

SCHOOL OF BUILDING AND ENVIRONMENT
DEPARTMENT OF ARCHITECTURE
PROFESSIONAL TRAINING REPORT FORMAT GUIDELINES

Sequence of the **A3 Formats** to be bounded in the Practical Training Report

Title Page –	Refer Annexure - I
Bonafide Certificate –	Refer Annexure - II
Declaration –	Refer Annexure – III
Acknowledgements – Order of names to be acknowledged -	Refer Annexure – IV
Confirmation letter	Annexure – V
Joining Letter	Annexure – VI
Weekly Report (Xerox copy of 2 weeks in one A3 sheet)	Annexure – VII
Work diary	Refer Annexure – VIII
Consolidated Certificate (Experience)	Annexure – IX
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Note: Bring the original copy of the following

- **Letter of consent to appoint you as a trainee**
- **Confirmation letter, Joining Letter, Monthly Report, Consolidated Certificate**

PROFESSIONAL TRAINING REPORT

Submitted in partial fulfillment of the requirements for the award of
Master of Architecture degree in Sustainable Architecture

by

Selva Priyadharshan.B (39890016)



SCHOOL OF BUILDING AND ENVIRONMENT
DEPARTMENT OF ARCHITECTURE

SATHYABAMA
INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)
Accredited with Grade "A" by NAAC
JEPPIAAR NAGAR, RAJIV GANDHI SALAI, CHENNAI - 600 119

DEC 2020



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)

(Est U/s(3) of UGC Act,1956) Accredited with Grade "A" by NAAC (A Christian Minority Institution)

JEPPIAAR NAGAR, RAJIV GANDHI SALAI, CHEMMENCHERY, CHENNAI – 600119. TAMILNADU.

PHONE: 2450 1443/9941912481 INTERNET: www.sathyabama.ac.in

E-mail: archhod@sathyabama.ac.in



**SCHOOL OF BUILDING AND ENVIRONMENT
DEPARTMENT OF ARCHITECTURE
M. Arch (Sustainable Architecture)**

**PROFESSIONAL TRAINING PORTFOLIO (S89 INT)
DEC 2020**

Name of the Student : Selva Priyadharshan.B

Reg No. : 39890016

Semester : III

Batch : 2019-2021

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PHONE: 2450 1443/9941912481 INTERNET: www.sathyabama.ac.in

E-mail: archhod@sathyabama.ac.in

DEPARTMENT OF ARCHITECTURE

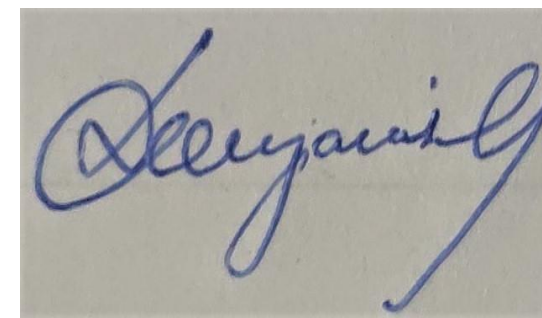
M. Arch (Sustainable Architecture)

BONAFIDE CERTIFICATE

This is to certify that the professional training (S89 INT) is the work of **Selva Priyadharshan.B (39890016)** who had undergone training in **Earthonomic Engineers Private Limited in Adyar, Chennai** and has been monitored by the continuous assessment during **Dec 2020 to Jan 2021**

DR. DEVYANI GANGOPADHYAY
DEAN,

School of Building and Environment
Department of Architecture



Submitted for Viva voce Examination held on _____



Internal Examiner

External Examiner

SATHYABAMA

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PHONE: 2450 1443/9941912481 INTERNET: www.sathyabama.ac.in

E-mail: archhod@sathyabama.ac.in



DECLARATION

I **Selva Priyadharshan.B** hereby declare that the Professional Training Report (**Dec 2020 to Jan 2021**) done by me under the guidance of **Mr. Girish R Visvanathan** (**Director of Earthonomic Engineers Private Limited**) is submitted in partial fulfillment of the requirements for the completion of practical training session.

DATE :

PLACE :

SIGNATURE OF CANDIDATE

ACKNOWLEDGEMENT

I am pleased to acknowledge my sincere thanks to Board of Management of **SATHYABAMA** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey my thanks to **Dr. Devyani Gangopadhyay**, Dean and Head of Department , School of building and Environment, Dept. of architecture for providing me necessary support and details at the right time during the progressive training session.

I would like to express my sincere and deep sense of gratitude to **Mr. Girish R Visvanathan** (**Director of Earthonomic Engineers Private Limited**) for his valuable guidance, suggestions and constant encouragement paved way for the successful completion of my project work. My sincere thanks to **Ar.Sheetal Kalamkar**, Professional Training Coordinator for her motivation.

I wish to express my thanks to all Teaching and Non-teaching staff members of the Department of Architecture who were helpful in many ways for the completion of the project.

Also, thanks to **Mr. Siva Sankaran.R** (MANAGER-TECHNICAL) and **Mr. Prabhakaran.S** (MANAGER-TECHNICAL) for the guidance during this internship.

Earthonomic Engineers Private Limited

Registered office: F2 Ashok Castle, 47, 12th Avenue

Ashok Nagar, Chennai – 600083

Email: info@earthonomic.com

Website: www.earthonomic.com

GSTIN: 33AAFCE2933A1ZA



Earthonomic Engineers Private Limited

Registered office: F2 Ashok Castle, 47, 12th Avenue

Ashok Nagar, Chennai – 600083

Email: info@earthonomic.com

Website: www.earthonomic.com

GSTIN: 33AAFCE2933A1ZA



CONFIRMATION LETTER

(Annexure –V)

To

The Head of the Department,

Sathyabama Institute of Science and Technology

Rajiv Gandhi Salai, Jeppiaar Nagar,

Chennai - 600119,

Tamil Nadu.

Subject: Trainee Confirmation for Dec2020 to Jan2021

Respected Madam,

I **Prabhakaran.S** accept **Selva Priyadharshan .B** bearing Reg.no **39890016** Pursuing 3rd semester M.Arch Department of Architecture in Sathyabama Institute of Science and Technology as an intern and Confirm his internship program with us for the period of one month (December 2020 to January 2021).

Thanks and Regards,

Prabhakaran.S

(Manager – Technical)

Earthonomic Engineers Private Limited,

Adyar, Chennai - 600020.

Registered Office: F2 Ashok Castle, 47, 12th Avenue, Ashok Nagar, Chennai, Tamilnadu 600083

Business Office : B4, Yamuna Apartments, 4th Street, Parameshwari Nagar, Adyar, Chennai - 600020

JOINING LETTER

(Annexure –VI)

To

The Head of the Department,

Sathyabama Institute of Science and Technology

Rajiv Gandhi Salai, Jeppiaar Nagar,

Chennai - 600119,

Tamil Nadu.

Subject: Joining letter for internship program.

Respected Madam,

This is to inform **Selva Priyadharshan .B** bearing Reg.no **39890016** Pursuing 3rd semester M.Arch Department of Architecture in Sathyabama Institute of Science and Technology, has joined our office as an intern for his internship program for the academic year 2020-2021 (11th December onwards) .

Regards and Thanks,

Prabhakaran.S

(Manager – Technical)

Earthonomic Engineers Private Limited,

Adyar, Chennai - 600020.

Registered Office: F2 Ashok Castle, 47, 12th Avenue, Ashok Nagar, Chennai, Tamilnadu 600083

Business Office : B4, Yamuna Apartments, 4th Street, Parameshwari Nagar, Adyar, Chennai - 600020

WEEKLY REPORT

(Annexure –VII)



SATHYABAMA

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www.sathyabama.ac.in



DEPARTMENT OF ARCHITECTURE - M. Arch (Sustainable Architecture)

Professional training Report 2021

(Continuous progress report of the trainee architect/Project Manager for the period of 30 working days in the office to be submitted to HOD by the Trainee in charge of the organisation)

1. Name of the Office / Organization: EARTHONOMIC ENGINEERS PRIVATE LIMITED

2. Address and contact number: Yamuna B4, 4th St, Parameshwari Nagar,
Adyar, Chennai – 600020.
+91 6379181440, 4479635984

3. Name of the Student: B. SELVA PRIYADHARSHAN

4. Duration: From 11.12.2020 To 19.12.2020

5. Total number of days: 8

6. Evaluation of performance criteria shall be on

(Note: Kindly grade the student as per his overall performance in the office during the assessment month, which will be converted to the allotted 40 marks by the department.)

Description of works	Excellent	Good	Fair	Poor	NA
Understanding of office culture	✓				
Participation in the office	✓				
Reading of drawings	✓				
Presentation techniques		✓			
Model making works	✓				
Understanding of construction works	✓				
Drafting skills (Manual / Computer)	✓				
Site supervision / Discussion with clients	✓				
Adherence to time schedule		✓			
Other computer skills	✓				
File and office maintenance	✓				
Coordination with other consultants	✓				

Overall Grading:	7
------------------	---

(A – 8.0, B – 7.0, C – 6.0, D – 5.5, E – 5.0, F – <5)

7. Any other Remarks:

He has provided his completed involvement in the projects and completed the requirements on time.

