>	5-6 pm:	<input type="text" value="0"/>
2-3 am:	<input type="text" value="0"/>	10-11 am:	<input type="text" value="1"/>	6-7 pm:	<input type="text" value="0"/>
3-4 am:	<input type="text" value="0"/>	11-noon:	<input type="text" value="1"/>	7-8 pm:	<input type="text" value="0"/>
4-5 am:	<input type="text" value="0"/>	noon-1:	<input type="text" value="1"/>	8-9 pm:	<input type="text" value="0"/>
5-6 am:	<input type="text" value="0"/>	1-2 pm:	<input type="text" value="1"/>	9-10 pm:	<input type="text" value="0"/>
6-7 am:	<input type="text" value="0"/>	2-3 pm:	<input type="text" value="1"/>	10-11 pm:	<input type="text" value="0"/>
7-8 am:	<input type="text" value="1"/>	3-4 pm:	<input type="text" value="1"/>	11-Mdnt:	<input type="text" value="0"/>

Figure 27: HVAC Fan – Back-office weekdays

Annual Schedules | Week Schedules | Day Schedules |

Currently Active Day Schedule: **Fan-BackOffice-Weekend** Type: On/Off

Day Schedule Name: **Fan-BackOffice-Weekend**
 Type: **On/Off**

Hourly Values

Mdnt - 1:	<input type="text" value="0"/>	8-9 am:	<input type="text" value="0"/>	4-5 pm:	<input type="text" value="0"/>
1-2 am:	<input type="text" value="0"/>	9-10 am:	<input type="text" value="0"/>	5-6 pm:	<input type="text" value="0"/>
2-3 am:	<input type="text" value="0"/>	10-11 am:	<input type="text" value="0"/>	6-7 pm:	<input type="text" value="0"/>
3-4 am:	<input type="text" value="0"/>	11-noon:	<input type="text" value="0"/>	7-8 pm:	<input type="text" value="0"/>
4-5 am:	<input type="text" value="0"/>	noon-1:	<input type="text" value="0"/>	8-9 pm:	<input type="text" value="0"/>
5-6 am:	<input type="text" value="0"/>	1-2 pm:	<input type="text" value="0"/>	9-10 pm:	<input type="text" value="0"/>
6-7 am:	<input type="text" value="0"/>	2-3 pm:	<input type="text" value="0"/>	10-11 pm:	<input type="text" value="0"/>
7-8 am:	<input type="text" value="0"/>	3-4 pm:	<input type="text" value="0"/>	11-Mdnt:	<input type="text" value="0"/>

Figure 28: HVAC Fan – Back-office weekend

Annual Schedules | Week Schedules | Day Schedules

Currently Active Day Schedule: **Fan-Library-Weekdays** Type: On/Off

Day Schedule Name: **Fan-Library-Weekdays**
 Type: **On/Off**

Hourly Values

Mdnt - 1:	<input type="text" value="0"/>	8-9 am:	<input type="text" value="1"/>	4-5 pm:	<input type="text" value="1"/>
1-2 am:	<input type="text" value="0"/>	9-10 am:	<input type="text" value="1"/>	5-6 pm:	<input type="text" value="1"/>
2-3 am:	<input type="text" value="0"/>	10-11 am:	<input type="text" value="1"/>	6-7 pm:	<input type="text" value="1"/>
3-4 am:	<input type="text" value="0"/>	11-noon:	<input type="text" value="1"/>	7-8 pm:	<input type="text" value="1"/>
4-5 am:	<input type="text" value="0"/>	noon-1:	<input type="text" value="1"/>	8-9 pm:	<input type="text" value="1"/>
5-6 am:	<input type="text" value="0"/>	1-2 pm:	<input type="text" value="1"/>	9-10 pm:	<input type="text" value="1"/>
6-7 am:	<input type="text" value="0"/>	2-3 pm:	<input type="text" value="1"/>	10-11 pm:	<input type="text" value="1"/>
7-8 am:	<input type="text" value="1"/>	3-4 pm:	<input type="text" value="1"/>	11-Mdnt:	<input type="text" value="0"/>

Figure 29: HVAC Fan – Library weekdays

Annual Schedules | Week Schedules | Day Schedules

Currently Active Day Schedule: **Fan-Library-Weekend** Type: On/Off

Day Schedule Name: **Fan-Library-Weekend**
 Type: **On/Off**

Hourly Values

Mdnt - 1:	<input type="text" value="0"/>	8-9 am:	<input type="text" value="1"/>	4-5 pm:	<input type="text" value="1"/>
1-2 am:	<input type="text" value="0"/>	9-10 am:	<input type="text" value="1"/>	5-6 pm:	<input type="text" value="1"/>
2-3 am:	<input type="text" value="0"/>	10-11 am:	<input type="text" value="1"/>	6-7 pm:	<input type="text" value="1"/>
3-4 am:	<input type="text" value="0"/>	11-noon:	<input type="text" value="1"/>	7-8 pm:	<input type="text" value="1"/>
4-5 am:	<input type="text" value="0"/>	noon-1:	<input type="text" value="1"/>	8-9 pm:	<input type="text" value="1"/>
5-6 am:	<input type="text" value="0"/>	1-2 pm:	<input type="text" value="1"/>	9-10 pm:	<input type="text" value="1"/>
6-7 am:	<input type="text" value="0"/>	2-3 pm:	<input type="text" value="1"/>	10-11 pm:	<input type="text" value="1"/>
7-8 am:	<input type="text" value="1"/>	3-4 pm:	<input type="text" value="1"/>	11-Mdnt:	<input type="text" value="0"/>

Figure 30: HVAC Fan – Library weekend

Annual Schedules | Week Schedules | Day Schedules

Currently Active Day Schedule: Type: Fraction

Day Schedule Name: Type:

Hourly Values

Mdnt - 1:	<input type="text" value="0.0000"/> ratio	8-9 am:	<input type="text" value="0.8500"/> ratio	4-5 pm:	<input type="text" value="0.2500"/> ratio
1-2 am:	<input type="text" value="0.0000"/> ratio	9-10 am:	<input type="text" value="0.2500"/> ratio	5-6 pm:	<input type="text" value="0.9000"/> ratio
2-3 am:	<input type="text" value="0.0000"/> ratio	10-11 am:	<input type="text" value="0.2500"/> ratio	6-7 pm:	<input type="text" value="0.1500"/> ratio
3-4 am:	<input type="text" value="0.0000"/> ratio	11-noon:	<input type="text" value="0.2500"/> ratio	7-8 pm:	<input type="text" value="0.0500"/> ratio
4-5 am:	<input type="text" value="0.0000"/> ratio	noon-1:	<input type="text" value="0.2500"/> ratio	8-9 pm:	<input type="text" value="0.0000"/> ratio
5-6 am:	<input type="text" value="0.0000"/> ratio	1-2 pm:	<input type="text" value="0.9000"/> ratio	9-10 pm:	<input type="text" value="0.0000"/> ratio
6-7 am:	<input type="text" value="0.0500"/> ratio	2-3 pm:	<input type="text" value="0.6000"/> ratio	10-11 pm:	<input type="text" value="0.0000"/> ratio
7-8 am:	<input type="text" value="0.2500"/> ratio	3-4 pm:	<input type="text" value="0.2500"/> ratio	11-Mdnt:	<input type="text" value="0.0000"/> ratio

Figure 31: Elevator weekdays

Annual Schedules | Week Schedules | Day Schedules

Currently Active Day Schedule: Type: Fraction

Day Schedule Name: Type:

Hourly Values

Mdnt - 1:	<input type="text" value="0.0000"/> ratio	8-9 am:	<input type="text" value="0.8500"/> ratio	4-5 pm:	<input type="text" value="0.2500"/> ratio
1-2 am:	<input type="text" value="0.0000"/> ratio	9-10 am:	<input type="text" value="0.2500"/> ratio	5-6 pm:	<input type="text" value="0.9000"/> ratio
2-3 am:	<input type="text" value="0.0000"/> ratio	10-11 am:	<input type="text" value="0.2500"/> ratio	6-7 pm:	<input type="text" value="0.1500"/> ratio
3-4 am:	<input type="text" value="0.0000"/> ratio	11-noon:	<input type="text" value="0.2500"/> ratio	7-8 pm:	<input type="text" value="0.0500"/> ratio
4-5 am:	<input type="text" value="0.0000"/> ratio	noon-1:	<input type="text" value="0.2500"/> ratio	8-9 pm:	<input type="text" value="0.0000"/> ratio
5-6 am:	<input type="text" value="0.0000"/> ratio	1-2 pm:	<input type="text" value="0.9000"/> ratio	9-10 pm:	<input type="text" value="0.0000"/> ratio
6-7 am:	<input type="text" value="0.0500"/> ratio	2-3 pm:	<input type="text" value="0.6000"/> ratio	10-11 pm:	<input type="text" value="0.0000"/> ratio
7-8 am:	<input type="text" value="0.2500"/> ratio	3-4 pm:	<input type="text" value="0.2500"/> ratio	11-Mdnt:	<input type="text" value="0.0000"/> ratio

Figure 32: Elevator weekend

ENVELOPE DETAILED SPECIFICATION

Table 1: Building envelope properties

Component	Category	Input Parameter	Base case	Proposed
Envelope	Wall	Material	As per ECBC	230 mm AAC Block
		U-value (Btu/hr.sqft.F)	0.0704	0.119
	Roof	Material	As per ECBC	11 mm clay tiles + 115 mm RCC + 25 mm XPS + 50 mm Wood
		U-value (Btu/hr.sqft.F)	0.058	0.090
	Glass	U-value (Btu/hr.sqft.F)	0.528	0.264
		SHGC	0.27	0.27
		Shading Coefficient	0.31	0.32
		VLT	-	49%

Table 1 above lists the building envelope properties used for WBP method for Proposed Development

Table 2: U-Value calculation - Building envelope

Wall Construction						
Sr. No	Description	Thickness (m)	K (W/m.K)	R (m ² .K/W)	U (W/m ² .K)	U (Btu/hr-ft ² .F)
1	Inner Air Film			0.12		
2	Internal Plaster	0.015	0.72	0.03		
3	AAC Block	0.23	0.1839	1.25		
4	External Plaster	0.015	0.72	0.03		
5	External Air Film			0.04		
				1.48	0.68	0.119

Roof Construction						
Sr. No	Description	Thickness (m)	K (W/m.K)	R (m ² .K/W)	U (W/m ² .K)	U (Btu/hr-ft ² .F)
1	Inner Air Film			0.12		
2	RCC Slab	0.15	0.357	0.42		
3	PUF	0.05	0.0372	1.34		
4	External Plaster	0.015	0.72	0.02		
5	External Air Film			0.04		
				1.95	0.51	0.090

HVAC (Heating, Ventilation & Air-conditioning)

Ventilation system has been model in accordance with requirement of §5.2.1 of the code. CFM and load calculation has been summary sheet has been attached in Annexure 1.

Table 3: Zone cooling & heating set point

Component	Category	Input Parameter	Base case	Proposed
HVAC	Specification	System	VRF with DOAS sys	VRF with DOAS sys
		Efficiency (EER)	3.02	3.5
	Operation	Schedule	As per ECBC 2017	
	Temperature	Cooling set point (°F)	75	
		Heating set point (°F)	70	

Lighting

Table 4: LPD level as per ECBC

Lighting Power Density calculation (As per space function method- ECBC §6.3.5)			
Space	Baseline case	Propose case	Unit
Internal	0.91	0.71	W/ ft ²
External	0.88	0.79	W/ ft ²

Electrical Power

3.1.10. Transformer

The maximum total losses of the proposed transformer at 100% loading and 50% loading has been determined as per ECBC 2017 Table 7-2. Additional metering class current transformers (CTs) and potential transformers (PTs) shall be provided. Voltage drop for feeders shall not exceed 2% at design load. Voltage drop for branch circuit shall not exceed 3% at design load.

3.1.11. Motors (type, efficiency)

IE-2 High Efficiency Motors has been recommended as per ECBC 2017 Section 7.2.2 and shall be followed.

3.1.12. Diesel generator sets

BEE 3 Star Rated Diesel Generator sets have been recommended as per ECBC 2017 Section 7.2.3 and shall be followed.

3.1.13. Check metering and monitoring

Permanently installed electric meter to record demand (kW), energy (kWh), and total power factor (kVARH) has been recommended as per ECBC 2017 Section 7.2.4 and shall be followed. Additionally, sub-meters for HVAC system, Interior and Exterior Lighting and Plug loads shall also be provided.

3.1.14. Power factor correction

APFC panel shall be installed for Power Factor Correction of 0.97. Dry (MPPH type) automatic power factor improvement capacitor banks, 400/430 Volts shall conform to IS-2834-1964 (Amended to date). All the units shall be connected in parallel for each block by means of solid copper bars.

3.1.15. Power distribution system

Power cabling shall be sized so that the distribution losses do not exceed 3% of the total power usage as recommended in ECBC 2017 Section 7.2.6

3.1.16. Uninterruptable Power Supply (UPS)

Energy Efficient UPS system with minimum efficiency of 93.8% at 100% loading is being installed for Emergency lighting, Fire alarm and security systems.

Energy Performance Analysis

The proposed building is considered as operating throughout the day. Following table indicates the operating hours and diversity factor considered for the building.

Table 5: Operation schedule considered

Component	Category	Input Parameter	Base case	Proposed
Occupancy & Equipment	Equipment	All spaces (W/sqft)	1.0	
	Operation	Equipment Schedule	As per Section 9.6 of ECBC 2017	
		Occupancy Schedule	As per Section 9.6 of ECBC 2017	

Table 6: Summary of Unmet hours

Baseline case	Cool Unmet hour	111
	Heat Unmet hour	3
Proposed case	Cool Unmet hour	18
	Heat Unmet hour	53

Table 7: Summary of total tonnage and Sq. ft. per TR

	Total tonnage	Sq. ft. per TR
Proposed case	557	233
Baseline case	609	213

Summary of Renewable Energy generation of the project:

A dedicated REGZ equivalent to at least 25% of roof area or area required for generation of energy equivalent to 1% of total peak demand or connected load of the building, whichever is less, shall be provided in all buildings.

Total peak demand of the building = 693.0 KW

Therefore, 1% of peak demand = $(693 \times 0.01) = 6.93$ kW

Therefore, the project has proposed to install **7.0 kW** PV system = $(7.0/693.0) \times 100\% = 1.01\%$ of total peak demand.

Solar PV generation calculation has been attached in Annexure 2.

Building View:

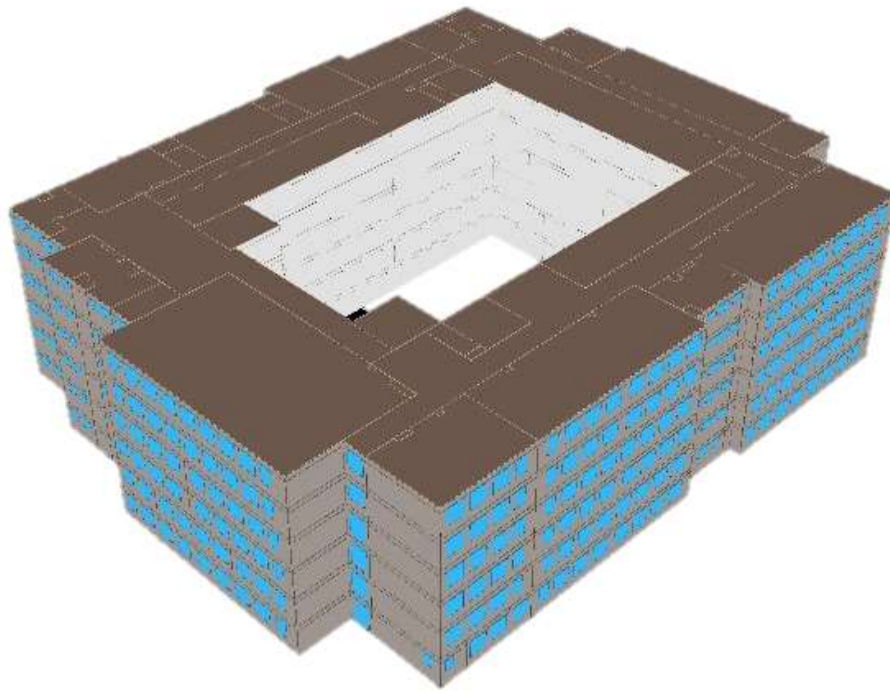


Figure 33: 3D Front View - Govt. Nehru College

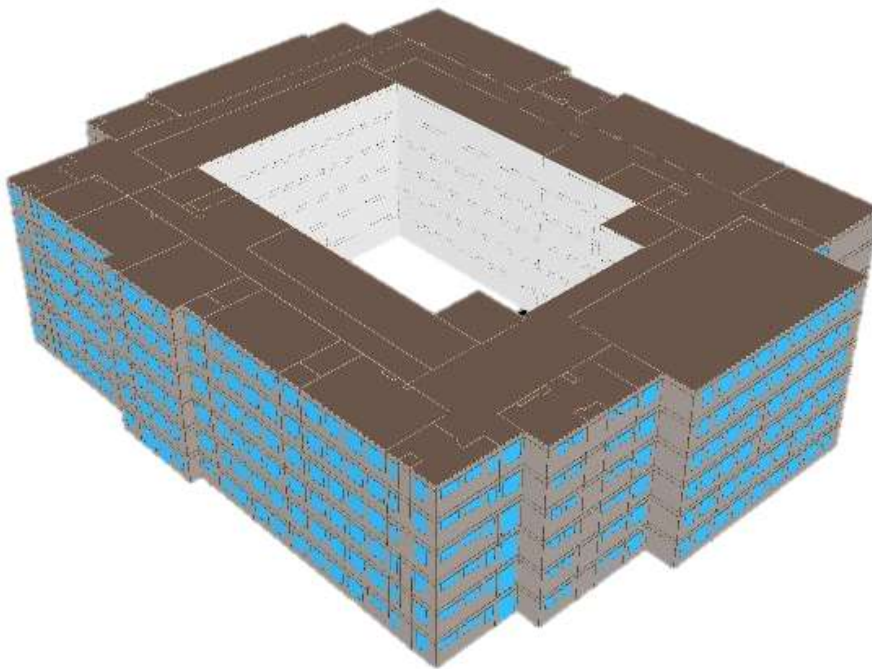


Figure 34: 3D Rear View - Govt. Nehru College

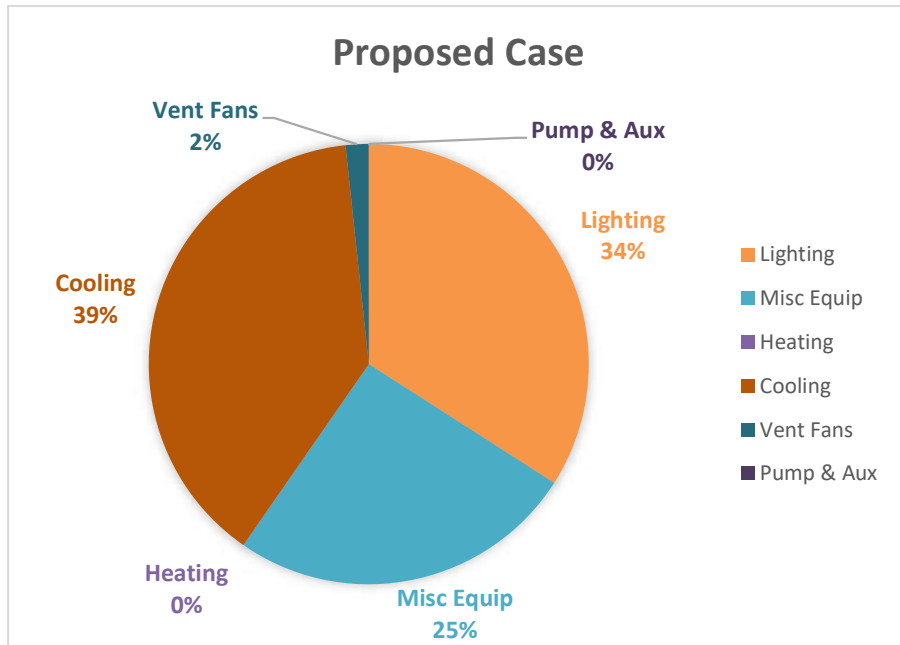


Figure 35: Proposed Energy End Use Characterization

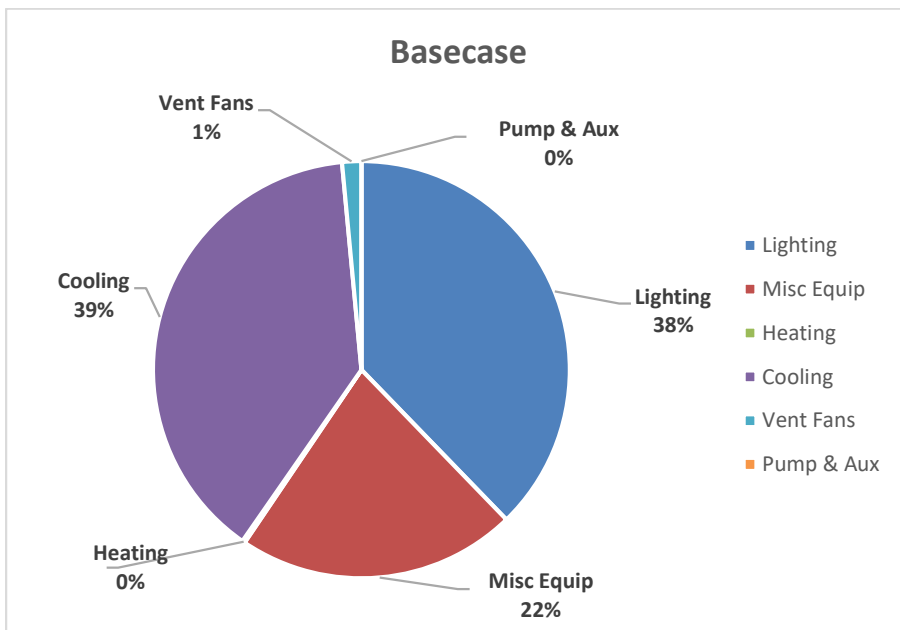


Figure 36: Base case Energy End Use Characterization

Overall Energy Consumption

Table 8: Overall Energy consumption in kWh (without basement and external lighting consumption)

PROJECT SUMMARY

Description	UNITS	LIGHTS	MISC EQUIP	Heating	Cooling	Pump & Aux	VENT FANS	TOTAL
PROPOSED	KWH	484741	363733	366	550179	187	23782	1422988
BASE - 0 DEG	KWH	633004	363733	330	640477	187	22162	1659893
BASE - 90 DEG	KWH	633004	363733	3359	641643	192	25911	1667842
BASE - 180 DEG	KWH	633004	363733	1925	641806	192	26455	1667115
BASE - 270 DEG	KWH	633004	363733	46	679615	186	25673	1702257
BASE - AVG	KWH	633004	363733	1415.0	650885.3	189.25	25050.25	1674277
ENERGY / COST SAVINGS		23.4	0.0	74.1	15.5	1.2	5.1	

From the above table following parameters are analysed, proposed case energy consumption of the project is estimated to be **1422988** kWh, which is less than the base case energy consumption i.e., **1674277** kWh.

Therefore, project achieves energy saving of 15% when compared with ECBC baseline case. Thereby, project is meeting the ECBC compliance by 'Whole Building Performance' approach.

e-Quest Output Screenshots

Commercial Building

Baseline 0 degree

Nehru College Faridabad DOE-2.2-50a 4/16/2022 19:26:12 BDL RUN 1

REPORT- BEPU Building Utility Performance WEATHER FILE- EPW New Delhi,Delhi,

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
EM1 ELECTRICITY													
KWH	633004.	0.	363733.	330.	640477.	0.	187.	22162.	0.	0.	0.	28382.	1688275.
FM1 NATURAL-GAS													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL ELECTRICITY 1688275. KWH 6.133 KWH /SQFT-YR GROSS-AREA 6.133 KWH /SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 3.92
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00
 HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 111
 HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 3

NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

Baseline 90 degree

Nehru College Faridabad DOE-2.2-50a 4/17/2022 9:33:07 BDL RUN 1

REPORT- BEPU Building Utility Performance WEATHER FILE- EPW New Delhi,Delhi,

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
EM1 ELECTRICITY													
KWH	633004.	0.	363733.	46.	679615.	0.	186.	25673.	0.	0.	0.	28382.	1730639.
FM1 NATURAL-GAS													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL ELECTRICITY 1730639. KWH 6.287 KWH /SQFT-YR GROSS-AREA 6.287 KWH /SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 4.48
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00
 HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 35
 HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 93

NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

Baseline 180 degree

Nehru College Faridabad DOE-2.2-50a 4/17/2022 0:26:03 BDL RUN 1

REPORT- BEPU Building Utility Performance WEATHER FILE- EPW New Delhi,Delhi,

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
EM1 ELECTRICITY													
KWH	633004.	0.	363733.	1925.	641806.	0.	192.	26455.	0.	0.	0.	28382.	1695498.
FM1 NATURAL-GAS THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL ELECTRICITY			1695498. KWH	6.160 KWH	/SQFT-YR GROSS-AREA			6.160 KWH	/SQFT-YR NET-AREA				
PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 0.28													
PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00													
HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 7													
HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 1													
NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.													

Baseline 270 degree

Nehru College Faridabad DOE-2.2-50a 4/17/2022 9:33:07 BDL RUN 1

REPORT- BEPU Building Utility Performance WEATHER FILE- EPW New Delhi,Delhi,

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
EM1 ELECTRICITY													
KWH	633004.	0.	363733.	46.	679615.	0.	186.	25673.	0.	0.	0.	28382.	1730639.
FM1 NATURAL-GAS THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.
TOTAL ELECTRICITY			1730639. KWH	6.287 KWH	/SQFT-YR GROSS-AREA			6.287 KWH	/SQFT-YR NET-AREA				
PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 4.48													
PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00													
HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 35													
HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 93													
NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.													

Proposed Case

Nehru College Faridabad DOE-2.2-50a 4/17/2022 10:41:12 BDL RUN 1

REPORT- BEPU Building Utility Performance

WEATHER FILE- EPW New Delhi, Delhi,

	LIGHTS	TASK LIGHTS	MISC EQUIP	SPACE HEATING	SPACE COOLING	HEAT REJECT	PUMPS & AUX	VENT FANS	REFRIG DISPLAY	HT PUMP SUPPLEM	DOMEST HOT WTR	EXT USAGE	TOTAL
EM1 ELECTRICITY													
KWH	484741.	0.	363733.	366.	550179.	0.	187.	23782.	0.	0.	0.	25334.	1448322.
FM1 NATURAL-GAS													
THERM	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.	0.

TOTAL ELECTRICITY 1448322. KWH 5.262 KWH /SQFT-YR GROSS-AREA 5.262 KWH /SQFT-YR NET-AREA

PERCENT OF HOURS ANY SYSTEM ZONE OUTSIDE OF THROTTLING RANGE = 2.03
 PERCENT OF HOURS ANY PLANT LOAD NOT SATISFIED = 0.00
 HOURS ANY ZONE ABOVE COOLING THROTTLING RANGE = 18
 HOURS ANY ZONE BELOW HEATING THROTTLING RANGE = 53

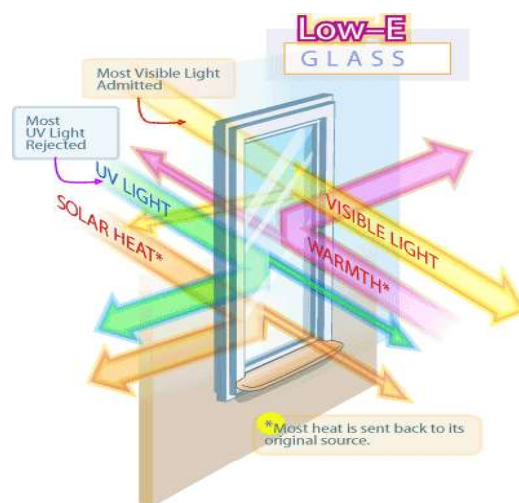
NOTE: ENERGY IS APPORTIONED HOURLY TO ALL END-USE CATEGORIES.

Daylight Analysis

Introduction

The commitment 4.2.3 of ECBC 2017 for ECBC Compliance Building is checked by computer simulation analysis. In the computer analysis method, the daylight analysis is done by creating a model in Design Builder and then simulating it further. A summary of daylight calculations is provided in Table 11. Simulation tool and UDI analysis image of each floor plate is attached below.

Daylight is a natural source of light, which meets all the requirements of good lighting while enhancing user efficiency and productivity. In India, daylight is available in plenty and can be used for satisfactory indoor illumination during the day. Day lighting plays a crucial role in developing comfortable indoor environmental quality. It reduces the need for electric lighting of building interiors, resulting in decreased energy use. Daylight penetration inside the living space depends entirely on the building design, i.e., the orientation, internal space arrangement, distribution of openings, size and shape of the openings, shading design and glazing properties, and so on.



For achieving utmost benefit of day lighting within a living space, the glass should be chosen in such a way that it allows maximum penetration of daylight to provide visual comfort to the inhabitants without producing glare. In addition to that, the glass should also restrict the heat of the sun from entering the space thereby reducing the cooling load of the space.

Objective

The prime intent of the criterion is to ensure connectivity between the interior and the exterior environment, by providing adequate day lighting within the living spaces. The analysis would help in:

- Optimizing the type of glass used
- Assessing the availability of daylight in living areas and finalizing the credit points as per the new buildings criteria.

Methodology-

In the computer analysis method, the daylight analysis is done by creating a model and then performing Analysis in Design Builder software. For day lighting analysis, the following design values have been considered during this process:

1. The model is designed considering that the sky is clear.
2. The day lighting simulation is done on a work plane of 800 mm height from finish floor level.

Executive Summary-

Project Name	Govt. Nehru College
Project Type	Educational Building
Location	Faridabad
Climate Type	Composite
Daylighted Area (%)	44.0
Simulation Tool Used	Design Builder

Daylight Analysis

The commitment 4.2.3 of ECBC 2017 for Compliance Building is checked by computer simulation Analysis. In the computer analysis method, the daylight analysis is done by creating a model and then performing Analysis in Design Builder software. A summary of daylight calculations is provided in the Table below. Simulation tool and UDI Analysis image of each floor plate is attached below.

Table 9: Daylight Calculation

Floor Description	UDI
Ground Floor	38.8 %
First Floor	40.7 %
Second Floor	42.0 %
Third Floor	43.5 %
Fourth Floor	47.4 %
Fifth Floor	51.8 %
Total UDI of the Project	44.0 %
ECBC recommendation for building category	40 %

Design Builder Daylight Simulation Screenshots

Simulation Assumptions:

Calculation Description

Calculation Options

Simulation type: 1-General

Detail template: 2-Standard

Working plane height (m): 0.8000

Margin (m): 0.000

Ground plane extension (m): 30.0

Override zone occupancy schedule

Outputs and Thresholds

Spatial Daylight Autonomy (sDA)

Override zone illuminance target

sDA lower illuminance threshold (lux): 300

Annual Sunlight Exposure (ASE)

ASE illuminance threshold (lux): 1000

Useful Daylight Illuminance (UDI)

UDI lower illuminance threshold (lux): 100

UDI upper illuminance threshold (lux): 2000

Grid

Min Grid Size (m): 0.3

Max Grid Size (m): 0.3

Advanced Options

Ambient bounces: 3

Ambient accuracy: 0.25

Ambient resolution: 256

Ambient divisions: 512

Number of ambient super-samples: 256

Simulated results:

Untitled, Nehru College Faridabad								
		Annual daylighting						
Block	Zone	Floor Area (m2)	sDA Area in Range (m2)	sDA Area in Range (%)	ASE Area in Range (m2)	ASE Area in Range (%)	UDI Area in Range (m2)	UDI Area in Range (%)
Ground floor	Zone 1	3664.011	1066.047	29.095	3194.992	87.199	1419.647	38.746
First floor	Zone 1	3664.011	1100.672	30.040	3182.401	86.856	1489.947	40.664
Second floor	Zone 1	3664.011	1140.544	31.128	3145.677	85.853	1538.213	41.982
Third floor	Zone 1	3664.011	1194.056	32.589	3133.086	85.510	1592.774	43.471
Fourth floor	Zone 1	3664.011	1279.046	34.908	3123.643	85.252	1736.523	47.394
Fifth floor	Zone 1	3664.011	1346.199	36.741	3103.707	84.708	1899.158	51.833
Total		21984.064	7126.564	32.417	18883.505	85.896	9676.262	44.015