8. Signature of the Head of the Office / Organization (With Seal):

B. Prabakaran



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
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DEPARTMENT OF ARCHITECTURE - M. Arch (Sustainable Architecture)

Professional training Report 2021

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1. Name of the Office / Organization: EARTHONOMIC ENGINEERS PRIVATE LIMITED

2. Address and contact number: Yamuna B4, 4th St, Parameshwari Nagar,
Adyar, Chennai – 600020.
+91 6379181440, 4479635984

3. Name of the Student: B. SELVA PRIYADHARSHAN

4. Duration: From 21.12.2020 To 26.12.2020

5. Total number of days: 5

6. Evaluation of performance criteria shall be on

(Note: Kindly grade the student as per his overall performance in the office during the assessment month, which will be converted to the allotted 40 marks by the department.)

Description of works	Excellent	Good	Fair	Poor	NA
Understanding of office culture	✓				
Participation in the office	✓				
Reading of drawings	✓				
Presentation techniques		✓			
Model making works	✓				
Understanding of construction works	✓				
Drafting skills (Manual / Computer)	✓				
Site supervision / Discussion with clients	✓				
Adherence to time schedule		✓			
Other computer skills	✓				
File and office maintenance	✓				
Coordination with other consultants	✓				

Overall Grading:	8
------------------	---

(A – 8.0, B – 7.0, C – 6.0, D – 5.5, E – 5.0, F – <5)

7. Any other Remarks:

He has provided his completed involvement in the projects and completed the requirements on time.

8. Signature of the Head of the Office / Organization (With Seal):

B. Prabakaran



SATHYABAMA

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DEPARTMENT OF ARCHITECTURE - M. Arch (Sustainable Architecture)

Professional training Report 2021

(Continuous progress report of the trainee architect/Project Manager for the period of 30 working days in the office to be submitted to HOD by the Trainee in charge of the organisation)

1. Name of the Office / Organization: EARTHONOMIC ENGINEERS PRIVATE LIMITED

2. Address and contact number: Yamuna B4, 4th St, Parameshwari Nagar,
Adyar, Chennai - 600020.
+91 6379181440, 4479635984

3. Name of the Student: B. SELVA PRIYADHARSHAN

4. Duration: From 28.12.2020 To 2.1.2021

5. Total number of days: 5

6. Evaluation of performance criteria shall be on

(Note: Kindly grade the student as per his overall performance in the office during the assessment month, which will be converted to the allotted 40 marks by the department.)

Description of works	Excellent	Good	Fair	Poor	NA
Understanding of office culture	✓				
Participation in the office	✓				
Reading of drawings	✓				
Presentation techniques	✓				
Model making works	✓				
Understanding of construction works	✓				
Drafting skills (Manual / Computer)	✓				
Site supervision / Discussion with clients	✓				
Adherence to time schedule	✓				
Other computer skills	✓				
File and office maintenance	✓				
Coordination with other consultants	✓				

Overall Grading:	8
------------------	---

(A - 8.0, B - 7.0, C - 6.0, D - 5.5, E - 5.0, F - <5)

7. Any other Remarks:

He has provided his completed involvement in the projects and completed the requirements on 01.01.2021.

8. Signature of the Head of the Office / Organization (With Seal):

B. Prabhakaran
EARTHONOMIC ENGINEERS PVT. LTD.



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

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DEPARTMENT OF ARCHITECTURE - M. Arch (Sustainable Architecture)

Professional training Report 2021

(Continuous progress report of the trainee architect/Project Manager for the period of 30 working days in the office to be submitted to HOD by the Trainee in charge of the organisation)

1. Name of the Office / Organization: EARTHONOMIC ENGINEERS PRIVATE LIMITED

2. Address and contact number: Yamuna B4, 4th St, Parameshwari Nagar,
Adyar, Chennai - 600020.
+91 6379181440, 4479635984

3. Name of the Student: B. SELVA PRIYADHARSHAN

4. Duration: From 4.1.2021 To 11.1.2021

5. Total number of days: 7

6. Evaluation of performance criteria shall be on

(Note: Kindly grade the student as per his overall performance in the office during the assessment month, which will be converted to the allotted 40 marks by the department.)

Description of works	Excellent	Good	Fair	Poor	NA
Understanding of office culture	✓				
Participation in the office	✓				
Reading of drawings	✓				
Presentation techniques	✓				
Model making works	✓				
Understanding of construction works	✓				
Drafting skills (Manual / Computer)	✓				
Site supervision / Discussion with clients	✓				
Adherence to time schedule	✓				
Other computer skills	✓				
File and office maintenance	✓				
Coordination with other consultants	✓				

Overall Grading:	8
------------------	---

(A - 8.0, B - 7.0, C - 6.0, D - 5.5, E - 5.0, F - <5)

7. Any other Remarks:

He has provided his completed involvement in the projects and completed the requirements on 11.01.2021.

8. Signature of the Head of the Office / Organization (With Seal):

B. Prabhakaran
EARTHONOMIC ENGINEERS PVT. LTD.



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INSTITUTE OF SCIENCE AND TECHNOLOGY
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DEPARTMENT OF ARCHITECTURE - M. Arch (Sustainable Architecture)

Professional training Report 2021

(Continuous progress report of the trainee architect/Project Manager for the period of 30 working days in the office to be submitted to HOD by the Trainee in charge of the organisation)

1. Name of the Office / Organization: EARTHONOMIC ENGINEERS PRIVATE LIMITED

2. Address and contact number: Yamuna B4, 4th St, Parameshwari Nagar,
Adyar, Chennai - 600020.
+91 6379181440, 4479635984

3. Name of the Student: B. SELVA PRIYADHARSHAN

4. Duration: From 19.1.2021 To 23.1.2021

5. Total number of days: 5

6. Evaluation of performance criteria shall be on

(Note: Kindly grade the student as per his overall performance in the office during the assessment month, which will be converted to the allotted 40 marks by the department.)

Description of works	Excellent	Good	Fair	Poor	NA
Understanding of office culture	✓				
Participation in the office	✓				
Reading of drawings	✓				
Presentation techniques	✓				
Model making works	✓				
Understanding of construction works	✓				
Drafting skills (Manual / Computer)	✓				
Site supervision / Discussion with clients	✓				
Adherence to time schedule	✓				
Other computer skills	✓				
File and office maintenance	✓				
Coordination with other consultants	✓				

Overall Grading:

B

(A - 8.0, B - 7.0, C - 6.0, D - 5.5, E - 5.0, F - <5)

7. Any other Remarks:

He has provided his completed involvement in the projects and completed the requirements on time.

8. Signature of the Head of the Office / Organization (With Seal)



Earthonomic Engineers Private Limited

Registered office: F2 Ashok Castle, 47, 12th Avenue

Ashok Nagar, Chennai - 600083

Email: info@earthonomic.com

Website: www.earthonomic.com

GSTIN: 33AAFCE2933A1ZA



Consolidated Certificate (Experience)

(Annexure -IX)

To,

The Head of the Department

Sathyabama institute of science and Technology,

Rajiv Gandhi Salai,

Jeppiaar Nagar,

Chennai -600019.

Subject: Successful completion of 1month long professional training.

Respected Madam,

This is to certify that '**Selva Priyadharshan. B**' bearing Reg. No **39890016** of 3rd semester M. Arch (SA), Department of Architecture in Sathyabama Institute of Science and Technology, has successfully completed 1 month long professional training by working in our office "Earthonomic Engineers Private Limited".

He was associated as a trainee for the period between (11th Dec 2020 - 23rd Jan 2021).

He Excelled in his work as an intern in "Earthonomic Engineers Private Limited, Adyar, Chennai." during his period of internship.

Thanks and Regards

Prabhakaran.S

(Manager - Technical)

Earthonomic Engineers Private Limited,

Adyar, Chennai - 600020.

Registered Office: F2 Ashok Castle, 47, 12th Avenue, Ashok Nagar, Chennai, Tamilnadu - 600083

Business Office : B4, Yamuna Apartments, 4th Street, Parameshwari Nagar, Adyar, Chennai - 600020



SATHYABAMA

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(Annexure – VIII)

DEPARTMENT OF ARCHITECTURE

M. Arch (Sustainable Architecture) ----- WORK DIARY (DEC 2020 - JAN 2021)

Continuous Assessment Report for Professional training

(Continuous progress report of the trainee architect/Project Manager for the period of 30 working

1. Name of the office / organization : **EARTHONOMIC ENGINEERS**

Yamuna B4, 4th St, Parameshwari Nagar,
Adyar, Chennai, Tamil Nadu 600020.

+91 6379181440, 4479635984

info@earthonomic.com

2 Student name : **B. SELVA PRIYADHARSHAN**

3. Duration : From 11.12.2020 To 23.01.2021

4. Total No. of days : **30**

5. Evaluation of Performance criteria shall be on

days in the office to be submitted to HOD by the Trainee attending the training session)

- * **Note:** Kindly grade the student as per his/her overall performance in the office during the assessment month;
- * which will be converted to the allotted marks by the department.

* * * DATE	* * * DESCRIPTION OF WORK	* * * EXCELLENT	* * * GOOD	* * * FAIR	* * * POOR	* * * NA
* 11/12/2020	Guindy office modelling and Daylight analysis		✓			
* 12/12/2020	Guindy office modelling and Daylight analysis		✓			
* 13/12/2020	SUNDAY					
* 14/12/2020	LEED daylight compliance presentation		✓			
* 15/12/2020	Study on material <u>conservation</u> by waste handling and sustainable building materials.		✓			
* 16/12/2020	Signature villa w1, Hyderabad Modelling and daylight analysis.		✓			
* 17/12/2020	Study on water conservation by using efficient fixtures and water treatment.		✓			
18/12/2020	Signature villa n1, hyderabad Modelling and daylight analysis.		✓			
19/12/2020	Signature villa n1, Hyderabad Report generation and Study on <u>RWH</u> , efficient irrigation techniques .		✓			
20/12/2020	SUNDAY					
21/12/2020	Signature villa w2, Hyderabad Modelling and daylight analysis.		✓			

* 22/12/2020	Signature villa w2, Hyderabad Report generation and Study on importance of metering and monitoring, use of native and adaptive species.		✓			
* 23/12/2020	Signature villa w3, Hyderabad Modelling and daylight analysis.		✓			
* 24/12/2020	HOLIDAY					
* 25/12/2020	Guindy office simulation review		✓			
* 26/12/2020	Signature villa w3, Hyderabad Report generation and study on energy conservation about properties of materials (<u>u</u> value), glasses (SHGC values)		✓			
* 27/12/2020	SUNDAY					
* 28/12/2020	Signature villa w4, Hyderabad Modelling and daylight analysis.		✓			
* 29/12/2020	Signature villa w4, Hyderabad Report generation and Study on HVAC basics.		✓			
* 30/12/2020	Signature villa E7, Hyderabad Modelling and daylight analysis.		✓			

* 31/12/2020	Signature villa E7, Hyderabad Report generation		✓			
* 1/1/2021	HOLIDAY					
* 2/1/2021	IGBC AP EXAMINATION		-----			
* 3/1/2021	SUNDAY					
* 4/1/2021	Guindy office report discussion		✓			
* 5/1/2021	Signature villa E5, Hyderabad Modelling and Daylight analysis.		✓			
* 6/1/2021	Signature villa W9, Hyderabad Report generation		✓			
* 7/1/2021	Light fixture view for villa in DIALUX		✓			
* 8/1/2021	Light fixture view for villa in DIALUX		✓			
* 9/1/2021	LIGHT CALCULATION REPORT		✓			
* 10/1/2021	SUNDAY					
11/1/2021	LIGHT CALCULATION REPORT		✓			
12/1/2021	HOLIDAY					
13/1/2021	HOLIDAY					
14/1/2021	HOLIDAY					

15/1/2021	HOLIDAY					
16/1/2021	HOLIDAY					
17/1/2021	HOLIDAY					
18/1/2021	SUNDAY					
19/1/2021	18- FLOOR RESIDENCE ECOTECH MODELLING AND DAYLIGHT ANALYSIS		✓			
20/1/2021	18- FLOOR RESIDENCE ECOTECH MODELLING AND <u>DAYLIGHT ANALYSIS</u>		✓			
21/1/2021	18- FLOOR RESIDENCE ECOTECH MODELLING <u>AND DAYLIGHT ANALYSIS</u>		✓			
22/1/2021	GUINDY OFFICE SECTIONAL VIEW AND GREEN BUILDING SYSTEMS DISCUSSION		✓			
23/1/2021	STUDY ON GREEN BUILDING RATING SYSTEMS.		✓			

- * Understanding of office culture and methodology
- Active Participation in the Project activities
- Documentation and tracking of project
- Presentation Skills developed
- Understanding of construction details & techniques
- Participation and contribution in project meetings
- Understanding of codes and standards
- Schedule preparation & tracking activities
- Preparation / Management of drawings
- Learning / Application of software in Projects
- Preparation of concept for projects
- Site Management / Discussion with clients

Overall Grading*	8
-------------------------	----------

(A – 8.0, B – 7.0, C – 6.0, D – 5.5, E – 5.0, F - <5)

7. Any other Remarks :

**8. Signature of the
Head of the Office /
Organization (With Seal):**

S. Prabhakar



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9.	PRESENTATIONS	
10.	CRITICAL OVERVIEW OF THE FIRM	

GENERAL

Firstly, I always wanted to have my job or Internship in a compact Firm which has quiet good number of projects and a small team. Because, I Believe that being in a small team helps to work in all fields and take up all responsibilities and learn a lot which will be very helpful when I need to start up my own firm. This certainly develops a lot of skills like understanding and convincing the client, Finding out the building materials which is good and economical, Understanding the practical difficulties that needs to be addressed on site during the time of execution.

Thereby, I found Mr. Girish R Visvanathan runs a compact Firm with a small capable team in Chennai and working on sustainable projects in more practical way. I had a look into his prior projects, which were unique. I admire their self- sustainability concepts which had very less impact on the environment. He was aware in the ecological aspects of the site, which inspired me further.

ABOUT THE FIRM:

The firm work towards developing sustainable environments for homes and organizations. Their primary aim is to provide the best options for sustainable living by creating high performance environments for everyone.

They aim to transform people's perception of "environment is cost" and strongly believe that going beyond compliance saves cost at the same time generates revenue. They are pioneers in providing a new lean and green paradigm that is ROI centric.

They assist architects and consultants to improve building designs, energy efficiency, selection of building materials, and optimize building economics, for residencies, institutions, offices, and factories.

APPROACH TO SUSTAINABILITY

In today's business setting, where organizations are realizing the importance of finding the right balance between economic, social, and environmental priorities, They provide a carefully orchestrated sustainability strategy that is vital to long-term success. Their strategies are integrated with existing initiatives and coordinated with an intelligent approach that evaluates the related risks and rewards. They aim to quantify and monetize impacts on sustainability initiatives beyond just financial return.

CORE COMPETENCIES AND TEAM EXPERTISE

- IGBC, LEED, ECBC, EDGE and GRIHA Accredited Professionals
- Trained Energy Modeling Software experts
- Architecture and Construction Experts
- HVAC, Thermal & Electrical Design Experts
- Lighting Design Experts

- Renewable Energy Specialists
- Commissioning and Energy Auditing Specialists
- Product Performance Analysts
- Phytoremediation Experts
- Organic Farming and Landscaping Experts
- Water Management and RWH Specialists

LEED v4.1

LEED® v4 is the framework and benchmark for the next generation of green buildings. **LEED v4** is the most inclusive and transparent **LEED** yet, driving meaningful reductions in GHG emissions associated with building construction and operations and putting a stronger emphasis on human health and wellbeing. LEED v4.1 is the next generation standard for green building design, construction, operations and performance.

CERTIFICATION LEVELS - UNCHANGED

Certification Levels

- Certified: 40 to 49 points
- Silver: 50 to 59 points
- Gold: 60 to 79 points
- Platinum: 80 + points



LEED v4 → LEED v4.1 Credit Changes (Building Design + Construction)

LEED v4.1 is the latest upgrade to the rating system. The technical development of LEED v4.1 was based on four key goals.

- Ensure leadership
- Increase achievability
- Expand the market
- Measure performance

CREDITS	LEED v4
Prerequisite	Minimum IAQ Performance
Prerequisite	Environmental Tobacco Smoke Control
1-2	Enhanced Indoor Air Quality Strategies
1-3	Low-Emitting Materials
1	Construction Indoor Air Quality Management Plan
1-2	Indoor Air Quality Assessment
1	Thermal Comfort
1-2	Interior Lighting
1-3	Daylight
1	Quality Views
1	Acoustic Performance

	Major changes	Minor Changes	No Changes
 Indoor Environmental Quality	EQp Minimum Indoor Air Quality	EQp Environmental Tobacco Smoke Control	EQp Minimum Acoustic Performance *
	EQc Low-Emitting Materials	EQc Enhanced Indoor Air Quality Strategies	EQc Interior Lighting
	EQc Indoor Air Quality Assessment	EQc Construction Indoor Air Quality Management Plan	EQc Quality Views
	EQc Acoustic Performance	EQc Thermal Comfort	
		EQc Daylight	

Daylight → Indoor Environmental Quality: **Possible 3 Points**

Requirements Provide manual or automatic (with manual override) glare-control devices for all regularly occupied spaces.

EQ Credit: Daylight

This prerequisite applies to

- ▶ BD+C: New Construction (1-3 points)
- ▶ BD+C: Core & Shell (1-3 points)
- ▶ BD+C: Schools (1-3 points)
- ▶ BD+C: Retail (1-3 points)
- ▶ BD+C: Data Centers (1-3 points)
- ▶ BD+C: Warehouses & Distribution Centers (1-3 points)
- ▶ BD+C: Hospitality (1-3 points)
- ▶ BD+C: Healthcare (1-2 points)

Select one of the following three options.

Option 1.