Untitled, Nehru College Faridabad, Ground floor

Illuminance Annual daylighting

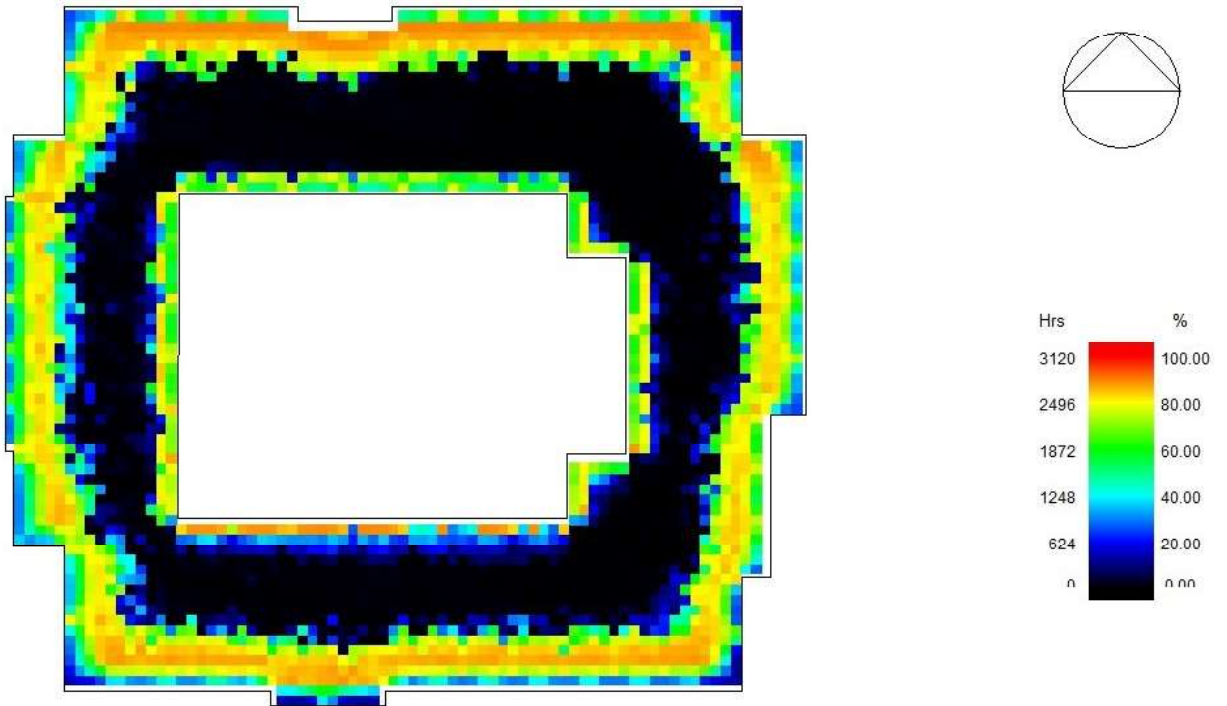


Figure 37: Ground Floor

Untitled, Nehru College Faridabad, First floor

Illuminance Annual daylighting

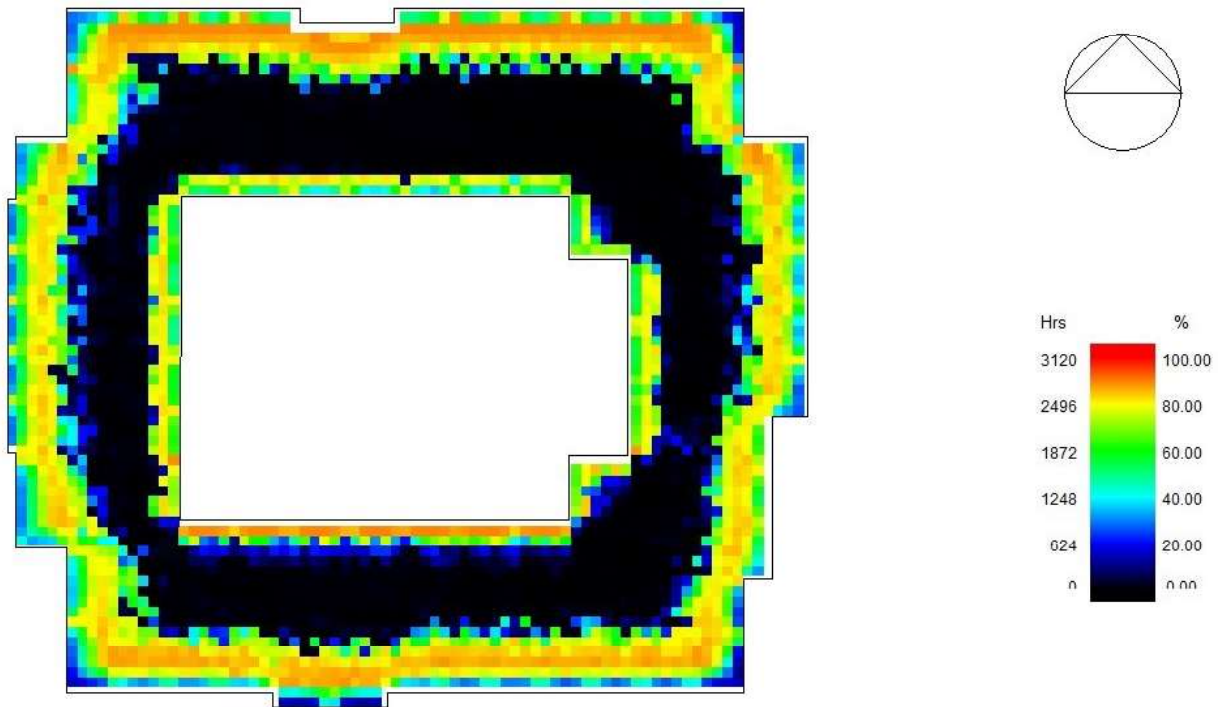


Figure 38: First Floor

Untitled, Nehru College Faridabad, Second floor

illuminance Annual daylighting

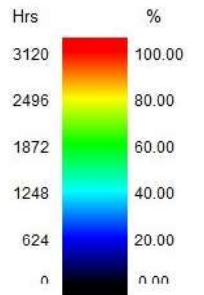
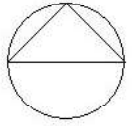
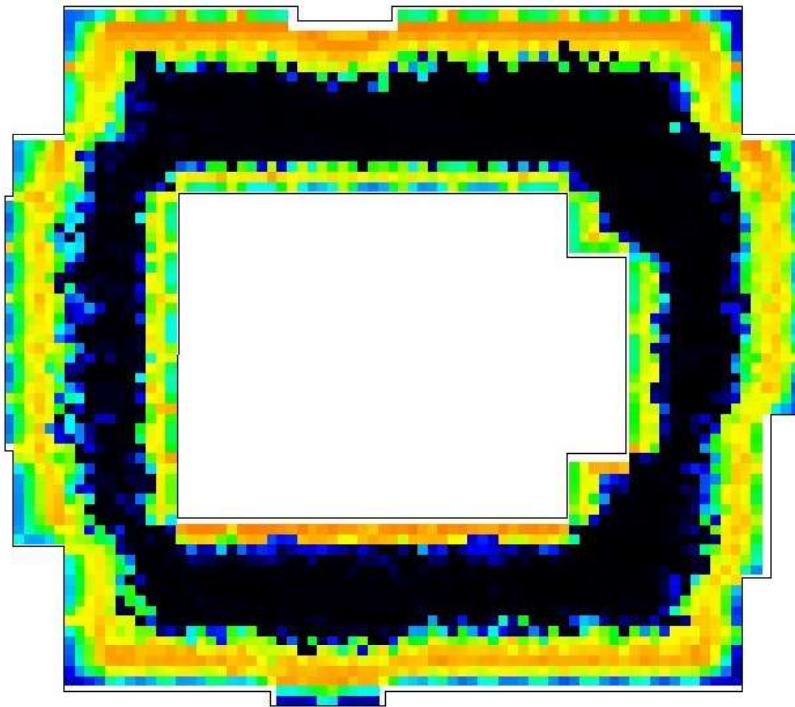


Figure 39: Second Floor

Untitled, Nehru College Faridabad, Third floor

illuminance Annual daylighting

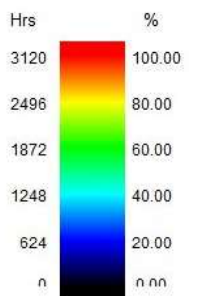
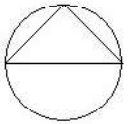
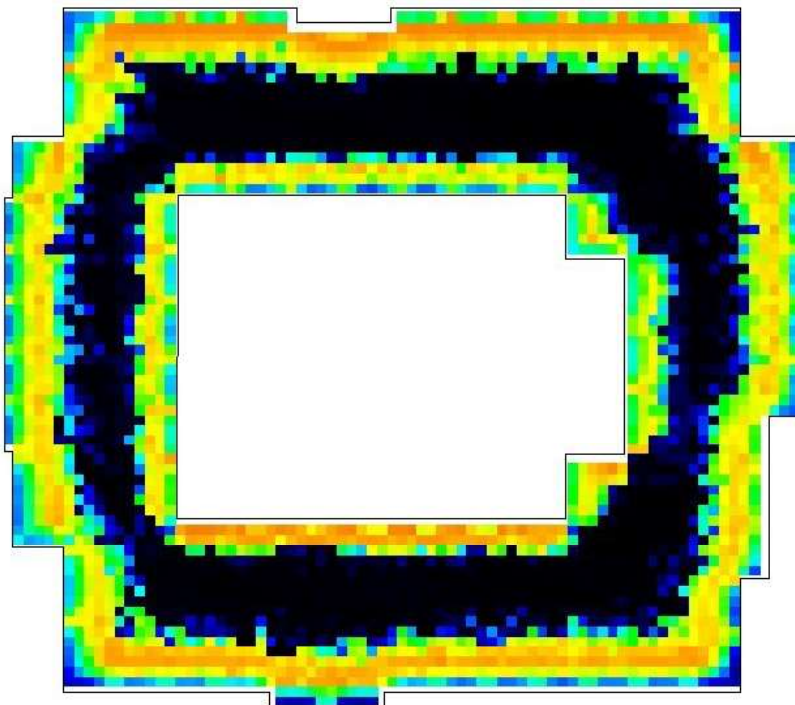


Figure 40: Third Floor

Untitled, Nehru College Faridabad, Fourth floor

illuminance Annual daylighting

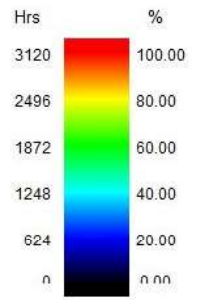
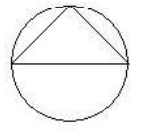
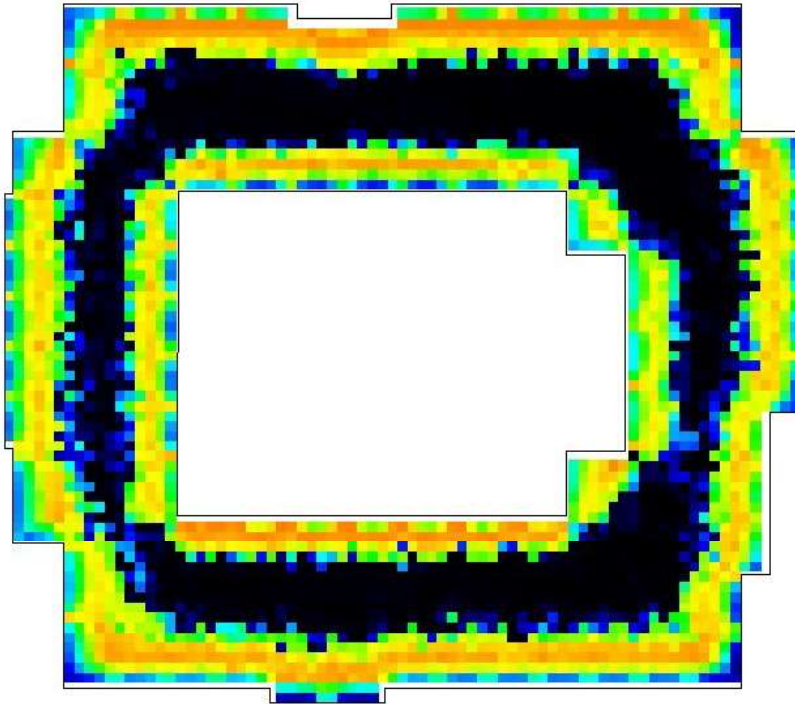


Figure 41: Fourth Floor

Untitled, Nehru College Faridabad, Fifth floor

illuminance Annual daylighting

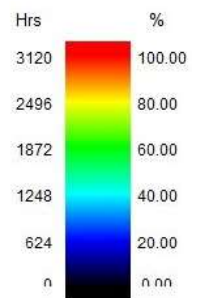
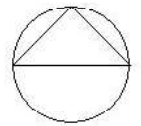
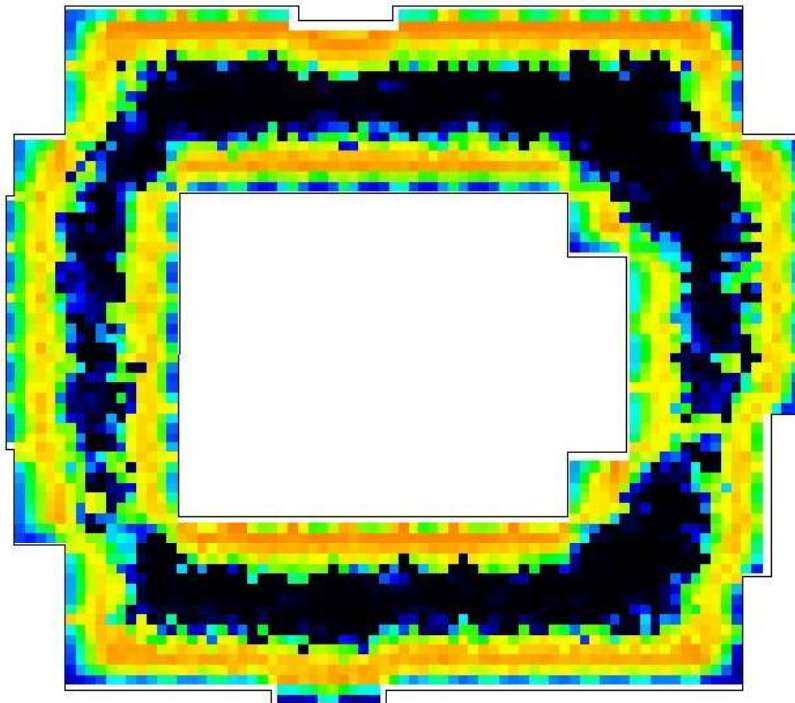


Figure 42: Fifth Floor

Cost Analysis:

For the increased energy performance of the building, energy efficient materials were used in the building which are not conventionally used. Cost comparison analysis was done for the building systems coming under the scope of ECBC for both the baseline and proposed buildings. The total investment in the conventional building is not available for the building systems coming under the scope of ECBC. As per incremental cost of investment payback period is around 3.8 years.

Table 10: Cost Analysis:

Cost Feasibility Analysis – Government Nehru College, Sector 16 Faridabad						
S. No.	Particulars	Quantity	Unit	Rate	Total Amount (Rs)	Difference (lacs)
1	Red Brick wall assembly					
	1. Outside plaster 15 mm	674.19	Cu.ft			
	2. External Red Brick wall 230 mm	10337.57	Cu.ft			
	3. Inside Cement Plaster 15 mm	674.19	Cu.ft			
	3. Roof	45848.43	Sq.ft			
	Note: For Both case Red Brick has been taken so no extra cost will be incremented					
	Wall area from Ground to Top Floor					
	Total Wall Area	13703.03	Sq.ft			
	Total Window area	4974.07	Sq.ft			
	Red Brick Wall	292.55	cum	400	1,17,021.25	
	Cost of 230 mm Eco Tric wall	1273.52	sqm	3212.8	40,91,551.56	
	Extra cost for wall				39,74,530.31	
	No Insulation provided	0	sqm		0.00	
	Total increment cost of Wall Assembly		INR		39,74,530.31	39,74,530.31
2	RCC Roof Work					
	Note: For Both case RCC slab has been taken so no extra cost will be incremented					
	Basecase: RCC roof Slab 150 mm	4261.01	cum	3950	16830975.70	
	Proposed Case: RCC roof Slab 150 mm	4261.01	cum	3950	1,68,30,975.70	
	Total increment cost of roof Assembly		INR		0.00	0.00
3	Glass Work in windows					
	Note: For Both case Single glazed unit has been taken so no extra cost will be incremented					
	Basecase: Single glazed vision panels in UPVC frame	462.27	sqm	1004	464123.26	
	Proposed Case: DGU having 6mm thick solar glass on external side	462.27	sqm	2237	1034107.30	
	Total increment cost Window Glazing Assembly		INR		569984.04	569984.04
4	HVAC					
	Base case- VRF-EER 3.05	609.00	ton	53000.00	32277000.00	
	Propose case- VRF-EER 3.5	557.00	ton	59000.00	32863000.00	
	Cost Saving in HVAC System		INR		586000.00	586000.00
5	Lighting					
	Basecase: Lighting Load	8403	Nos	150	1260378.067	
	Proposedcase: Lighting Load	17853	Nos	150	2677996.283	
	Cost Saving in Lighting System		INR		1417618.216	1417618.22
5	Roof Top Solar PV Panel 25% of roof area or 1% of Peak Demand or Connected Load					
		7	kW	48042	3,36,294.00	3,36,294.00
6	Occupancy control in all toilets and rooms except common areas (Approx) as per drawing					
		0	Nos.	3090	0.00	0.00
	Total cost		INR			68,84,426.57
	Add 10% for miscellaneous items					688442.66
	Total					7572869.23
	Add GST @ 12%					908744.31
	Total additional cost for ECBC compliance		INR			8481613.54
S. No.	Case	kWh/Year				
1	Base Case	1674277				
2	Proposed Case	1422988				
3	Renewable Energy Generation Zone	10133				
	Total Annual Energy Savings	261422				
	Total Saving in Cost (INR) @ 8.5	2222087				
	Payback Period (Years)	3.8				

ECBC COMPLIANCE FORMS

ECBC Compliance Forms are placed at Annexure -4.