Simulation: Spatial Daylight Autonomy and Annual Sunlight Exposure
(1 3 points, 1-2 points Healthcare)

Table 1. Points for Option 1

	<i>New Construction, Core and Shell, Schools, Retail, Data Centers, Warehouses and Distribution Centers, Hospitality</i>	Healthcare
The average sDA _{300/50%} value for the regularly occupied floor area is at least 40%	1 point	1 point
The average sDA _{300/50%} value for the regularly occupied floor area is at least 55%	2 points	2 points
The average sDA _{300/50%} value for the regularly occupied floor area is at least 75%	3 points	Exemplary performance

Perform annual computer simulations for spatial daylight autonomy 300/50% (sDA_{300/50%}), and annual sunlight exposure1000,250 (ASE1000,250) as defined in IES LM-83-12 for each regularly occupied space. Healthcare projects must use each regularly occupied space located in the perimeter area determined under EQ Credit Quality Views. Additionally, calculate the average sDA_{300/50%} value for the total regularly occupied floor area. For any regularly occupied spaces with ASE1000,250 greater than 10%, identify how the space is designed to address glare. Points are awarded according to Table 1

Option 2. Simulation: Illuminance Calculations (1–3 points, 1-2 points Healthcare)

Perform computer simulations for illuminance at 9 a.m. and 3 p.m. on a clear-sky day at the equinox for each regularly occupied space. Healthcare projects should use the regularly occupied spaces located in the perimeter area determined under EQ Credit Quality Views. Demonstrate illuminance levels are between 300 lux and 3,000 lux at both 9 a.m. and 3 p.m. Spaces with view-preserving automatic (with manual override) glare-control devices may demonstrate compliance for only the minimum 300 lux illuminance level.

Points are awarded according to Table 2.

Table 2. Points for Option 2

<i>New Construction, Core and Shell, Schools, Retail, Data Centers, Warehouses and Distribution Centers, Hospitality</i>		<i>Healthcare</i>	
<i>Percentage of regularly occupied floor area</i>		<i>Percentage of regularly occupied floor area within perimeter area</i>	<i>Points</i>
55%	1	55%	1
75%	2	75%	2
90%	3	90%	Exemplary performance

- Calculate illuminance intensity for sun (direct component) and sky (diffuse component) for clear-sky conditions as follows:
- ▶ Use typical meteorological year data, or an equivalent, for the nearest available weather station.
 - ▶ Select one day within 15 days of September 21 and one day within 15 days of March 21 that represent the clearest sky condition.
 - ▶ Use the average of the hourly value for the two selected days.

Exclude blinds or shades from the model. Include any permanent interior obstructions. Moveable furniture and partitions may be excluded.

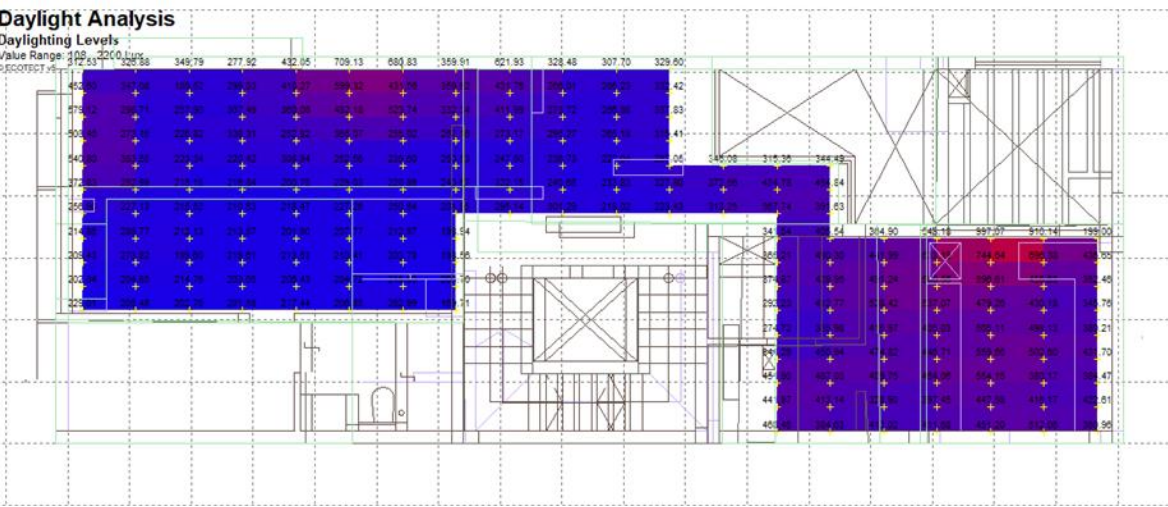
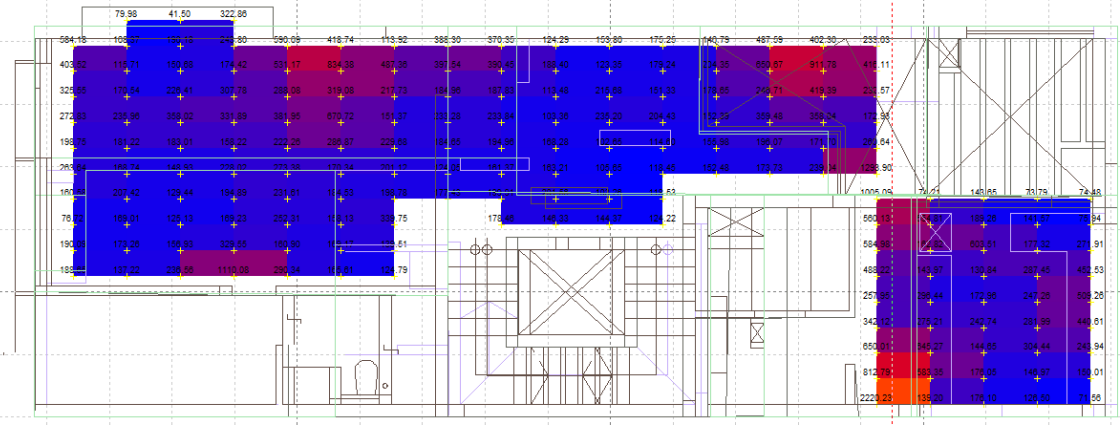
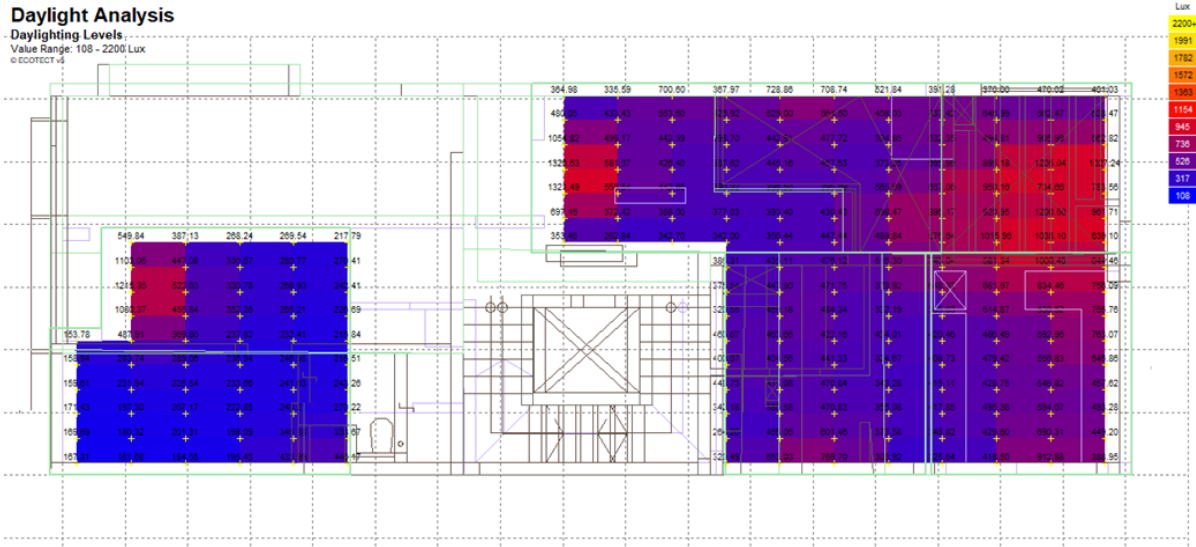
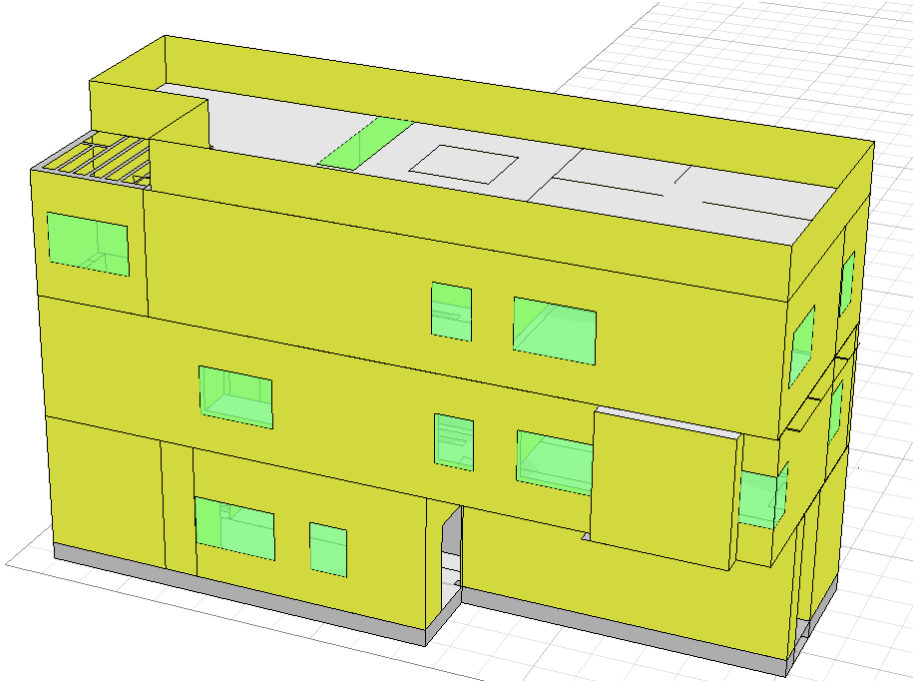
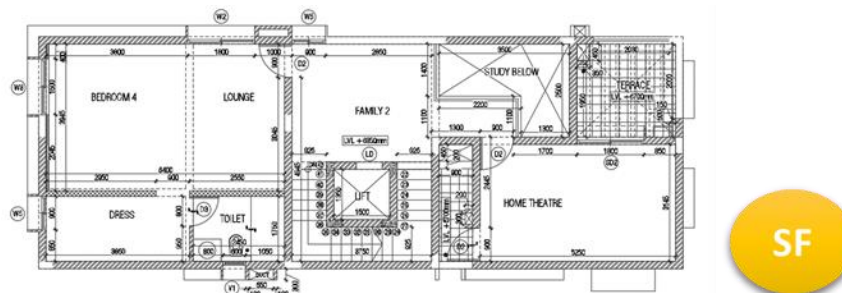
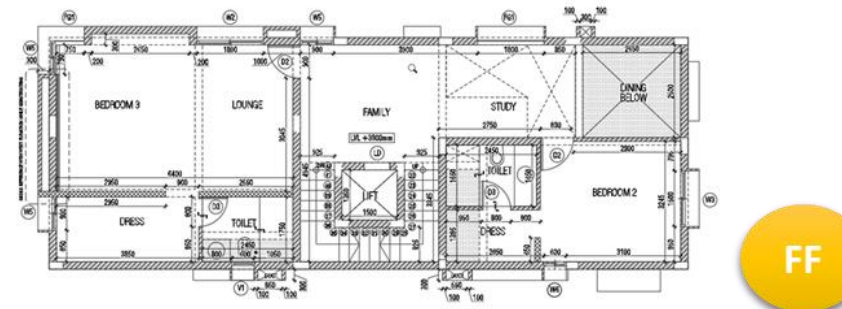
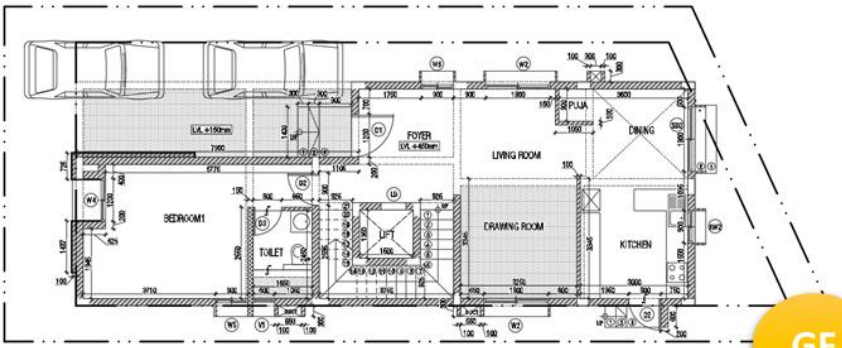
Option 3. Measurement (1-3 points, 1-2 points Healthcare)

Measure illuminance in each regularly occupied space. Healthcare projects should use the regularly occupied spaces located in the perimeter area determined under EQ Credit Quality Views. Achieve illuminance levels between 300 lux and 3,000 lux. Spaces with view-preserving automatic (with manual override) glare-control devices may demonstrate compliance for only the minimum 300 lux illuminance level. Points are awarded according to Table 3.

Table 3. Points for Option 3

<i>New Construction, Core and Schools, Schools, Retail, Data Centers, Warehouses and Distribution Centers, Hospitality</i>		<i>Healthcare</i>	
<i>Percentage of regularly occupied floor area</i>		<i>Percentage of regularly occupied floor area within perimeter area</i>	<i>Points</i>
55% at one time in the year	1	55% at one time in the year	1
75% at two times in the year	2	75% at two times in the year	2
90% at two times in the year	3	90% at two times in the year	exemplary performance

Signature villa W1, Hyderabad



BEDROOM (18.23 SQM)

Avg.lux: 351.40 lux

REG.OCCUPIED (42.93 SQM)

(LIVING, DINING, DRAWING, KITCHEN)

Avg.lux: 539.23 lux

BEDROOM3 (24.41 SQM)

Avg.lux: 349.13 lux

BEDROOM2 (12.27 SQM)

Avg.lux: 305.40 lux

FAMILY AND STUDY (19.64 SQM)

Avg.lux: 284.07 lux

BEDROOM4 (24.39 SQM)

Avg.lux: 274.25 lux

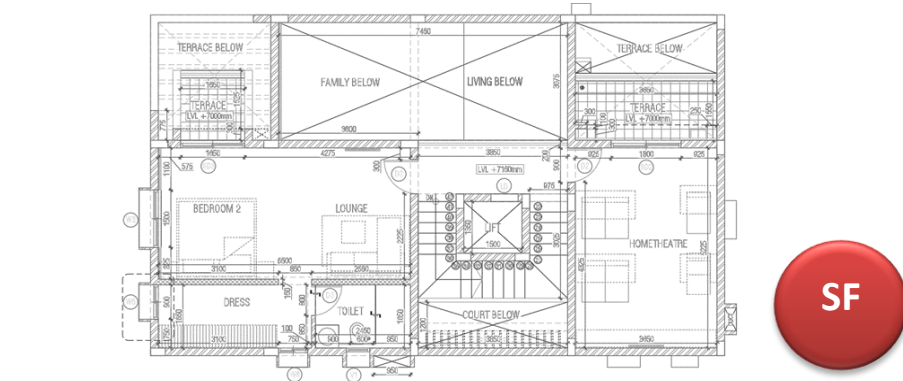
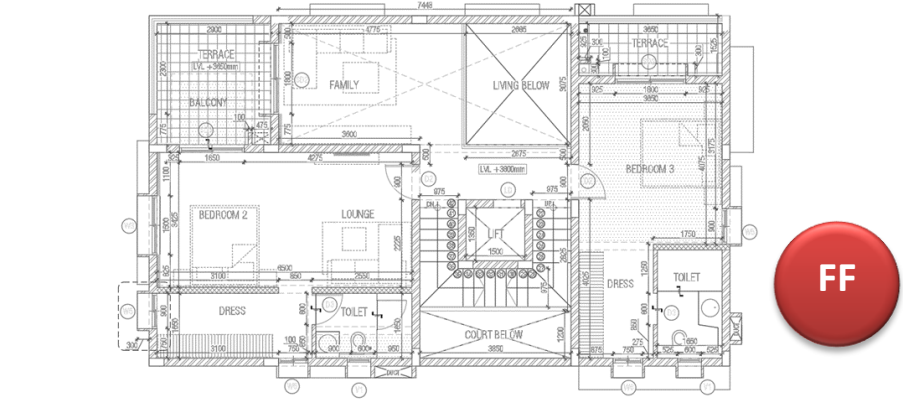
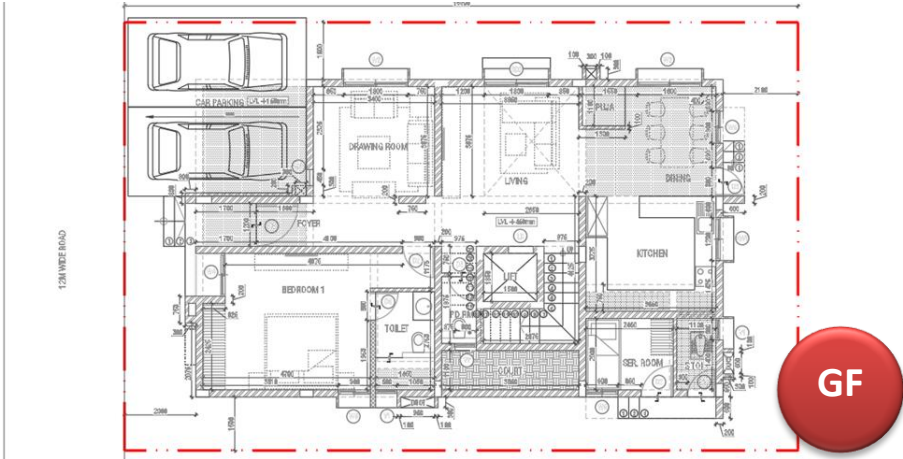
FAMILY (11.83 SQM)