APPENDIX:

- Annexure 1 : Ventilation CFM and load calculation
- Annexure 2 : Solar PV generation calculation sheet from snapshot.
- Annexure 3 : Cut sheets
- Annexure 4 : Compliance Forms

Abbreviations

AAC	Autoclaved Aerated Concrete	mps	Meters Per Second
ACTI	Cooling Tower Institute	ODP	Ozone Depletion Potential
ANSI	American National Standards Institute	PCC	Pozzolana Cement Concrete
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers	PCM	Phase Change Material
DEVap	Desiccant Enhanced Evaporative Air-Conditioning	PMV	Pulse Modulating Valve
ECBC	Energy Conservation Building Code	PUF	Polyurethane Foam
EEV	Electronic Expansion Valve	RCC	Reinforced Cement Concrete
GPM	Gallons Per Minute	TRIC	Thermally Resistant Insulated Concrete
GWP	Global Warming Potential	TXV	Thermostatic Expansion Valve
HR	Heat Recovery	VAV	Variable Air Volume
HVAC	Heating, Ventilation and Air Conditioning	VRF	Variable Refrigerant Flow
LCCA	Life Cycle Cost Analysis	VRV	Variable Refrigerant Volume
LDAC	Liquid-Desiccant Air Conditioner	wg	Water Gauge

Annexures

Annexure 1 : Ventilation CFM and load calculation

Baseline case

System & Zone Name	System Type Principal Zone Activity	Type* Ret Zn	Design Flow			Design Ventilation			Design Capacity				Hrs Outside ThrI-Range		Cool Hrs	Heat Hrs	
			Area sqft	Supply cfm	Supply cfm/sf	Min Flow	OSA cfm	OSA %	OSA cfm/sf	OSA cfm/per	Cool tons	Cool sf/ton	Cool cfm/ton	Cool Btu/h/sf			Heat Btu/h/sf
EL1 Sys#1 (PVVT) (G)	Pkgd Var Vol Var Temp	d	2,50,79	4,17,48	1.66	99%	26,88	6%	0.107	13.2	109	230	383	52.1	91.8	99	0
... EL1 South Perim Zn (G.S1)	Office (Executive/Private) (73%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C2)	Office (Open Plan) (36%)	U	14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C3)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C4)	Office (Open Plan) (36%)	U	140	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C5)	Office (Open Plan) (36%)	C	207	209	1.01	11%	23	11%	0.113	37.8	1	337	340	35.6	79.2	0	0
... EL1 South Perim Zn (G.S6)	Office (Executive/Private) (73%)	U	115	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 South Perim Zn (G.S7)	Office (Executive/Private) (73%)	S	398	754	1.90	100%	42	6%	0.106	18.9	2	180	340	66.8	103.1	0	0
... EL1 South Perim Zn (G.S8)	Office (Executive/Private) (73%)	S	581	972	1.67	100%	62	6%	0.106	18.9	3	203	340	59.0	97.1	0	0
... EL1 South Perim Zn (G.S9)	Office (Executive/Private) (73%)	S	11,03	19,32	1.75	100%	117	6%	0.106	18.9	6	194	340	61.7	99.2	0	0
... EL1 Core Zn (G.C10)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C11)	Office (Open Plan) (36%)	U	13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C12)	Office (Open Plan) (36%)	U	15,35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C13)	Office (Open Plan) (36%)	U	443	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C14)	Office (Open Plan) (36%)	U	34	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C15)	Office (Open Plan) (36%)	U	145	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 WSW Perim Zn (G.WSW16)	Office (Executive/Private) (73%)	U	443	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 SSW Perim Zn (G.SSW17)	Office (Executive/Private) (73%)	S	241	404	1.68	100%	26	6%	0.106	18.9	1	203	340	59.1	97.1	0	0
... EL1 South Perim Zn (G.S18)	Office (Executive/Private) (73%)	S	13,85	22,89	1.65	100%	147	6%	0.106	18.9	7	206	340	58.3	96.6	0	0
... EL1 Core Zn (G.C19)	Office (Open Plan) (36%)	S	11,48	11,55	1.01	100%	130	11%	0.113	37.8	3	338	340	35.5	79.1	0	0
... EL1 Core Zn (G.C20)	Office (Open Plan) (36%)	S	304	306	1.01	100%	34	11%	0.113	37.8	1	338	340	35.5	79.1	0	0
... EL1 Core Zn (G.C21)	Office (Open Plan) (36%)	S	539	11,47	2.13	100%	61	6%	0.113	37.8	3	160	340	75.0	109.3	0	0
... EL1 Core Zn (G.C22)	Office (Open Plan) (36%)	S	11,41	12,08	1.06	100%	129	11%	0.113	37.8	4	322	340	37.3	80.5	0	0
... EL1 Core Zn (G.C23)	Office (Open Plan) (36%)	U	15,43	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C24)	Office (Open Plan) (36%)	U	23	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 NW Perim Zn (G.NW25)	Office (Executive/Private) (73%)	U	499	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 West Perim Zn (G.W26)	Office (Executive/Private) (73%)	S	23,40	35,16	1.50	100%	248	7%	0.106	18.9	10	226	340	53.0	92.5	0	0
... EL1 WSW Perim Zn (G.WSW27)	Office (Executive/Private) (73%)	U	596	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 SW Perim Zn (G.SW28)	Office (Executive/Private) (73%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C29)	Office (Open Plan) (36%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 West Perim Zn (G.W30)	Office (Executive/Private) (73%)	U	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C31)	Office (Open Plan) (36%)	U	487	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 ESE Perim Zn (G.ESE32)	Office (Executive/Private) (73%)	U	824	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 East Perim Zn (G.E33)	Office (Executive/Private) (73%)	U	48	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C34)	Office (Open Plan) (36%)	U	14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C35)	Office (Open Plan) (36%)	U	28	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C36)	Office (Open Plan) (36%)	U	116	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 South Perim Zn (G.S37)	Office (Executive/Private) (73%)	U	89	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 ESE Perim Zn (G.ESE38)	Office (Executive/Private) (73%)	U	457	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 South Perim Zn (G.S39)	Office (Executive/Private) (73%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 East Perim Zn (G.E40)	Office (Executive/Private) (73%)	U	259	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 East Perim Zn (G.E41)	Office (Executive/Private) (73%)	S	52,30	95,63	1.83	100%	555	6%	0.106	18.9	28	186	340	64.5	101.3	44	0
... EL1 Core Zn (G.C42)	Office (Open Plan) (36%)	U	32	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C43)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C44)	Office (Open Plan) (36%)	U	466	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C45)	Office (Open Plan) (36%)	U	145	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C46)	Office (Open Plan) (36%)	U	24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

... EL1 Core Zn (G.C47)	Office (Open Plan) (36%)	S	460	596	1.30	100%	52	9%	0.113	37.8	2	283	340	45.7	86.9	0	0
... EL1 North Perim Zn (G.N45)	Office (Executive/Private) (73%)	S	175	275	1.57	100%	19	7%	0.106	18.9	1	217	340	55.4	94.3	25	0
... EL1 NE Perim Zn (G.NE45)	Office (Executive/Private) (73%)	U	119	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C50)	Office (Open Plan) (36%)	U	13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C51)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C52)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C53)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C54)	Office (Open Plan) (36%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 North Perim Zn (G.N55)	Office (Executive/Private) (73%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 North Perim Zn (G.N56)	Office (Executive/Private) (73%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C57)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C58)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 West Perim Zn (G.W59)	Office (Executive/Private) (73%)	U	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 NNW Perim Zn (G.NNW80)	Office (Executive/Private) (73%)	S	27,03	40,93	1.51	100%	287	7%	0.106	18.9	12	225	340	53.4	92.8	15	0
... EL1 North Perim Zn (G.N61)	Office (Executive/Private) (73%)	U	601	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 North Perim Zn (G.N62)	Office (Executive/Private) (73%)	S	27,03	39,74	1.47	100%	287	7%	0.106	18.9	12	231	340	51.9	91.5	15	0
... EL1 NE Perim Zn (G.NE62)	Office (Executive/Private) (73%)	S	10,49	12,80	1.22	100%	111	9%	0.106	18.9	4	279	340	43.0	84.9	0	0
... EL1 South Perim Zn (G.S64)	Office (Executive/Private) (73%)	S	33,74	33,94	1.01	100%	358	11%	0.106	18.9	10	338	340	35.5	79.1	0	0
... EL1 Core Zn (G.C66)	Office (Open Plan) (36%)	U	27,06	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C66)	Office (Open Plan) (36%)	U	19,58	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C67)	Office (Open Plan) (36%)	U	39,21	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL1 Core Zn (G.C68)	Office (Open Plan) (36%)	U	26,80	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C2)	Office (Open Plan) (42%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C4)	Office (Open Plan) (42%)	U	14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C5)	Office (Open Plan) (42%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C6)	Office (Open Plan) (42%)	U	34	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C7)	Office (Open Plan) (42%)	U	145	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C8)	Office (Open Plan) (42%)	U	21,43	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C9)	Office (Open Plan) (42%)	U	13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C10)	Office (Open Plan) (42%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C12)	Office (Open Plan) (42%)	U	28	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C13)	Office (Open Plan) (42%)	U	14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C17)	Office (Open Plan) (42%)	U	487	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C19)	Office (Open Plan) (42%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C20)	Office (Open Plan) (42%)	U	32	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C22)	Office (Open Plan) (42%)	U	13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C23)	Office (Open Plan) (42%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C24)	Office (Open Plan) (42%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C26)	Office (Open Plan) (42%)	U	6	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C29)	Office (Open Plan) (42%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C31)	Office (Open Plan) (42%)	U	24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C32)	Office (Open Plan) (42%)	U	145	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C33)	Office (Open Plan) (42%)	C	460	463	1.01	6%	29	6%	0.063	20.0	1	345	348	34.7	83.2	0	0
... EL2 Core Zn (G.C34)	Office (Open Plan) (42%)	U	486	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C35)	Office (Open Plan) (42%)	U	21,43	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C36)	Office (Open Plan) (42%)	U	23	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C37)	Office (Open Plan) (42%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C38)	Office (Open Plan) (42%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C40)	Office (Open Plan) (42%)	S	11,41	11,47	1.01	100%	72	6%	0.063	20.0	3	346	348	34.7	83.2	0	0
... EL2 Core Zn (G.C41)	Office (Open Plan) (42%)	S	571	575	1.01	100%	38	6%	0.063	20.0	2	346	348	34.7	83.2	0	0
... EL2 Core Zn (G.C42)	Office (Open Plan) (42%)	S	304	306	1.01	100%	19	6%	0.063	20.0	1	346	348	34.7	83.2	0	0
... EL2 Core Zn (G.C43)	Office (Open Plan) (42%)	S	11,46	11,55	1.01	100%	73	6%	0.063	20.0	3	346	348	34.7	83.2	0	0
... EL2 Core Zn (G.C52)	Office (Open Plan) (42%)	S	207	331	1.60	100%	13	4%	0.063	20.0	1	218	348	55.1	79.2	29	0
... EL2 Core Zn (G.C59)	Office (Open Plan) (42%)	U	443	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C62)	Office (Open Plan) (42%)	U	23,95	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C63)	Office (Open Plan) (42%)	U	30,19	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C64)	Office (Open Plan) (42%)	U	23,58	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C65)	Office (Open Plan) (42%)	U	21,04	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 Core Zn (G.C66)	Office (Open Plan) (42%)	U	23,05	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C4)	Corridor (36%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C7)	Corridor (36%)	C	31,83	31,82	1.01	6%	190	6%	0.060	22.9	9	349	352	34.3	86.5	0	0
... EL3 Core Zn (G.C8)	Corridor (36%)	U	491	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C9)	Corridor (36%)	U	23	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C10)	Corridor (36%)	U	21,43	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C11)	Corridor (36%)	S	460	596	1.30	100%	28	5%	0.060	22.9	2	271	352	44.2	74.3	0	0
... EL3 Core Zn (G.C12)	Corridor (36%)	U	170	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C18)	Corridor (36%)	U	14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C20)	Corridor (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C21)	Corridor (36%)	S	194	587	3.02	100%	12	2%	0.060	22.9	2	116	352	103.0	120.8	0	0
... EL3 Core Zn (G.C23)	Corridor (36%)	U	442	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C24)	Corridor (36%)	U	33	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C25)	Corridor (36%)	U	140	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C26)	Corridor (36%)	U	21,29	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C27)	Corridor (36%)	U	28	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C28)	Corridor (36%)	U	14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C32)	Corridor (36%)	U	13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C33)	Corridor (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C35)	Corridor (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C36)	Corridor (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 Core Zn (G.C39)	Corridor (36%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

... EL8 Core Zn (G.C3)	Office (Open Plan) (34%)	U	14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C7)	Office (Open Plan) (34%)	C	194	278	1.43	4%	12	4%	0.080	20.5	1	245	351	48.9	78.1	0	0		
... EL8 Core Zn (G.C10)	Office (Open Plan) (34%)	S	199	334	1.68	100%	12	4%	0.080	20.5	1	210	351	57.3	84.7	0	0		
... EL8 Core Zn (G.C13)	Office (Open Plan) (34%)	U	13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C14)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C15)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C16)	Office (Open Plan) (34%)	U	21,29	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C17)	Office (Open Plan) (34%)	U	491	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C18)	Office (Open Plan) (34%)	U	470	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C19)	Office (Open Plan) (34%)	U	144	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C20)	Office (Open Plan) (34%)	U	24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C21)	Office (Open Plan) (34%)	S	457	675	1.48	100%	27	4%	0.080	20.5	2	238	351	50.5	79.4	0	0		
... EL8 Core Zn (G.C22)	Office (Open Plan) (34%)	U	21,29	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C23)	Office (Open Plan) (34%)	U	23	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C24)	Office (Open Plan) (34%)	S	31,87	33,20	1.05	100%	190	6%	0.080	20.5	9	335	351	35.8	67.8	0	0		
... EL8 Core Zn (G.C25)	Office (Open Plan) (34%)	U	440	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C26)	Office (Open Plan) (34%)	U	34	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C27)	Office (Open Plan) (34%)	U	144	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C31)	Office (Open Plan) (34%)	U	28	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C32)	Office (Open Plan) (34%)	U	14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C36)	Office (Open Plan) (34%)	U	30	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C37)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C40)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C41)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C42)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C43)	Office (Open Plan) (34%)	U	13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C45)	Office (Open Plan) (34%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C50)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C51)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C56)	Office (Open Plan) (34%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C58)	Office (Open Plan) (34%)	U	23,91	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C59)	Office (Open Plan) (34%)	U	30,21	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL8 Core Zn (G.C60)	Office (Open Plan) (34%)	U	40,55	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

System & Zone Name	System Type Principal Zone Activity	Type*	Ret Zn	Area sqft	Design Flow		Design Ventilation			Design Capacity				Hrs Outside Thr-Range					
					Supply cfm	Supply cfm/sf	Min Flow	OSA cfm	OSA %	OSA cfm/sf	OSA cfm/per	Cool tons	Cool sf/ton	Cool cfm/ton	Cool Btu/h/sf	Heat Btu/h/sf	Cool Hrs	Heat Hrs	
EL2 Sys2 (PVVT) (G)	Pkgd Var Vol Var Temp	d		1,51,37	2,72,47	1.80	97%	16,13	6%	0.107	12.1	76	200	380	59.9	108.1		10	3
... EL2 SW Perim Zn (G.SW1)	Office (Executive/Private) (78%)	U		35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 South Perim Zn (G.S3)	Office (Executive/Private) (78%)	U		25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 South Perim Zn (G.S11)	Office (Executive/Private) (78%)	U		25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 East Perim Zn (G.E14)	Office (Executive/Private) (78%)	U		48	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 East Perim Zn (G.E15)	Office (Executive/Private) (78%)	U		259	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 South Perim Zn (G.S18)	Office (Executive/Private) (78%)	C		284	687	2.42	4%	30	4%	0.107	18.8	2	142	344	84.5	125.1	0	0	
... EL2 ESE Perim Zn (G.ESE18)	Office (Executive/Private) (78%)	S		11,89	28,14	2.41	100%	125	4%	0.107	18.8	8	143	344	84.0	124.7	4	0	
... EL2 NE Perim Zn (G.NE21)	Office (Executive/Private) (78%)	S		17,51	35,74	2.04	100%	187	5%	0.107	18.8	10	189	344	71.2	114.8	2	0	
... EL2 NE Perim Zn (G.NE25)	Office (Executive/Private) (78%)	S		13,43	19,87	1.48	100%	143	7%	0.107	18.8	6	232	344	51.8	99.7	0	0	
... EL2 North Perim Zn (G.N27)	Office (Executive/Private) (78%)	S		27,03	40,24	1.49	100%	288	7%	0.107	18.8	12	231	344	51.9	99.9	2	0	
... EL2 North Perim Zn (G.N28)	Office (Executive/Private) (78%)	U		27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 North Perim Zn (G.N30)	Office (Executive/Private) (78%)	U		27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 West Perim Zn (G.W39)	Office (Executive/Private) (78%)	U		15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 West Perim Zn (G.W44)	Office (Executive/Private) (78%)	S		23,40	34,74	1.48	100%	249	7%	0.107	18.8	10	232	344	51.8	99.8	0	1	
... EL2 NW Perim Zn (G.NW45)	Office (Executive/Private) (78%)	U		499	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 West Perim Zn (G.W46)	Office (Executive/Private) (78%)	U		20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 WSW Perim Zn (G.WSW47)	Office (Executive/Private) (78%)	U		442	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 South Perim Zn (G.S48)	Office (Executive/Private) (78%)	S		553	925	1.67	100%	59	6%	0.107	18.8	3	206	344	58.3	104.9	0	0	
... EL2 South Perim Zn (G.S49)	Office (Executive/Private) (78%)	S		11,89	18,95	1.59	100%	127	7%	0.107	18.8	6	216	344	55.6	102.7	1	0	
... EL2 South Perim Zn (G.S50)	Office (Executive/Private) (78%)	U		10,27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 South Perim Zn (G.S51)	Office (Executive/Private) (78%)	U		115	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 South Perim Zn (G.S53)	Office (Executive/Private) (78%)	U		11,14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 South Perim Zn (G.S54)	Office (Executive/Private) (78%)	S		11,03	25,10	2.28	100%	118	5%	0.107	18.8	7	151	344	79.4	121.2	0	0	
... EL2 ESE Perim Zn (G.ESE55)	Office (Executive/Private) (78%)	U		457	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 ESE Perim Zn (G.ESE56)	Office (Executive/Private) (78%)	U		824	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 East Perim Zn (G.E57)	Office (Executive/Private) (78%)	U		23,10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 North Perim Zn (G.N58)	Office (Executive/Private) (78%)	U		601	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 WSW Perim Zn (G.WSW60)	Office (Executive/Private) (78%)	U		596	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 NNW Perim Zn (G.NNW61)	Office (Executive/Private) (78%)	S		27,03	41,19	1.52	100%	288	7%	0.107	18.8	12	226	344	53.1	100.9	1	2	

System & Zone Name	System Type Principal Zone Activity	Type* Ret Zn	Design Flow			Design Ventilation			Design Capacity				Hrs Outside ThrI-Range		Cool Hrs	Heat Hrs				
			Area sqft	Supply cfm	Supply cfm/sf	Min Flow	OSA cfm	OSA %	OSA cfm/sf	OSA cfm/per	Cool tons	Cool sf/ton	Cool cfm/ton	Cool Btuh/sf			Heat Btuh/sf			
			Pkgd	Var	Vol	Var	Temp	d	1,17.01	2,13.35	1.82	85%	12,33	6%			0.105	7.8	64	184	335	65.3	115.7	15	0
EL3 West Perim Zn (G.W1)	Office (Executive/Private) (65%)	C	23.40	34.71	1.48	7%	247	7%	0.105	19.0	10	233	345	51.5	105.0	0	0			
EL3 NW Perim Zn (G.NW2)	Office (Executive/Private) (65%)	U	499	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 SW Perim Zn (G.SW3)	Office (Executive/Private) (65%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 West Perim Zn (G.W5)	Office (Executive/Private) (65%)	U	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 WSW Perim Zn (G.WSW6)	Office (Executive/Private) (65%)	U	596	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 ESE Perim Zn (G.ESE13)	Office (Executive/Private) (65%)	S	23.24	70.23	3.02	100%	245	3%	0.105	19.0	20	114	345	105.0	146.6	9	0			
EL3 ENE Perim Zn (G.ENE14)	Office (Executive/Private) (65%)	U	29.06	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 WSW Perim Zn (G.WSW15)	Office (Executive/Private) (65%)	U	442	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 South Perim Zn (G.S16)	Office (Executive/Private) (65%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 South Perim Zn (G.S17)	Office (Executive/Private) (65%)	S	290	13.89	4.80	100%	31	2%	0.105	19.0	4	72	345	166.6	194.5	0	0			
EL3 South Perim Zn (G.S19)	Office (Executive/Private) (65%)	U	14.76	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 South Perim Zn (G.S22)	Office (Executive/Private) (65%)	U	108	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 East Perim Zn (G.E29)	Office (Executive/Private) (65%)	U	48	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 ESE Perim Zn (G.ESE30)	Office (Executive/Private) (65%)	U	824	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 East Perim Zn (G.E31)	Office (Executive/Private) (65%)	U	259	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 NE Perim Zn (G.NE34)	Office (Executive/Private) (65%)	S	13.43	19.90	1.48	100%	141	7%	0.105	19.0	6	233	345	51.5	105.0	2	0			
EL3 North Perim Zn (G.N37)	Office (Executive/Private) (65%)	S	27.03	40.19	1.49	100%	285	7%	0.105	19.0	12	232	345	51.7	105.1	3	0			
EL3 North Perim Zn (G.N38)	Office (Executive/Private) (65%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 North Perim Zn (G.N40)	Office (Executive/Private) (65%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 North Perim Zn (G.N41)	Office (Executive/Private) (65%)	U	601	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 NNW Perim Zn (G.NNW44)	Office (Executive/Private) (65%)	S	27.03	41.16	1.52	100%	285	7%	0.105	19.0	12	227	345	52.9	106.1	1	0			
EL3 West Perim Zn (G.W45)	Office (Executive/Private) (65%)	U	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 South Perim Zn (G.S48)	Office (Executive/Private) (65%)	U	11.21	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 South Perim Zn (G.S49)	Office (Executive/Private) (65%)	U	98	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 South Perim Zn (G.S50)	Office (Executive/Private) (65%)	U	11.03	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 South Perim Zn (G.S54)	Office (Executive/Private) (65%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 ESE Perim Zn (G.ESE55)	Office (Executive/Private) (65%)	U	457	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 South Perim Zn (G.S56)	Office (Executive/Private) (65%)	U	33.96	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL3 West Perim Zn (G.W60)	Office (Executive/Private) (65%)	U	28.80	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			

System & Zone Name	System Type Principal Zone Activity	Type* Ret Zn	Design Flow			Design Ventilation			Design Capacity				Hrs Outside ThrI-Range		Cool Hrs	Heat Hrs				
			Area sqft	Supply cfm	Supply cfm/sf	Min Flow	OSA cfm	OSA %	OSA cfm/sf	OSA cfm/per	Cool tons	Cool sf/ton	Cool cfm/ton	Cool Btuh/sf			Heat Btuh/sf			
			Pkgd	Var	Vol	Var	Temp	d	1,93.11	3,65.34	1.89	97%	20.45	6%			0.106	14.0	99	195	369	61.5	109.6	0	0
EL4 WSW Perim Zn (G.WSW1)	Office (Executive/Private) (71%)	U	442	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 South Perim Zn (G.S2)	Office (Executive/Private) (71%)	C	573	10.07	1.76	6%	61	6%	0.106	18.9	3	197	347	80.8	109.0	0	0			
EL4 South Perim Zn (G.S4)	Office (Executive/Private) (71%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 South Perim Zn (G.S5)	Office (Executive/Private) (71%)	S	11.69	18.89	1.60	100%	124	7%	0.106	18.9	5	217	347	55.3	104.8	0	0			
EL4 South Perim Zn (G.S6)	Office (Executive/Private) (71%)	S	10.27	22.82	2.22	100%	109	5%	0.106	18.9	7	156	347	76.9	121.6	0	0			
EL4 South Perim Zn (G.S7)	Office (Executive/Private) (71%)	U	108	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 South Perim Zn (G.S9)	Office (Executive/Private) (71%)	S	11.21	26.82	2.38	100%	119	4%	0.106	18.9	8	146	347	82.2	125.7	0	0			
EL4 South Perim Zn (G.S10)	Office (Executive/Private) (71%)	U	98	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 South Perim Zn (G.S12)	Office (Executive/Private) (71%)	S	11.03	31.19	2.83	100%	117	4%	0.106	18.9	9	123	347	97.8	137.9	0	0			
EL4 ESE Perim Zn (G.ESE13)	Office (Executive/Private) (71%)	U	457	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 South Perim Zn (G.S14)	Office (Executive/Private) (71%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 ESE Perim Zn (G.ESE19)	Office (Executive/Private) (71%)	S	23.24	48.23	1.99	100%	246	5%	0.106	18.9	13	174	347	88.8	115.3	0	0			
EL4 ENE Perim Zn (G.ENE20)	Office (Executive/Private) (71%)	S	29.06	51.42	1.77	100%	308	6%	0.106	18.9	15	196	347	61.2	109.4	0	0			
EL4 North Perim Zn (G.N26)	Office (Executive/Private) (71%)	S	27.03	40.23	1.49	100%	286	7%	0.106	18.9	12	233	347	51.5	101.6	0	0			
EL4 NE Perim Zn (G.NE27)	Office (Executive/Private) (71%)	S	13.43	19.93	1.48	100%	142	7%	0.106	18.9	6	234	347	51.4	101.7	0	0			
EL4 North Perim Zn (G.N29)	Office (Executive/Private) (71%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 North Perim Zn (G.N30)	Office (Executive/Private) (71%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 North Perim Zn (G.N31)	Office (Executive/Private) (71%)	U	601	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 West Perim Zn (G.W32)	Office (Executive/Private) (71%)	U	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 NNW Perim Zn (G.NNW35)	Office (Executive/Private) (71%)	S	27.03	41.18	1.52	100%	286	7%	0.106	18.9	12	228	347	52.7	102.7	0	0			
EL4 NW Perim Zn (G.NW38)	Office (Executive/Private) (71%)	U	499	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 SW Perim Zn (G.SW44)	Office (Executive/Private) (71%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 West Perim Zn (G.W45)	Office (Executive/Private) (71%)	U	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 WSW Perim Zn (G.WSW46)	Office (Executive/Private) (71%)	U	596	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 West Perim Zn (G.W47)	Office (Executive/Private) (71%)	S	23.40	34.72	1.48	100%	248	7%	0.106	18.9	10	234	347	51.3	101.7	0	0			
EL4 East Perim Zn (G.E48)	Office (Executive/Private) (71%)	U	259	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 ESE Perim Zn (G.ESE49)	Office (Executive/Private) (71%)	U	824	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 East Perim Zn (G.E51)	Office (Executive/Private) (71%)	U	48	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			
EL4 West Perim Zn (G.W64)	Office (Executive/Private) (71%)	U	27.02	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a			

System & Zone Name	System Type Principal Zone Activity	Type*	Design Flow			Design Ventilation			Design Capacity					Hrs Outside ThrI-Range			
			Area sqft	Supply cfm	Supply cfm/sf	Min Flow	OSA cfm	OSA %	OSA cfm/sf	OSA cfm/per	Cool tons	Cool sf/ton	Cool cfm/ton	Cool Btuh/sf	Heat Btuh/sf	Cool Hrs	Heat Hrs
EL5 Sys5 (PVVT) (G)	Pkgd Var Vol Var Temp	d	1,00,11	0,81,56	1.07	90%	20,45	6%	0.106	14.0	104	105	347	94.7	115.2	34	0
... EL5 WSW Perim Zn (G.WSW1)	Office (Executive/Private) (71%)	U	442	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 South Perim Zn (G.S2)	Office (Executive/Private) (71%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 South Perim Zn (G.S3)	Office (Executive/Private) (71%)	C	573	945	1.65	6%	61	6%	0.106	18.9	3	210	347	57.0	109.2	0	0
... EL5 South Perim Zn (G.S5)	Office (Executive/Private) (71%)	S	11,69	25,10	2.15	100%	124	5%	0.106	18.9	7	162	347	74.3	122.7	0	0
... EL5 South Perim Zn (G.S6)	Office (Executive/Private) (71%)	S	10,27	28,14	2.74	100%	109	4%	0.106	18.9	8	127	347	94.7	138.7	0	0
... EL5 South Perim Zn (G.S7)	Office (Executive/Private) (71%)	U	108	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 South Perim Zn (G.S9)	Office (Executive/Private) (71%)	S	11,21	28,14	2.51	100%	119	4%	0.106	18.9	8	138	347	86.8	132.5	0	0
... EL5 South Perim Zn (G.S10)	Office (Executive/Private) (71%)	U	98	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 South Perim Zn (G.S12)	Office (Executive/Private) (71%)	S	11,03	31,19	2.83	100%	117	4%	0.106	18.9	9	123	347	97.8	141.0	0	0
... EL5 ESE Perim Zn (G.ESE13)	Office (Executive/Private) (71%)	U	457	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 NW Perim Zn (G.NW20)	Office (Executive/Private) (71%)	U	499	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 North Perim Zn (G.N27)	Office (Executive/Private) (71%)	S	27,03	48,67	1.80	100%	288	6%	0.106	18.9	14	193	347	82.3	113.3	10	0
... EL5 NE Perim Zn (G.NE30)	Office (Executive/Private) (71%)	S	13,43	20,03	1.49	100%	142	7%	0.106	18.9	6	233	347	51.6	105.0	8	0
... EL5 East Perim Zn (G.E35)	Office (Executive/Private) (71%)	S	52,30	94,90	1.81	100%	554	6%	0.106	18.9	27	191	347	82.7	113.7	0	0
... EL5 North Perim Zn (G.N37)	Office (Executive/Private) (71%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 North Perim Zn (G.N38)	Office (Executive/Private) (71%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 North Perim Zn (G.N39)	Office (Executive/Private) (71%)	U	601	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 NNW Perim Zn (G.NNW40)	Office (Executive/Private) (71%)	S	27,03	41,18	1.52	100%	288	7%	0.106	18.9	12	228	347	52.7	105.8	16	0
... EL5 West Perim Zn (G.W41)	Office (Executive/Private) (71%)	U	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 ESE Perim Zn (G.ESE44)	Office (Executive/Private) (71%)	U	824	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 East Perim Zn (G.E45)	Office (Executive/Private) (71%)	U	48	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 WSW Perim Zn (G.WSW46)	Office (Executive/Private) (71%)	U	596	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 West Perim Zn (G.W49)	Office (Executive/Private) (71%)	U	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 SW Perim Zn (G.SW51)	Office (Executive/Private) (71%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 South Perim Zn (G.S52)	Office (Executive/Private) (71%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 West Perim Zn (G.W59)	Office (Executive/Private) (71%)	S	23,40	34,72	1.48	100%	248	7%	0.106	18.9	10	234	347	51.3	104.8	0	0
... EL5 West Perim Zn (G.W60)	Office (Executive/Private) (71%)	U	27,02	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 East Perim Zn (G.E61)	Office (Executive/Private) (71%)	U	259	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

System & Zone Name	System Type Principal Zone Activity	Type*	Design Flow			Design Ventilation			Design Capacity					Hrs Outside ThrI-Range			
			Area sqft	Supply cfm	Supply cfm/sf	Min Flow	OSA cfm	OSA %	OSA cfm/sf	OSA cfm/per	Cool tons	Cool sf/ton	Cool cfm/ton	Cool Btuh/sf	Heat Btuh/sf	Cool Hrs	Heat Hrs
EL6 Sys6 (PVVT) (G)	Pkgd Var Vol Var Temp	d	1,93,11	3,68,22	1.91	97%	20,45	6%	0.106	14.0	93	207	396	57.8	103.1	1	8
... EL6 WSW Perim Zn (G.WSW1)	Office (Executive/Private) (71%)	U	442	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 South Perim Zn (G.S2)	Office (Executive/Private) (71%)	C	573	10,07	1.76	6%	61	6%	0.106	18.9	3	197	346	80.9	105.5	0	0
... EL6 South Perim Zn (G.S4)	Office (Executive/Private) (71%)	S	11,69	18,89	1.60	100%	124	7%	0.106	18.9	5	217	346	55.4	101.2	0	0
... EL6 South Perim Zn (G.S5)	Office (Executive/Private) (71%)	S	10,27	16,04	1.56	100%	109	7%	0.106	18.9	5	222	346	54.1	100.2	0	0
... EL6 South Perim Zn (G.S6)	Office (Executive/Private) (71%)	U	108	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 South Perim Zn (G.S8)	Office (Executive/Private) (71%)	S	11,21	19,39	1.73	100%	119	6%	0.106	18.9	6	200	346	60.0	104.8	0	0
... EL6 South Perim Zn (G.S9)	Office (Executive/Private) (71%)	U	98	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 South Perim Zn (G.S11)	Office (Executive/Private) (71%)	S	11,03	21,83	1.98	100%	117	5%	0.106	18.9	6	175	346	68.6	111.5	0	0
... EL6 ESE Perim Zn (G.ESE12)	Office (Executive/Private) (71%)	U	457	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 South Perim Zn (G.S28)	Office (Executive/Private) (71%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 South Perim Zn (G.S29)	Office (Executive/Private) (71%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 ESE Perim Zn (G.ESE30)	Office (Executive/Private) (71%)	U	824	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 East Perim Zn (G.E33)	Office (Executive/Private) (71%)	U	48	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 East Perim Zn (G.E34)	Office (Executive/Private) (71%)	U	259	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 East Perim Zn (G.E35)	Office (Executive/Private) (71%)	S	52,30	99,85	1.91	100%	554	6%	0.106	18.9	29	181	346	66.2	109.6	0	0
... EL6 NE Perim Zn (G.NE38)	Office (Executive/Private) (71%)	S	13,43	20,29	1.51	100%	142	7%	0.106	18.9	6	229	346	52.4	98.9	0	2
... EL6 North Perim Zn (G.N39)	Office (Executive/Private) (71%)	S	27,03	40,23	1.49	100%	288	7%	0.106	18.9	12	233	346	51.6	98.3	1	2
... EL6 North Perim Zn (G.N44)	Office (Executive/Private) (71%)	U	601	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 North Perim Zn (G.N46)	Office (Executive/Private) (71%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 North Perim Zn (G.N47)	Office (Executive/Private) (71%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 NNW Perim Zn (G.NNW48)	Office (Executive/Private) (71%)	S	27,03	41,18	1.52	100%	288	7%	0.106	18.9	12	227	346	52.8	99.2	0	2
... EL6 West Perim Zn (G.W49)	Office (Executive/Private) (71%)	U	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 NW Perim Zn (G.NW52)	Office (Executive/Private) (71%)	U	499	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 West Perim Zn (G.W53)	Office (Executive/Private) (71%)	S	23,40	34,72	1.48	100%	248	7%	0.106	18.9	10	233	346	51.4	98.1	0	2
... EL6 West Perim Zn (G.W54)	Office (Executive/Private) (71%)	U	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 SW Perim Zn (G.SW55)	Office (Executive/Private) (71%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 WSW Perim Zn (G.WSW57)	Office (Executive/Private) (71%)	U	596	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 West Perim Zn (G.W61)	Office (Executive/Private) (71%)	U	27,02	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Proposed case