Avg.lux: 188.02 lux

FLOOR TYPE	% OF DAYLIGHT ACHEIVED
GROUND FLOOR	100
FIRST FLOOR	97.65
SECOND FLOOR	99.9

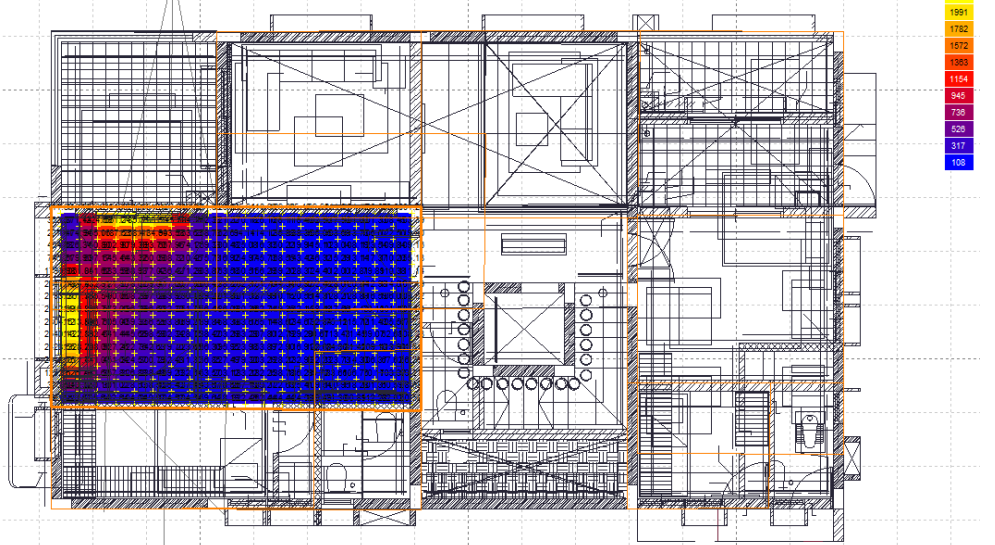
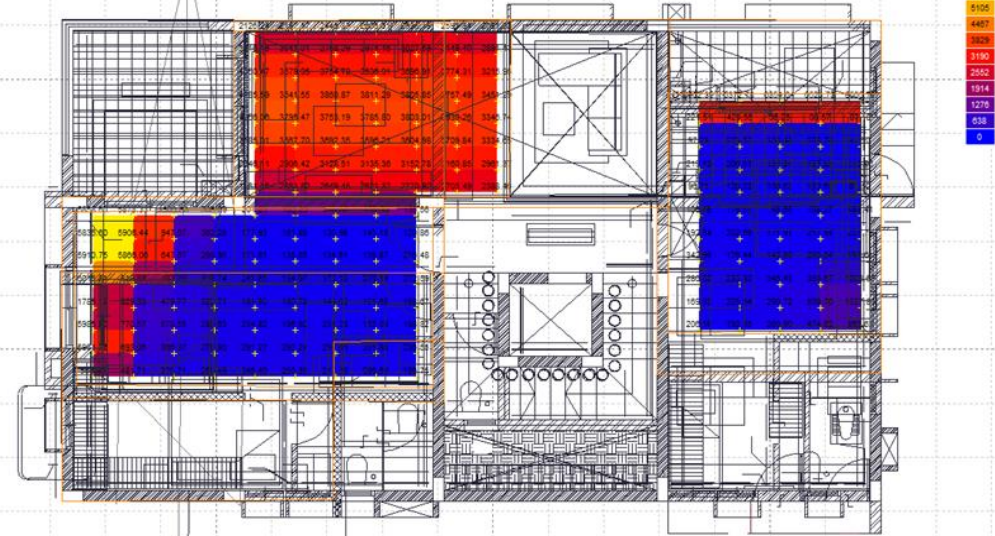
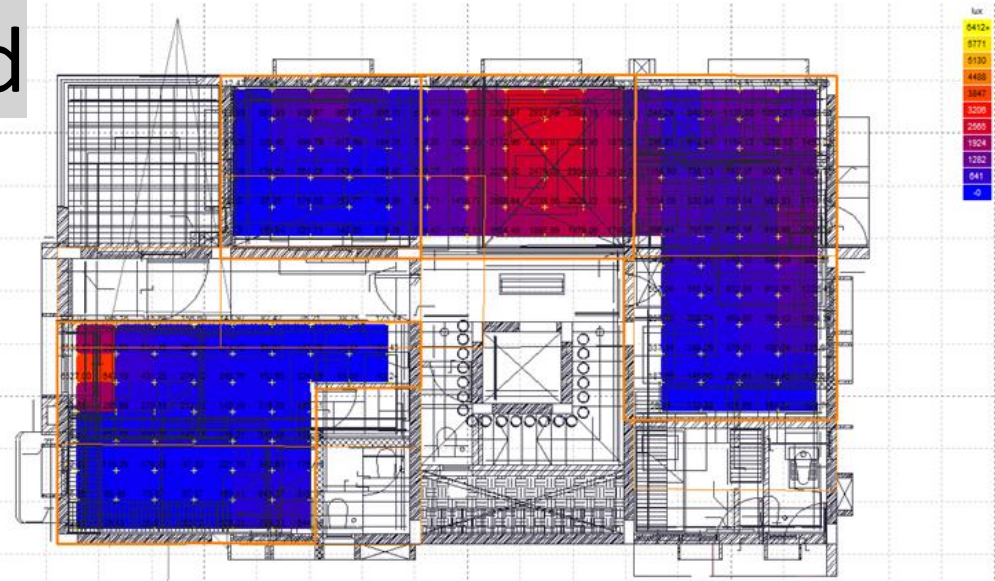
OVERALL % OF DAYLIGHT ACHEIVED – 99.1 %

Signature villa W2, Hyderabad



Daylight Analysis
Daylighting Levels
Value Range: 0 - 6381 lux
© ECOTECT v5

Average Value: 1640.31 lux
Daylight Analysis
Daylighting Levels
Value Range: 108 - 2200 lux
© ECOTECT v5



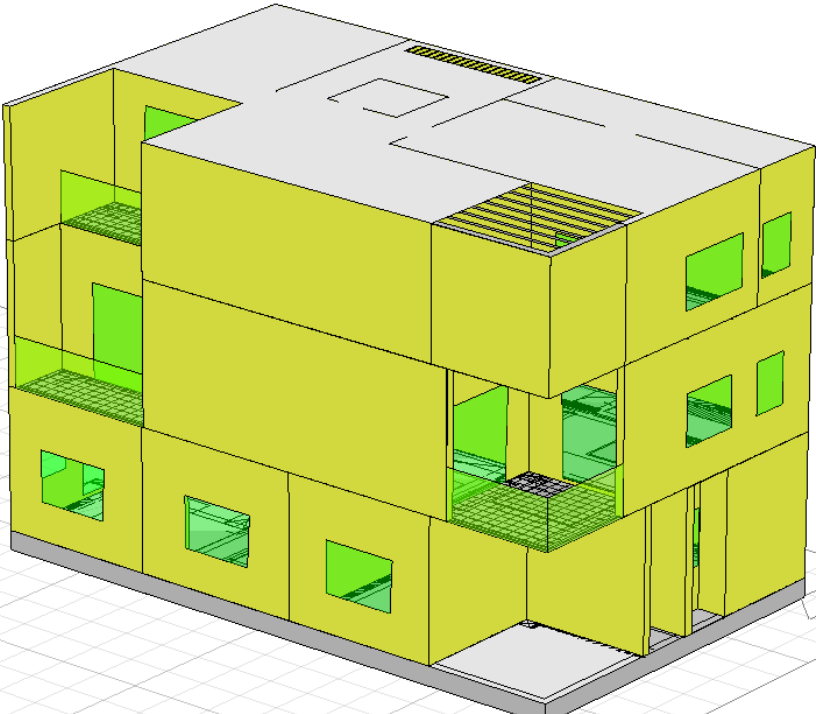
- BEDROOM (19.7 SQM) Avg: 385.73 LUX
- DRAWING (11.0 SQM) Avg: 329.53 LUX
- LIVING (12.5 SQM) Avg: 1826.6 LUX
- DINING AND KITCHEN (22.9 SQM) Avg: 681.5 LUX