System & Zone Name	System Type Principal Zone Activity	Type** Ret Zn	Design Flow			Design Ventilation			Design Capacity				Hrs Outside Thr-Range		Cool Hrs	Heat Hrs				
			Area sqft	Supply cfm	Supply cfm/sf	Min Flow	OSA cfm	OSA %	OSA cfm/sf	OSA cfm/per	Cool tons	Cool sf/ton	Cool cfm/ton	Cool Btu/h/sf			Heat Btu/h/sf			
Pkgd	Var	Vol	Var	Temp	d	2,50,79	4,80,08	1.91	100%	25,85	6%	0.107	13.2	100	252	482	47.7	87.1	6	0
EL1 South Perim Zn (G.S1)	Office (Executive/Private) (73%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C2)	Office (Open Plan) (36%)	U	14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C3)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C4)	Office (Open Plan) (36%)	U	140	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C5)	Office (Open Plan) (36%)	C	207	209	1.01	11%	23	11%	0.113	37.8	1	395	399	30.4	71.8	0	0			
EL1 South Perim Zn (G.S6)	Office (Executive/Private) (73%)	U	115	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 South Perim Zn (G.S7)	Office (Executive/Private) (73%)	S	398	754	1.90	100%	42	6%	0.106	18.9	2	210	399	57.0	95.5	0	0			
EL1 South Perim Zn (G.S8)	Office (Executive/Private) (73%)	S	581	972	1.67	100%	62	6%	0.106	18.9	2	238	399	50.4	89.5	0	0			
EL1 South Perim Zn (G.S9)	Office (Executive/Private) (73%)	S	11,03	19,32	1.75	100%	117	6%	0.106	18.9	5	228	399	52.7	91.6	0	0			
EL1 Core Zn (G.C10)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C11)	Office (Open Plan) (36%)	U	13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C12)	Office (Open Plan) (36%)	U	15,35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C13)	Office (Open Plan) (36%)	U	443	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C14)	Office (Open Plan) (36%)	U	34	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C15)	Office (Open Plan) (36%)	U	145	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 WSW Perim Zn (G.WSW16)	Office (Executive/Private) (73%)	U	443	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 SSW Perim Zn (G.SSW17)	Office (Executive/Private) (73%)	S	241	404	1.68	100%	28	6%	0.106	18.9	1	238	399	50.4	89.5	0	0			
EL1 South Perim Zn (G.S18)	Office (Executive/Private) (73%)	S	13,85	22,89	1.65	100%	147	6%	0.106	18.9	6	241	399	49.7	88.9	0	0			
EL1 Core Zn (G.C19)	Office (Open Plan) (36%)	S	11,48	11,55	1.01	100%	130	11%	0.113	37.8	3	390	399	30.3	71.5	0	0			
EL1 Core Zn (G.C20)	Office (Open Plan) (36%)	S	304	306	1.01	100%	34	11%	0.113	37.8	1	396	399	30.3	71.5	0	0			
EL1 Core Zn (G.C21)	Office (Open Plan) (36%)	S	539	11,47	2.13	100%	61	5%	0.113	37.8	3	188	399	63.9	101.7	0	0			
EL1 Core Zn (G.C22)	Office (Open Plan) (36%)	S	11,41	12,08	1.08	100%	129	11%	0.113	37.8	3	377	399	31.8	72.9	0	0			
EL1 Core Zn (G.C23)	Office (Open Plan) (36%)	U	15,43	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C24)	Office (Open Plan) (36%)	U	23	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 NW Perim Zn (G.NW25)	Office (Executive/Private) (73%)	U	499	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 West Perim Zn (G.W26)	Office (Executive/Private) (73%)	S	23,40	35,16	1.50	100%	248	7%	0.106	18.9	9	265	399	45.2	84.9	0	0			
EL1 WSW Perim Zn (G.WSW27)	Office (Executive/Private) (73%)	U	596	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 SW Perim Zn (G.SW28)	Office (Executive/Private) (73%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C29)	Office (Open Plan) (36%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 West Perim Zn (G.W30)	Office (Executive/Private) (73%)	U	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C31)	Office (Open Plan) (36%)	U	487	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 ESE Perim Zn (G.ESE32)	Office (Executive/Private) (73%)	U	824	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 East Perim Zn (G.E33)	Office (Executive/Private) (73%)	U	48	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C34)	Office (Open Plan) (36%)	U	14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C35)	Office (Open Plan) (36%)	U	28	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C36)	Office (Open Plan) (36%)	U	116	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 South Perim Zn (G.S37)	Office (Executive/Private) (73%)	U	89	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 ESE Perim Zn (G.ESE38)	Office (Executive/Private) (73%)	U	467	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 South Perim Zn (G.S39)	Office (Executive/Private) (73%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 East Perim Zn (G.E40)	Office (Executive/Private) (73%)	U	259	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 East Perim Zn (G.E41)	Office (Executive/Private) (73%)	S	52,30	1,09,97	2.10	100%	555	5%	0.106	18.9	28	190	399	63.3	101.1	2	0			
EL1 Core Zn (G.C42)	Office (Open Plan) (36%)	U	32	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C43)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C44)	Office (Open Plan) (36%)	U	466	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C45)	Office (Open Plan) (36%)	U	145	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C46)	Office (Open Plan) (36%)	U	24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C47)	Office (Open Plan) (36%)	S	480	598	1.30	100%	52	9%	0.113	37.8	1	308	399	39.0	79.3	0	0			
EL1 North Perim Zn (G.N48)	Office (Executive/Private) (73%)	S	175	316	1.81	100%	19	6%	0.106	18.9	1	221	399	54.4	93.1	0	0			
EL1 NE Perim Zn (G.NE49)	Office (Executive/Private) (73%)	U	119	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C50)	Office (Open Plan) (36%)	U	13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C51)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C52)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C53)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C54)	Office (Open Plan) (36%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 North Perim Zn (G.N55)	Office (Executive/Private) (73%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 North Perim Zn (G.N56)	Office (Executive/Private) (73%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C57)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C58)	Office (Open Plan) (36%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 West Perim Zn (G.W59)	Office (Executive/Private) (73%)	U	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 NNW Perim Zn (G.NNW60)	Office (Executive/Private) (73%)	S	27,03	47,07	1.74	100%	287	6%	0.106	18.9	12	229	399	52.4	91.3	2	0			
EL1 North Perim Zn (G.N61)	Office (Executive/Private) (73%)	U	601	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 North Perim Zn (G.N62)	Office (Executive/Private) (73%)	S	27,03	45,70	1.69	100%	287	6%	0.106	18.9	11	236	399	50.9	90.0	2	0			
EL1 NE Perim Zn (G.NE63)	Office (Executive/Private) (73%)	S	10,49	12,80	1.22	100%	111	9%	0.106	18.9	3	327	399	36.7	77.3	0	0			
EL1 South Perim Zn (G.S64)	Office (Executive/Private) (73%)	S	33,74	33,94	1.01	100%	358	11%	0.106	18.9	9	397	399	30.3	71.5	0	0			
EL1 Core Zn (G.C65)	Office (Open Plan) (36%)	U	27,06	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C66)	Office (Open Plan) (36%)	U	19,58	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C67)	Office (Open Plan) (36%)	U	39,71	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
EL1 Core Zn (G.C68)	Office (Open Plan) (36%)	U	26,80	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

... EL6 Core Zn (G.C3)	Office (Open Plan) (34%)	U	14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C7)	Office (Open Plan) (34%)	C	194	278	1.43	4%	12	4%	0.060	20.5	1	286	409	42.0	70.2	0	0		
... EL6 Core Zn (G.C10)	Office (Open Plan) (34%)	S	199	334	1.68	100%	12	4%	0.060	20.5	1	244	409	49.1	78.8	0	0		
... EL6 Core Zn (G.C13)	Office (Open Plan) (34%)	U	13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C14)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C15)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C16)	Office (Open Plan) (34%)	U	21,29	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C17)	Office (Open Plan) (34%)	U	491	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C18)	Office (Open Plan) (34%)	U	470	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C19)	Office (Open Plan) (34%)	U	144	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C20)	Office (Open Plan) (34%)	U	24	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C21)	Office (Open Plan) (34%)	S	457	675	1.48	100%	27	4%	0.060	20.5	2	277	409	43.3	71.5	0	0		
... EL6 Core Zn (G.C22)	Office (Open Plan) (34%)	U	21,29	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C23)	Office (Open Plan) (34%)	U	23	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C24)	Office (Open Plan) (34%)	S	31,67	33,20	1.05	100%	190	6%	0.060	20.5	8	391	409	30.7	59.9	0	0		
... EL6 Core Zn (G.C25)	Office (Open Plan) (34%)	U	440	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C26)	Office (Open Plan) (34%)	U	34	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C27)	Office (Open Plan) (34%)	U	144	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C31)	Office (Open Plan) (34%)	U	28	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C32)	Office (Open Plan) (34%)	U	14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C36)	Office (Open Plan) (34%)	U	32	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C37)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C40)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C41)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C42)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C43)	Office (Open Plan) (34%)	U	13	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C45)	Office (Open Plan) (34%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C50)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C51)	Office (Open Plan) (34%)	U	5	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C56)	Office (Open Plan) (34%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C58)	Office (Open Plan) (34%)	U	23,91	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C59)	Office (Open Plan) (34%)	U	30,21	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 Core Zn (G.C60)	Office (Open Plan) (34%)	U	40,55	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

System & Zone Name	System Type Principal Zone Activity	Type*	Ret Zn	Design Flow			Design Ventilation			Design Capacity				Hrs Outside Thr1-Range					
				Area sqft	Supply cfm	Supply cfm/sf	Min Flow	OSA cfm	OSA %	OSA cfm/sf	OSA cfm/per	Cool tons	Cool sf/ton	Cool cfm/ton	Cool BtuH/sf	Heat BtuH/sf	Cool Hrs	Heat Hrs	
EL2 Sys2 (PVVT) (G)	Pkgd Var Vol Var Temp	d	1,51,37	3,13,34	2.07	98%	16,13	5%	0.107	12.1	71	214	443	56.1	102.8	0	53		
... EL2 SW Perim Zn (G.SW1)	Office (Executive/Private) (78%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 South Perim Zn (G.S3)	Office (Executive/Private) (78%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 South Perim Zn (G.S11)	Office (Executive/Private) (78%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 East Perim Zn (G.E14)	Office (Executive/Private) (78%)	U	48	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 East Perim Zn (G.E15)	Office (Executive/Private) (78%)	U	259	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 South Perim Zn (G.S16)	Office (Executive/Private) (78%)	C	284	687	2.42	4%	30	4%	0.107	18.8	2	166	403	72.2	117.4	0	0		
... EL2 ESE Perim Zn (G.ESE18)	Office (Executive/Private) (78%)	S	11,69	32,38	2.77	100%	125	4%	0.107	18.8	8	145	403	82.5	126.8	0	0		
... EL2 NE Perim Zn (G.NE21)	Office (Executive/Private) (78%)	S	17,51	41,10	2.35	100%	187	5%	0.107	18.8	10	172	403	69.9	115.4	0	0		
... EL2 NE Perim Zn (G.NE26)	Office (Executive/Private) (78%)	S	13,43	22,85	1.70	100%	143	6%	0.107	18.8	6	237	403	50.7	98.0	0	0		
... EL2 North Perim Zn (G.N27)	Office (Executive/Private) (78%)	S	27,03	48,28	1.71	100%	288	6%	0.107	18.8	11	235	403	51.0	98.3	0	0		
... EL2 North Perim Zn (G.N28)	Office (Executive/Private) (78%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 North Perim Zn (G.N30)	Office (Executive/Private) (78%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 West Perim Zn (G.W39)	Office (Executive/Private) (78%)	U	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 West Perim Zn (G.W44)	Office (Executive/Private) (78%)	S	23,40	34,74	1.48	100%	249	7%	0.107	18.8	9	271	403	44.3	92.1	0	1		
... EL2 NW Perim Zn (G.NW45)	Office (Executive/Private) (78%)	U	499	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 West Perim Zn (G.W46)	Office (Executive/Private) (78%)	U	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 WSW Perim Zn (G.WSW47)	Office (Executive/Private) (78%)	U	442	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 South Perim Zn (G.S48)	Office (Executive/Private) (78%)	S	553	925	1.67	100%	59	6%	0.107	18.8	2	241	403	49.8	97.2	0	0		
... EL2 South Perim Zn (G.S49)	Office (Executive/Private) (78%)	S	11,89	18,95	1.59	100%	127	7%	0.107	18.8	5	253	403	47.5	95.1	0	0		
... EL2 South Perim Zn (G.S50)	Office (Executive/Private) (78%)	U	10,27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 South Perim Zn (G.S51)	Office (Executive/Private) (78%)	U	115	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 South Perim Zn (G.S53)	Office (Executive/Private) (78%)	U	11,14	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 South Perim Zn (G.S54)	Office (Executive/Private) (78%)	S	11,03	25,10	2.28	100%	118	5%	0.107	18.8	6	177	403	67.8	113.5	0	0		
... EL2 ESE Perim Zn (G.ESE55)	Office (Executive/Private) (78%)	U	457	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 ESE Perim Zn (G.ESE56)	Office (Executive/Private) (78%)	U	824	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 East Perim Zn (G.E57)	Office (Executive/Private) (78%)	U	23,10	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 North Perim Zn (G.N58)	Office (Executive/Private) (78%)	U	601	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 WSW Perim Zn (G.WSW60)	Office (Executive/Private) (78%)	U	596	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL2 NNW Perim Zn (G.NNW61)	Office (Executive/Private) (78%)	S	27,03	47,37	1.75	100%	288	6%	0.107	18.8	12	230	403	52.2	99.3	0	52		

System & Zone Name	System Type Principal Zone Activity	Type*	Design Flow			Design Ventilation				Design Capacity				Hrs Outside Thr-Range			
			Area sqft	Supply cfm	Supply cfm/sf	Min Flow	OSA cfm	OSA %	OSA cfm/sf	OSA cfm/per	Cool tons	Cool sf/ton	Cool cfm/ton	Cool Btuh/sf	Heat Btuh/sf	Cool Hrs	Heat Hrs
	Pkgd Var Vol Var Temp	d	1,17.01	2,45.35	2.10	87%	12.33	5%	0.105	7.8	61	192	404	62.4	114.4	15	0
EL3 Sys3 (PVVT) (G)																	
... EL3 West Perim Zn (G.W1)	Office (Executive/Private) (65%)	C	23,40	34,71	1,48	7%	247	7%	0.105	19.0	9	273	404	44.0	97.7	0	0
... EL3 NW Perim Zn (G.NW2)	Office (Executive/Private) (65%)	U	499	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 SW Perim Zn (G.SW3)	Office (Executive/Private) (65%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 West Perim Zn (G.W5)	Office (Executive/Private) (65%)	U	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 WSW Perim Zn (G.WSW6)	Office (Executive/Private) (65%)	U	596	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 ESE Perim Zn (G.ESE13)	Office (Executive/Private) (65%)	S	23,24	80,76	3,48	100%	245	3%	0.105	19.0	20	116	404	103.2	151.5	15	0
... EL3 ENE Perim Zn (G.ENE14)	Office (Executive/Private) (65%)	U	29,06	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 WSW Perim Zn (G.WSW15)	Office (Executive/Private) (65%)	U	442	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 South Perim Zn (G.S16)	Office (Executive/Private) (65%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 South Perim Zn (G.S17)	Office (Executive/Private) (65%)	S	290	13,89	4,80	100%	31	2%	0.105	19.0	3	84	404	142.4	187.2	0	0
... EL3 South Perim Zn (G.S19)	Office (Executive/Private) (65%)	U	14,76	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 South Perim Zn (G.S22)	Office (Executive/Private) (65%)	U	108	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 East Perim Zn (G.E29)	Office (Executive/Private) (65%)	U	48	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 ESE Perim Zn (G.ESE30)	Office (Executive/Private) (65%)	U	824	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 East Perim Zn (G.E31)	Office (Executive/Private) (65%)	U	259	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 NE Perim Zn (G.NE34)	Office (Executive/Private) (65%)	S	13,43	22,89	1,70	100%	141	6%	0.105	19.0	6	237	404	50.6	103.7	0	0
... EL3 North Perim Zn (G.N37)	Office (Executive/Private) (65%)	S	27,03	46,22	1,71	100%	285	6%	0.105	19.0	11	236	404	50.8	103.9	0	0
... EL3 North Perim Zn (G.N38)	Office (Executive/Private) (65%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 North Perim Zn (G.N40)	Office (Executive/Private) (65%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 North Perim Zn (G.N41)	Office (Executive/Private) (65%)	U	601	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 NNW Perim Zn (G.NNW44)	Office (Executive/Private) (65%)	S	27,03	47,33	1,75	100%	285	6%	0.105	19.0	12	231	404	52.0	105.0	0	0
... EL3 West Perim Zn (G.W45)	Office (Executive/Private) (65%)	U	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 South Perim Zn (G.S48)	Office (Executive/Private) (65%)	U	11,21	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 South Perim Zn (G.S49)	Office (Executive/Private) (65%)	U	98	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 South Perim Zn (G.S50)	Office (Executive/Private) (65%)	U	11,03	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 South Perim Zn (G.S54)	Office (Executive/Private) (65%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 ESE Perim Zn (G.ESE55)	Office (Executive/Private) (65%)	U	457	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 South Perim Zn (G.S56)	Office (Executive/Private) (65%)	U	33,98	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL3 West Perim Zn (G.W60)	Office (Executive/Private) (65%)	U	28,80	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

System & Zone Name	System Type Principal Zone Activity	Type*	Design Flow			Design Ventilation				Design Capacity				Hrs Outside Thr-Range			
			Area sqft	Supply cfm	Supply cfm/sf	Min Flow	OSA cfm	OSA %	OSA cfm/sf	OSA cfm/per	Cool tons	Cool sf/ton	Cool cfm/ton	Cool Btuh/sf	Heat Btuh/sf	Cool Hrs	Heat Hrs
	Pkgd Var Vol Var Temp	d	1,93.11	4,20.14	2.18	97%	20.45	5%	0.106	14.0	90	214	400	50.0	103.3	0	1
EL4 Sys4 (PVVT) (G)																	
... EL4 WSW Perim Zn (G.WSW1)	Office (Executive/Private) (71%)	U	442	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 South Perim Zn (G.S2)	Office (Executive/Private) (71%)	C	573	10,07	1,76	8%	61	6%	0.106	18.9	2	231	405	52.0	99.7	0	0
... EL4 South Perim Zn (G.S4)	Office (Executive/Private) (71%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 South Perim Zn (G.S5)	Office (Executive/Private) (71%)	D	11,60	10,60	1,60	100%	124	7%	0.106	10.0	5	250	405	47.3	95.4	0	0
... EL4 South Perim Zn (G.S6)	Office (Executive/Private) (71%)	S	10,27	22,82	2,22	100%	109	5%	0.106	18.9	6	182	405	65.8	112.2	0	0
... EL4 South Perim Zn (G.S7)	Office (Executive/Private) (71%)	U	108	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 South Perim Zn (G.S9)	Office (Executive/Private) (71%)	S	11,21	26,82	2,38	100%	119	4%	0.106	18.9	7	171	405	70.3	116.4	0	0
... EL4 South Perim Zn (G.S10)	Office (Executive/Private) (71%)	U	98	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 South Perim Zn (G.S12)	Office (Executive/Private) (71%)	S	11,03	31,19	2,83	100%	117	4%	0.106	18.9	8	143	405	83.7	128.6	0	0
... EL4 ESE Perim Zn (G.ESE13)	Office (Executive/Private) (71%)	U	457	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 South Perim Zn (G.S14)	Office (Executive/Private) (71%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 ESE Perim Zn (G.ESE19)	Office (Executive/Private) (71%)	S	23,24	53,16	2,29	100%	246	5%	0.106	18.9	13	177	405	67.7	114.0	0	0
... EL4 ENE Perim Zn (G.ENE20)	Office (Executive/Private) (71%)	S	29,06	51,42	1,77	100%	308	6%	0.106	18.9	13	229	405	62.4	100.0	0	0
... EL4 North Perim Zn (G.N26)	Office (Executive/Private) (71%)	S	27,03	46,26	1,71	100%	286	6%	0.106	18.9	11	237	405	50.7	98.5	0	0
... EL4 NE Perim Zn (G.NE27)	Office (Executive/Private) (71%)	S	13,43	22,92	1,71	100%	142	6%	0.106	18.9	6	237	405	50.5	98.3	0	0
... EL4 North Perim Zn (G.N29)	Office (Executive/Private) (71%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 North Perim Zn (G.N30)	Office (Executive/Private) (71%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 North Perim Zn (G.N31)	Office (Executive/Private) (71%)	U	601	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 West Perim Zn (G.W32)	Office (Executive/Private) (71%)	U	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 NNW Perim Zn (G.NNW35)	Office (Executive/Private) (71%)	S	27,03	47,36	1,75	100%	286	6%	0.106	18.9	12	231	405	51.9	99.6	0	1
... EL4 NW Perim Zn (G.NW36)	Office (Executive/Private) (71%)	U	499	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 SW Perim Zn (G.SW44)	Office (Executive/Private) (71%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 West Perim Zn (G.W45)	Office (Executive/Private) (71%)	U	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 WSW Perim Zn (G.WSW46)	Office (Executive/Private) (71%)	U	596	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 West Perim Zn (G.W47)	Office (Executive/Private) (71%)	S	23,40	34,72	1,48	100%	248	7%	0.106	18.9	9	273	405	43.9	92.3	0	0
... EL4 East Perim Zn (G.E48)	Office (Executive/Private) (71%)	U	259	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 ESE Perim Zn (G.ESE49)	Office (Executive/Private) (71%)	U	824	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 East Perim Zn (G.E51)	Office (Executive/Private) (71%)	U	48	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL4 West Perim Zn (G.W64)	Office (Executive/Private) (71%)	U	27,02	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

System & Zone Name	System Type Principal Zone Activity	Type*	Design Flow			Design Ventilation				Design Capacity				Hrs Outside Thr-Range			
			Area sqft	Supply cfm	Supply cfm/sf	Min Flow	OSA cfm	OSA %	OSA cfm/sf	OSA cfm/per	Cool tons	Cool sf/ton	Cool cfm/ton	Cool Btu/sf	Heat Btu/sf	Cool Hrs	Heat Hrs
EL5 Sys5 (PVVT) (G)	Pkgd Var Vol Var Temp	d	1,93,11	4,15,79	2.15	98%	20,45	5%	0.106	14.0	97	200	430	60.1	110.7	0	0
... EL5 WSW Perim Zn (G.WSW1)	Office (Executive/Private) (71%)	U	442	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 South Perim Zn (G.S2)	Office (Executive/Private) (71%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 South Perim Zn (G.S3)	Office (Executive/Private) (71%)	C	573	945	1.65	8%	61	6%	0.106	18.9	2	246	406	48.8	100.4	0	0
... EL5 South Perim Zn (G.S5)	Office (Executive/Private) (71%)	S	11,89	25,10	2.15	100%	124	5%	0.106	18.9	6	189	406	63.5	113.9	0	0
... EL5 South Perim Zn (G.S8)	Office (Executive/Private) (71%)	S	10,27	28,14	2.74	100%	109	4%	0.106	18.9	7	148	406	61.0	129.9	0	0
... EL5 South Perim Zn (G.S7)	Office (Executive/Private) (71%)	U	108	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 South Perim Zn (G.S9)	Office (Executive/Private) (71%)	S	11,21	28,14	2.51	100%	119	4%	0.106	18.9	7	162	406	74.3	123.7	0	0
... EL5 South Perim Zn (G.S10)	Office (Executive/Private) (71%)	U	98	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 South Perim Zn (G.S12)	Office (Executive/Private) (71%)	S	11,03	31,19	2.83	100%	117	4%	0.106	18.9	8	144	406	83.6	132.2	0	0
... EL5 ESE Perim Zn (G.ESE13)	Office (Executive/Private) (71%)	U	457	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 NW Perim Zn (G.NW20)	Office (Executive/Private) (71%)	U	499	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 North Perim Zn (G.N27)	Office (Executive/Private) (71%)	S	27,03	55,97	2.07	100%	286	5%	0.106	18.9	14	196	406	61.2	111.8	0	0
... EL5 NE Perim Zn (G.NE30)	Office (Executive/Private) (71%)	S	13,43	23,03	1.72	100%	142	6%	0.106	18.9	6	237	406	50.7	102.2	0	0
... EL5 East Perim Zn (G.E35)	Office (Executive/Private) (71%)	S	52,30	1,09,14	2.09	100%	554	5%	0.106	18.9	27	194	406	61.7	112.2	0	0
... EL5 North Perim Zn (G.N37)	Office (Executive/Private) (71%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 North Perim Zn (G.N38)	Office (Executive/Private) (71%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 North Perim Zn (G.N39)	Office (Executive/Private) (71%)	U	501	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 NNW Perim Zn (G.NNW40)	Office (Executive/Private) (71%)	S	27,03	47,36	1.75	100%	286	6%	0.106	18.9	12	232	406	51.8	103.2	0	0
... EL5 West Perim Zn (G.W41)	Office (Executive/Private) (71%)	U	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 ESE Perim Zn (G.ESE44)	Office (Executive/Private) (71%)	U	824	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 East Perim Zn (G.E45)	Office (Executive/Private) (71%)	U	48	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 WSW Perim Zn (G.WSW48)	Office (Executive/Private) (71%)	U	596	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 West Perim Zn (G.W49)	Office (Executive/Private) (71%)	U	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 SW Perim Zn (G.SW51)	Office (Executive/Private) (71%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 South Perim Zn (G.S52)	Office (Executive/Private) (71%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 West Perim Zn (G.W59)	Office (Executive/Private) (71%)	S	23,40	34,72	1.48	100%	248	7%	0.106	18.9	9	273	406	43.9	96.0	0	0
... EL5 West Perim Zn (G.W60)	Office (Executive/Private) (71%)	U	27,02	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL5 East Perim Zn (G.E61)	Office (Executive/Private) (71%)	U	259	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

System & Zone Name	System Type Principal Zone Activity	Type*	Design Flow			Design Ventilation				Design Capacity				Hrs Outside Thr-Range			
			Area sqft	Supply cfm	Supply cfm/sf	Min Flow	OSA cfm	OSA %	OSA cfm/sf	OSA cfm/per	Cool tons	Cool sf/ton	Cool cfm/ton	Cool Btu/sf	Heat Btu/sf	Cool Hrs	Heat Hrs
EL6 Sys6 (PVVT) (C)	Pkgd Var Vol Var Temp	d	1,93,11	4,23,45	2.19	97%	20,45	5%	0.106	14.0	93	231	507	51.9	95.7	0	16
... EL6 WSW Perim Zn (G.WSW1)	Office (Executive/Private) (71%)	U	442	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 South Perim Zn (G.S2)	Office (Executive/Private) (71%)	C	573	10,07	1.76	6%	61	6%	0.106	18.9	2	230	404	52.2	96.0	0	0
... EL6 South Perim Zn (G.S4)	Office (Executive/Private) (71%)	S	11,89	18,89	1.60	100%	124	7%	0.106	18.9	5	253	404	47.4	91.7	0	0
... EL6 South Perim Zn (G.S5)	Office (Executive/Private) (71%)	S	10,27	16,04	1.56	100%	109	7%	0.106	18.9	4	259	404	46.3	90.7	0	0
... EL6 South Perim Zn (G.S8)	Office (Executive/Private) (71%)	U	108	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 South Perim Zn (G.S8)	Office (Executive/Private) (71%)	S	11,21	19,39	1.73	100%	119	6%	0.106	18.9	5	234	404	51.3	95.2	0	0
... EL6 South Perim Zn (G.S9)	Office (Executive/Private) (71%)	U	98	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 South Perim Zn (G.S11)	Office (Executive/Private) (71%)	S	11,03	21,83	1.98	100%	117	5%	0.106	18.9	5	204	404	58.7	101.9	0	0
... EL6 ESE Perim Zn (G.ESE12)	Office (Executive/Private) (71%)	U	457	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 South Perim Zn (G.S28)	Office (Executive/Private) (71%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 South Perim Zn (G.S29)	Office (Executive/Private) (71%)	U	25	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 ESE Perim Zn (G.ESE30)	Office (Executive/Private) (71%)	U	824	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 East Perim Zn (G.E33)	Office (Executive/Private) (71%)	U	48	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 East Perim Zn (G.E34)	Office (Executive/Private) (71%)	U	259	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 East Perim Zn (G.E35)	Office (Executive/Private) (71%)	S	52,30	99,85	1.91	100%	554	6%	0.106	18.9	26	212	404	56.6	100.1	0	0
... EL6 NE Perim Zn (G.NE38)	Office (Executive/Private) (71%)	S	13,43	23,33	1.74	100%	142	6%	0.106	18.9	6	233	404	51.6	95.4	0	2
... EL6 North Perim Zn (G.N39)	Office (Executive/Private) (71%)	S	27,03	48,26	1.71	100%	286	6%	0.106	18.9	11	236	404	50.8	94.7	0	4
... EL6 North Perim Zn (G.N44)	Office (Executive/Private) (71%)	U	601	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 North Perim Zn (G.N46)	Office (Executive/Private) (71%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 North Perim Zn (G.N47)	Office (Executive/Private) (71%)	U	27	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 NNW Perim Zn (G.NNW48)	Office (Executive/Private) (71%)	S	27,03	47,36	1.75	100%	286	6%	0.106	18.9	12	231	404	52.0	95.8	0	6
... EL6 West Perim Zn (G.W49)	Office (Executive/Private) (71%)	U	15	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 NW Perim Zn (G.NW52)	Office (Executive/Private) (71%)	U	499	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 West Perim Zn (G.W53)	Office (Executive/Private) (71%)	S	23,40	34,72	1.48	100%	248	7%	0.106	18.9	9	273	404	44.0	88.6	0	4
... EL6 West Perim Zn (G.W54)	Office (Executive/Private) (71%)	U	20	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 SW Perim Zn (G.SW55)	Office (Executive/Private) (71%)	U	35	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 WSW Perim Zn (G.WSW57)	Office (Executive/Private) (71%)	U	596	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
... EL6 West Perim Zn (G.W61)	Office (Executive/Private) (71%)	U	27,02	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

System & Zone Name	System Type Principal Zone Activity	Type*	Design Flow			Design Ventilation				Design Capacity				Throttling Range		
			Area sqft	Supply cfm	Supply cfm/sf	Min Flow	OSA cfm	OSA %	OSA cfm/sf	OSA cfm/per	Cool tons	Cool sf/ton	Cool cfm/ton	Cool Btu/sf	Heat Btu/sf	Hrs Outside Thr-Range
Sum of SYSTEMS	12,95.48	25,60.15	1.98	95%	1,28.82	5%	0.099	10.5	557	233	460	51.6	94.9	2%
Sum of ZONES	22,49.71	1.74	...	...	...	...	...	557	...	...	...	...	...
Sum of Zones / System Total	88%	...	...	...	...	...	100%	...	...	...	...	...	...

* Return Types: 'P' = Plenum Return 'D' = Ducted Return 'd' = Direct return (Plenum Zones are not shown on this report)
 * Zone Types: 'C' = Conditioned Zone 'U' = Unconditioned Zone 'S' = Slave Zone (conditioned but no t-stat)

Annexure 2: Solar PV generation calculation sheet from snapshot

PVWatts® Calculator 

My Location: *faridabad, haryana* English HELP FEEDBACK
» Change Location Español

RESOURCE DATA SYSTEM INFO **RESULTS**



Go to system info

RESULTS

 Print Results

10,133 kWh/Year*



Month	Solar Radiation <small>(kWh / m² / day)</small>	AC Energy <small>(kWh)</small>	Value <small>(\$)</small>
January	4.49	731	N/A
February	5.51	794	N/A
March	6.37	978	N/A
April	6.87	982	N/A
May	6.57	951	N/A
June	5.77	834	N/A
July	5.08	789	N/A
August	5.44	853	N/A
September	5.82	873	N/A
October	5.52	864	N/A
November	4.86	750	N/A
December	4.46	734	N/A
Annual	5.56	10,133	0

Annexure 3: Cut Sheets

6.1 Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:

6.1.1 Cement mortar 1:4 (1 cement : 4 coarse sand)

Code	Description	Unit	Quantity	Rate ₹	Amount ₹
	Details of cost for 1 cum MATERIAL				
2602	Common burnt clay F.P.S. (non modular) bricks class designation 7.5	1000 Nos	0.494	4500.00	2223.00
2201	Carriage of Bricks	1000 Nos	0.494	276.72	136.70
	Cement mortar 1 : 4 (1 cement : 4 coarse sand)				
3.9	Rate as per item No 3.9 of SH: Mortar	cum	0.25	4010.35	1002.59
9999	Sundries	L.S.	2.73	2.00	5.46
	LABOUR				
0123	Mason (brick layer) 1st class	day	0.36	738.00	265.68
0124	Mason (brick layer) 2nd class	day	0.36	679.00	244.44
0115	Coolie	day	1.37	558.00	764.46
0101	Bhisti	day	0.20	617.00	123.40
	TOTAL				4765.73 W
	Add 1 % Water charges on "W"				47.66
	TOTAL				4813.38 X
	Add GST on "X" (multiplying factor 0.1405)				676.28
	TOTAL				5489.66 Y
	Add 15% CPOH on "Y"				823.45
	TOTAL				6313.11 Z
	Add Cess @ 1% on "Z"				63.13
	Cost of 1 Cum.				6376.25
	Say				6376.25

6.1.2 Cement mortar 1:6 (1 cement : 6 coarse sand)

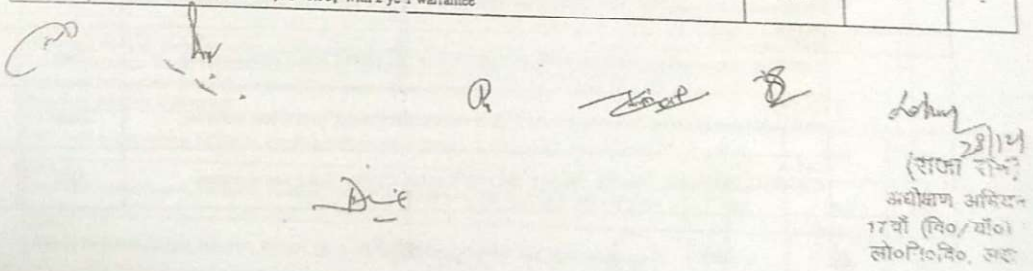
Code	Description	Unit	Quantity	Rate ₹	Amount ₹
	Details of cost for 1 cum MATERIAL				
2602	Common burnt clay F.P.S. (non modular) bricks class designation 7.5	1000 Nos	0.494	4500.00	2223.00
2201	Carriage of Bricks	1000 Nos	0.494	276.72	136.70
	Cement mortar 1 : 6 (1 cement : 6 coarse sand) (Rate as per item No 3.11)				
3.11	Rate as per Item No.3.11 of SH: Mortar	cum	0.25	3356.15	839.04
9999	Sundries	L.S.	2.73	2.00	5.46
	LABOUR				
0123	Mason (brick layer) 1st class	day	0.36	738.00	265.68
0124	Mason (brick layer) 2nd class	day	0.36	679.00	244.44
0115	Coolie	day	1.37	558.00	764.46

- 6.47 Providing and laying autoclaved aerated cement blocks masonry with 150mm/230mm/300 mm thick AAC blocks in super structure above plinth level up to floor V level with RCC band at sill level and lintel level with approved block laying polymer modified adhesive mortar all complete as per direction of Engineer-in-Charge. (The payment of RCC band and reinforcement shall be made for seperately).