FAMILY(14.4SQM)
Avg: 3279 LUX

BEDROOM2 (14.4SQM)
Avg: 907.5LUX

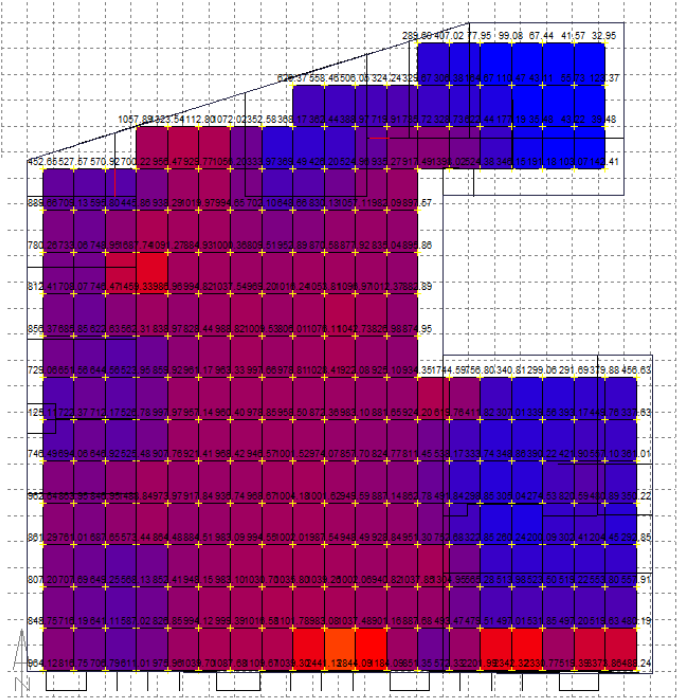
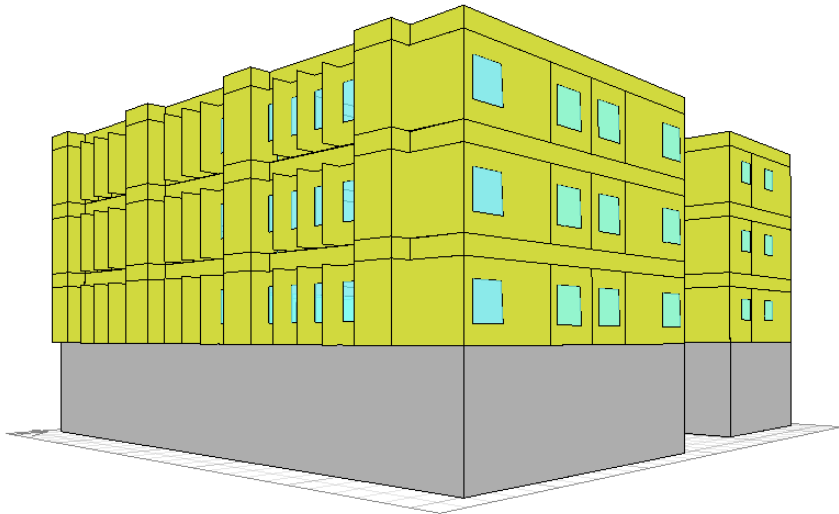
BEDROOM3 (14.4SQM)
Avg: 632.4 LUX

BEDROOM2 (21.6 SQM)
Avg: 391.1 LUX



FLOOR TYPE	% OF DAYLIGHT ACHEIVED
GROUND FLOOR	93.1
FIRST FLOOR	63.9
SECOND FLOOR	81.5
OVERALL % OF DAYLIGHT ACHEIVED—	79.5%

GUINDY OFFICE



Daylighting Levels

Contour Band (from-to)
108-208
208-308
308-408
408-508
508-608
608-708
708-808
808-908
908-1008
1008-1108
1108-1208
1208-1308
1308-1408
1408-1508
1508-1608
1608-1708
1708-1808
1808-1908
1908-2008
2008-2108
2108-2208
2208-2308
2308-2408
2408-2508
2508-2608
2608-2708
2708-2808
2808-2908
2908-3008

Second floor

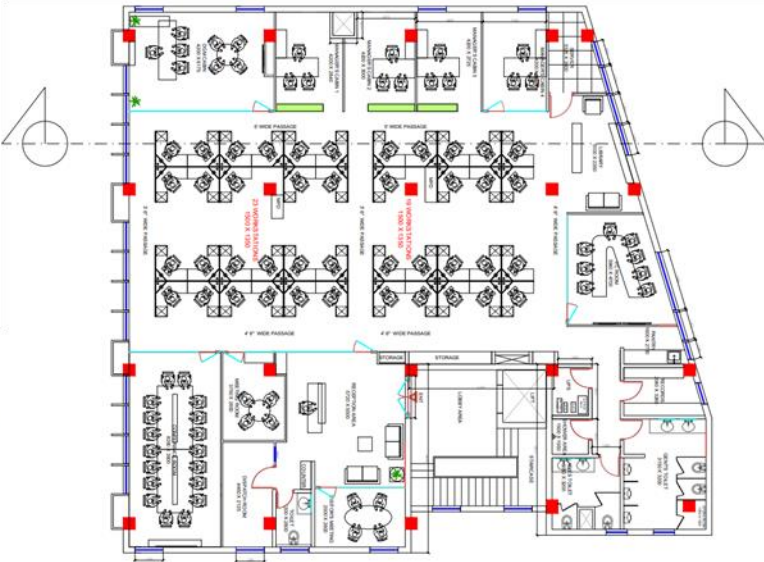
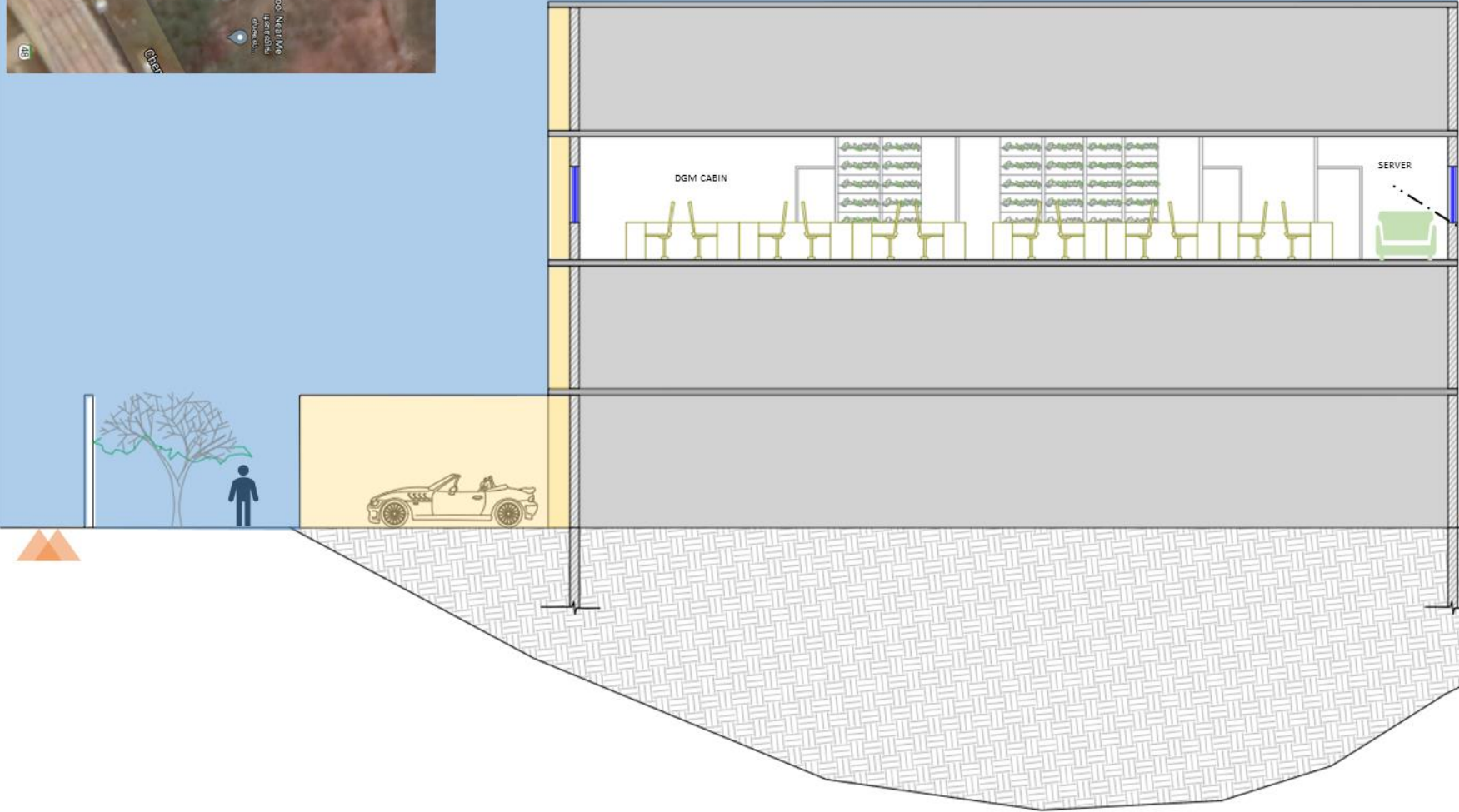
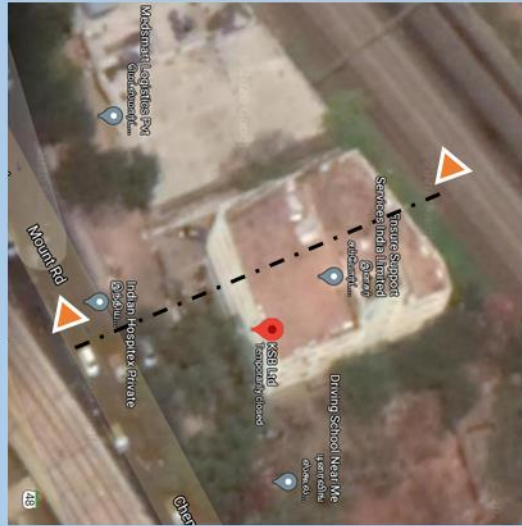
Second floor

	Within			Above	
	Pts	(%)		Pts	(%)
108-208	9	3.40		254	95.85
208-308	11	4.15		245	92.45
308-408	22	8.30		234	88.30
408-508	16	6.04		212	80.00
508-608	25	9.43		196	73.96
608-708	18	6.79		171	64.53
708-808	18	6.79		153	57.74
808-908	38	14.34		135	50.94
908-1008	56	21.13		97	36.60
1008-1108	25	9.43		41	15.47
1108-1208	3	1.13		16	6.04
1208-1308	1	0.38		13	4.91
1308-1408	2	0.75		12	4.53
1408-1508	2	0.75		10	3.77
1508-1608	0	0.00		8	3.02
1608-1708	1	0.38		8	3.02
1708-1808	1	0.38		7	2.64
1808-1908	0	0.00		6	2.26
1908-2008	0	0.00		6	2.26
2008-2108	0	0.00		6	2.26
2108-2208	1	0.38		6	2.26
2208-2308	0	0.00		5	1.89
2308-2408	2	0.75		5	1.89
2408-2508	1	0.38		3	1.13
2508-2608	0	0.00		2	0.75
2608-2708	0	0.00		2	0.75
2708-2808	0	0.00		2	0.75
2808-2908	1	0.38		2	0.75
2908-3008	0	0.00		1	0.38