Code	Description	Unit	Quantity	Rate ₹	Amount ₹
	Details of cost for 1 cum. MATERIAL				
8655	Autoclaved areated cement (AAC) blocks	cum	1.00	2600.00	2600.00
0357	Polymer modified adhesive mortar	Kg	30.00	15.00	450.00
9999	Sundries	L.S.	2.73	2.00	5.46
	LABOUR				
0123	Mason (brick layer) 1 st class	day	0.36	738.00	265.68
0124	Mason (brick layer) 2nd class	day	0.36	679.00	244.44
0115	Coolie	day	1.37	558.00	764.46
	Extra labour element required for lifting of materials (above floor two level upto floor five level) (0.75x 1.50 = 1.13)				
0115	Coolie	day	1.13	558.00	630.54
	TOTAL				4960.58 W
	Add 1 % Water charges on "W"				49.61
	TOTAL				5010.19 X
	Add GST on "X" (multiplying factor 0.1405)				703.93
	TOTAL				5714.12 Y
	Add 15% CPOH on "Y"				857.12
	TOTAL				6571.23 Z
	Add Cess @ 1% on "Z"				65.71
	Cost of 1 cum				6636.95
	Say				6636.95

Code No.	Description	Unit	Rate ₹
8308	PPR Union 32 mm	each	137.20
8309	PPR Union 40 mm	each	184.80
8310	PPR Union 50 mm	each	352.80
8311	PPR Union 63 mm	each	483.60
8312	PPR Union 75 mm	each	933.00
8500	Water for jetting / blowback	1000 litre	1500.00
8501	Polymer modified cementation coating	kg	140.00
8502	Fibre glass cloth	sqm	25.00
8504	Multi surface paint	litre	255.00
8505	Acrylic exterior paint	litre	170.00
8506	Premium Acrylic exterior paint	litre	180.00
8507	Textured exterior paint	litre	240.00
8508	Primer for cement paint	litre	79.00
8509	Special Primer (C.W.)	litre	140.00
8510	Metal Primer (U.G.)	litre	90.00
8511	Fibre reinforced elastomeric liquid water proofing membrane	litre	198.69
8512	Cementitious water proofing coating with elastic polymers	kg	189.13
8513	Acrylic modified resin based texture	kg	36.00
8514	40 mm long S.S screws with plastic rawl plugs	100	40.00
8515	Galavanised MS 8 mm outer diameter M-6 dash fastener 50mm long	each	31.00
8516	ZMB 60/equivalent	kg	105.00
8517	ZMB thinner	litre	205.00
8518	Zycoprime / equivalent	litre	210.00
8519	Zycosil / equivalent	litre	1800.00
8520	Elastobar / equivalent	kg	300.00
8552	Mineral fibre beveled tegular edged ceiling tiles 595 x595mm,16 mm thick	sqm	830.00
8553	Mineral fibre beveled tegular edged ceiling tiles 595 x595mm,16 mm thick with bio-block conforming to ISO 5 (class 100) specifications.	sqm	920.00
8554	Mineral fiber beveled tegular edged ceiling tiles 595 x595mm,20 mm thick.	sqm	1040.00
8555	G.I main runner 15 x32 mm of 3000 mm length, 0.33 mm thick	each	185.00
8556	G.I cross-T 15 x32 mm of 1200 mm length, 0.33 mm thick	each	78.00
8557	G.I cross-T 15 x32 mm of 600 mm length, 0.33 mm thick	each	35.00
8558	G.I hanger rod 6mm dia fully threaded upto 1000 mm length	each	26.00
8559	Stainless steel U Channel of size (50x25x2mm)	metre	160.00
8560	Non staining water resistant clear silicon	metre	65.00
8561	Extruded polystyrene rigid insulation board 50 mm thick	sqm	525.00
8562	Expanded Polystyrene insulation board 120 mm thick confirming to IS 4671-1984, Fire retardant property self-extinguishing type as per EN 13501-1	sqm	800.00
8563	15 mm thick, light weight, integral densified micro look edged,false ceiling tiles of size 595x595 mm.	sqm	720.00
8564	15 mm thick, light weight,fully perforated square/butt edge integral densified,false ceiling tiles of size 595x595 mm.	sqm	900.00
8565	Galavanised MS hanger rod 6 mm dia MS fully threaded up to 1000mm length	each	26.00
8566	Powder coated steel section main-T ceiling sections 15x42x0.40 mm (3000 mm long)	each	235.00
8567	Galvanized mild steel perimeter wall angle 22x19x0.40 mm (3000mm long)	each	115.00

Schedule Item No	Common Specification	Unit	Complete Rate	Labour Rate
1416	Supply and fixing of Recess/pendent mounting having 1' X 4' Size 36 to 46 Watt seamlessly integrated LED luminaire with acrylic sheet diffuser and integral electronic driver, .Complete in all respect.			
	CAT-AAA 3960-5060 system lumens, 110lm/W, PF>0.95, THD <10% at full, CR>80, with 5 years warrantee	Each	6200	122
	CAT-AA 3600-4600 system lumens, 100lm/W, PF>0.95, THD <10% at full, CR>80, with 3 year warrantee.	Each	4290	122
	CAT-A 3220-4140 system lumens, 90lm/W, PF>0.95, THD <20% at full, CR>80, with 2 year warrantee	Each	2200	122
1417	Supply & fixing of water tight oblong 10 watt LED Bulkhead luminaire having die cast housing with driver set confirming to IP65 and above protection, .Complete in all respect.			
	CAT-AAA 1100 system lumens, 110lm/W, PF>0.95, with 5 years warrantee	Each	1400	122
	CAT-AA 1000 system lumens, 100lm/W, PF>0.95, with 3 year warrantee.	Each	1250	122
	CAT-A 900 system lumens, 90lm/W, PF>0.95, with 2 year warrantee	Each	-	-
1417(A)	Supply and fixing of Single LED light wall bracket 3 to 6 Watt on matching M.D.F.E.G Board base etc. complete in all respect.			
	CAT-AAA 330-660 system lumens, 110lm/W, PF>0.95, with 5 years warrantee	Each	2600	82
	CAT-AA 300-600 system lumens, 100lm/W, PF>0.95, with 3 year warrantee.	Each	-	-
	CAT-A 270-540 system lumens, 90lm/W, PF>0.95, with 2 year warrantee	Each	-	-
1418	Supply and fixing of Surface/Pendent mounting 20 Watt LED Surface Mounting weather proof Luminaire with PC Housing and opal finish cover confirming to IP65 Complete in all respect.			
	CAT-AAA 2200 system lumens, 110lm/W, PF>0.95, with 5 years warrantee	Each	2030	122
	CAT-AA 2000 system lumens, 100lm/W, PF>0.95, with 3 year warrantee.	Each	-	-
	CAT-A 1800 system lumens, 90lm/W, PF>0.95, with 2 year warrantee	Each	-	-
1418(A)	Supply and fixing of Surface/Pendent mounting 40 Watt LED Surface Mounting weather proof Luminaire with PC Housing and opal finish cover confirming to IP65 .Complete in all respect.			
	CAT-AAA 4400 system lumens, 110lm/W, PF>0.95, with 5 years warrantee	Each	2290	122
	CAT-AA 4000 system lumens, 100lm/W, PF>0.95, with 3 year warrantee.	Each	-	-
	CAT-A 3600 system lumens, 90lm/W, PF>0.95, with 2 year warrantee	Each	-	-



 (अभय शंकर श्रीवास्तव)

 मुख्या अधिकारी (वि०/या०)

 लो०/वि०/या०

 28/11/24

 (सफा रकम)

 अधीक्षण अधिकारी

 लो०/वि०/या०

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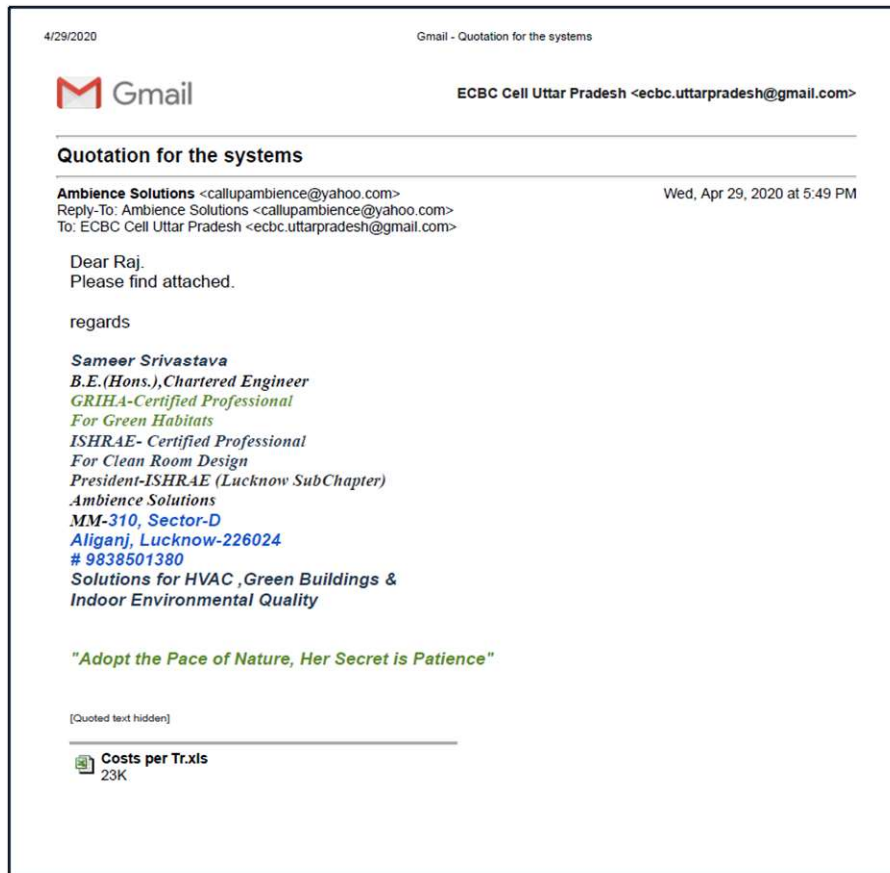
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 मुख्या अधिकारी (वि०/या०)

 लो०/वि०/या०

 28/11/24

BILL OF QUANTITIES - NON HARYANA PWD SCHEDULES ITEMS						
S. No	Non HSR / CPWD DSR 2014 Item	Description of item	Unit	Quantity	Rate	Amount
1		2	3	4	5	6.00
43	NS-AR06	Providing and laying one layer of Extruded polystyrene insulation board 100mm thickness of 32 to 35 kg cubic meter density (Foamular) , with shiplap joint at all levels, as shown in drawing. (A)	sqm	1,864.40	1,634.15	3,046,709.26
44	NS-AR07	Providing and fixing antistatic carpet roll 22 OZ weight per sqm as per approved sample laid with adhesive and protected with polythene till handover. (price Rs. 100 per sqft plus tax)	sqm	292.69	1,451.00	424,693.19
45	NS-AR08	Providing and fixing one layer of Extruded polystyrene insulation board 75mm thickness of 32 to 35 kg cubic meter density (Foamular) , with shiplap joint in partitions at all levels, fixed to existing framing as shown in drawing. (AR)	sqm	850.00	1,253.00	1,065,050.00
46	NS-AR09	Extra (DGU having) for 6mm thick solar glass on external side with properties having SHGC 0.32, and VLT having 59% and U value of 1.5 w/m2degK in place of HSR item 17.104 with 6mm glass shall have U value < 1.8, solar factor <0.35 light transmission> 49%	sqm	1,487.00	2,237.00	3,326,419.00
47	NS-AR10	Providing and fixing 50mm thick Glass Reinforced Concrete (G.R.C) Screens in approved size, pattern, design, thickness and color of M/S Unistone make or equivalent. The Screens should be made from '53 grade' White Portland Cement manufactured by 'JK Cement' or equivalent, Quartz, Fine Silica Sand, Alkali Resistant Glass Fiber manufactured by 'Saint Gobain' or equivalent, Super Plasticizers manufactured by 'BASF' or equivalent, Polymers manufactured by 'BASF' or equivalent and U.V resistant Synthetic inorganic pigments should be used for pigmentation manufactured by 'BAYFERROX (Germany)' or equivalent. The material casting should take place in Synthetic Rubber / FRP Mould manufactured by 'Reckli' or equivalent. The fixing of Screens should be 'Dry fixing' i.e. to be done with Stainless Steel (SS - 304) 'L' shaped Clamps, dash fasteners and pins	sqm	70.26	8,056.70	566,063.74
48	NS-AR11R	Supplying and applying 1.14 mm EPDM rubbergard membrane in horizontal surface waterproofing of roof consisting of 1st layer of with 200 gsm geotextile membrane on bottom, laying EPDM membrane as second layer jointed with quick seam tape, quick seam primer for jointing, fom flash, adhesive, top layer 200 GSM geotextile i/c overlap, complete as per manufacturer's specifications, testing of waterproofing for 48 hrs.	sqm	3,386.93	1,123.70	3,805,893.24
		Technical parameters FIRESTONE RubberGard: MATERIAL : 1.14 mm thick non reinforced vulcanized EPDM RUBBERGARD meeting ASTM D 4437 requirement. The sheet should be as large as possible but not less than 6m unspliced width. Weight - 1.4 kg per sqm, Tensile strength - > 9 N/ mm², Elongation - > 300 %, Tear resistance - > 35kN/m, Brittleness point - < -45 ° C, Water absorption - < 2 % Provide EPDM membrane, splice tape, primer and bonding adhesive that are FM approved . Identify materials with FM Approvals markings. All the materials used should be from the same manufacturer.				



	A	B	C	D	E	F
0						
1	S.no	Equipment	Minimum EER at Full Load (Cooling Mode)	Minimum COP at Full Load (Cooling Mode)	Rate per Tr. (W.O. Tax)	
2	1	VRF System	3.02		53000.00	
3	2	VRF System	3.65		59000.00	
4						
5	3	Water Cooled Chiller-Centrifugal Type (< 150 Tr.)		5.4	56000.00	
6	4	Water Cooled Chiller-Centrifugal Type (150 Tr. To 300 Tr.)		6.1	60000.00	
7	5	Water Cooled Chiller-Centrifugal Type (> 300 Tr.)		6.3	70000.00	
8						

Annexure 4: Compliance Forms

Whole Building Performance Method Compliance Form

Haryana Energy Conservation Building Code WBP Compliance Form

Project Info	Project Address: "Government Nehru College" Building at Sector-16, Faridabad	Date
		For Building Department Use
	Project Built-up Area [m ²]: 34396.3	
	Project Above-grade Area [m ²]: 34396.3	
	Project Conditioned Area [m ²]: 12039.8	
	Applicant Name and Address	
	Project Climatic Zone: Composite	

Building Classification	<input type="checkbox"/> Hospitality	<input type="checkbox"/> Business
	<input type="checkbox"/> Health Care	<input checked="" type="checkbox"/> Educational
	<input type="checkbox"/> Assembly	<input type="checkbox"/> Shopping Complex

Project Description	<input checked="" type="checkbox"/> New Building	<input type="checkbox"/> Addition	<input type="checkbox"/> Alteration
	<input type="checkbox"/> Self-occupied	<input type="checkbox"/> Core and Shell	<input type="checkbox"/> Mixed-Use
Compliance is sought for Energy efficiency level	<input checked="" type="radio"/> ECBC Compliant	<input type="radio"/> ECBC+ Compliant	<input type="radio"/> SuperECBC Compliant
EPI Ratio			0.85

The following information is necessary to check a building permit application for compliance with the Whole Building Performance Method requirements in the Haryana Energy Conservation Building Code.

Applicability			Code Section	Component	Information Required	Location on Plans	Building Department Notes
Yes	No	N/A					
Whole Building Performance Method							
✓			9.1	General			
✓			9.1.2	Compliance	As per specified in the code		
✓			9.1.3	Annual Energy Use	As per specified in the code		
✓			9.1.4	Tradeoff Limited to Building Permit	As per specified in the code		

✓			9.1.5	Documentation Requirements	As per specified in the code		
✓			9.2	Mandatory Provisions			
✓			4	Building Envelope			
✓			4.2	Mandatory Requirement	As per specified in the code		
✓			5	Comfort System and Controls			
✓			5.2	Mandatory Requirement	As per specified in the code		
✓			6	Lighting and Controls			
✓			6.2	Mandatory Requirement	As per specified in the code		
✓			7	Electrical & Renewable Energy System			
✓			7.2	Mandatory Requirement	As per specified in the code		
✓			9.3	Simulation Requirements	As per specified in the code, Bureau of Energy Efficiency Approved Software for Demonstrating Compliance with ECBC in Table 14-1		
✓			9.4	WBP Compliance Report	As per HECBC Section 9.0		