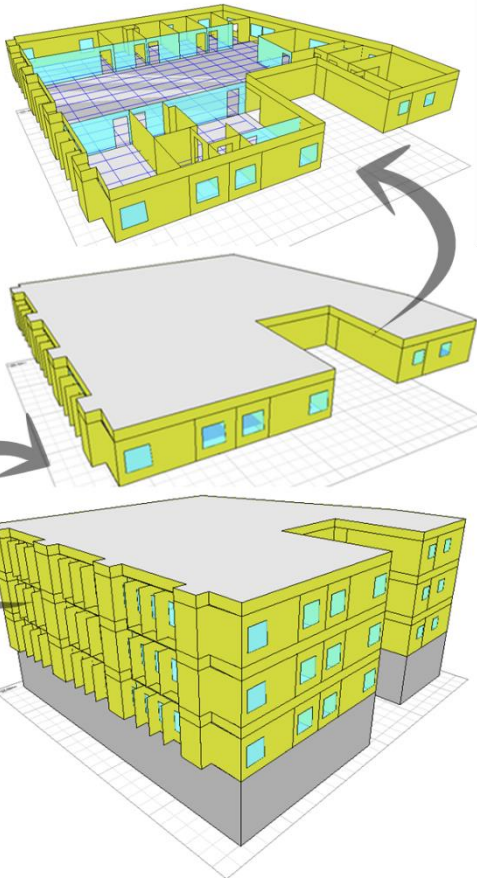
95.46%

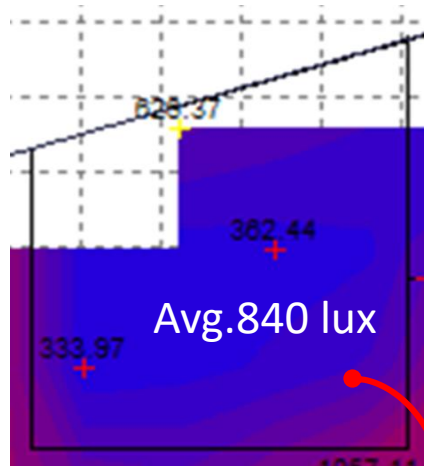
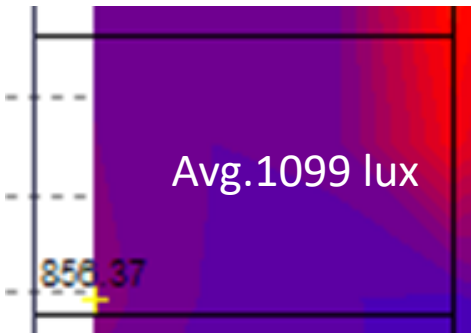
ECOTECT DAYLIGHT ANALYSIS

SECTIONAL VIEW

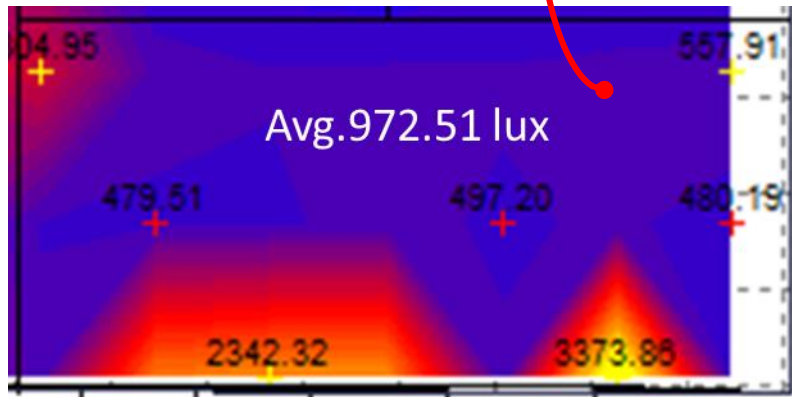
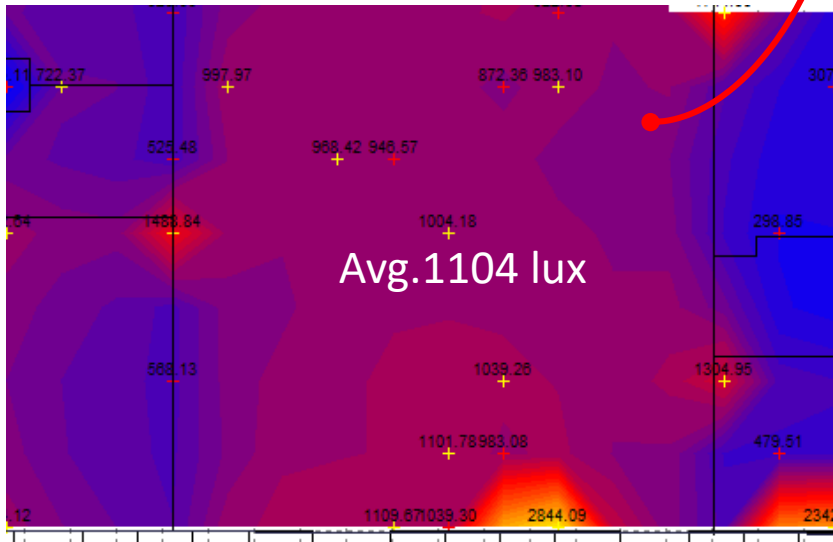
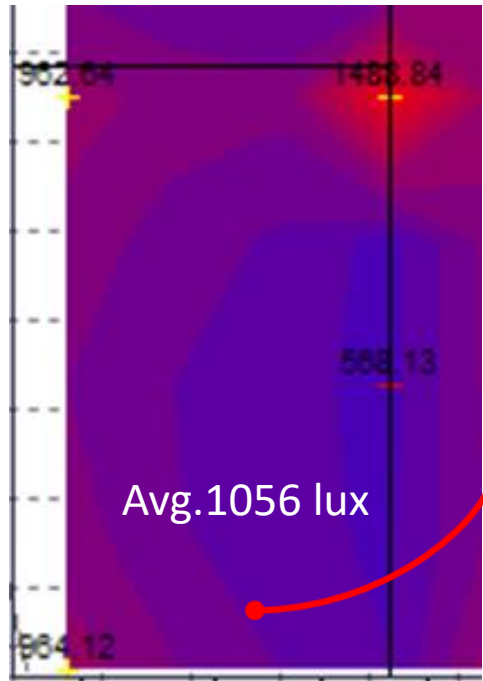
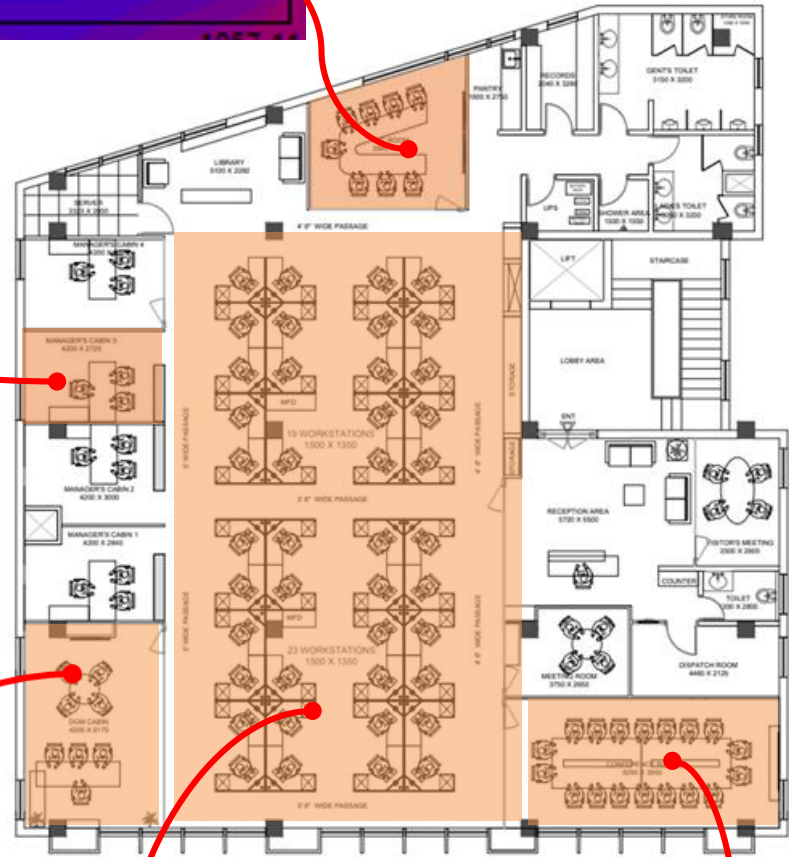


OFFICE ZONE





LUX LEVEL
INSIDE THE SPACE



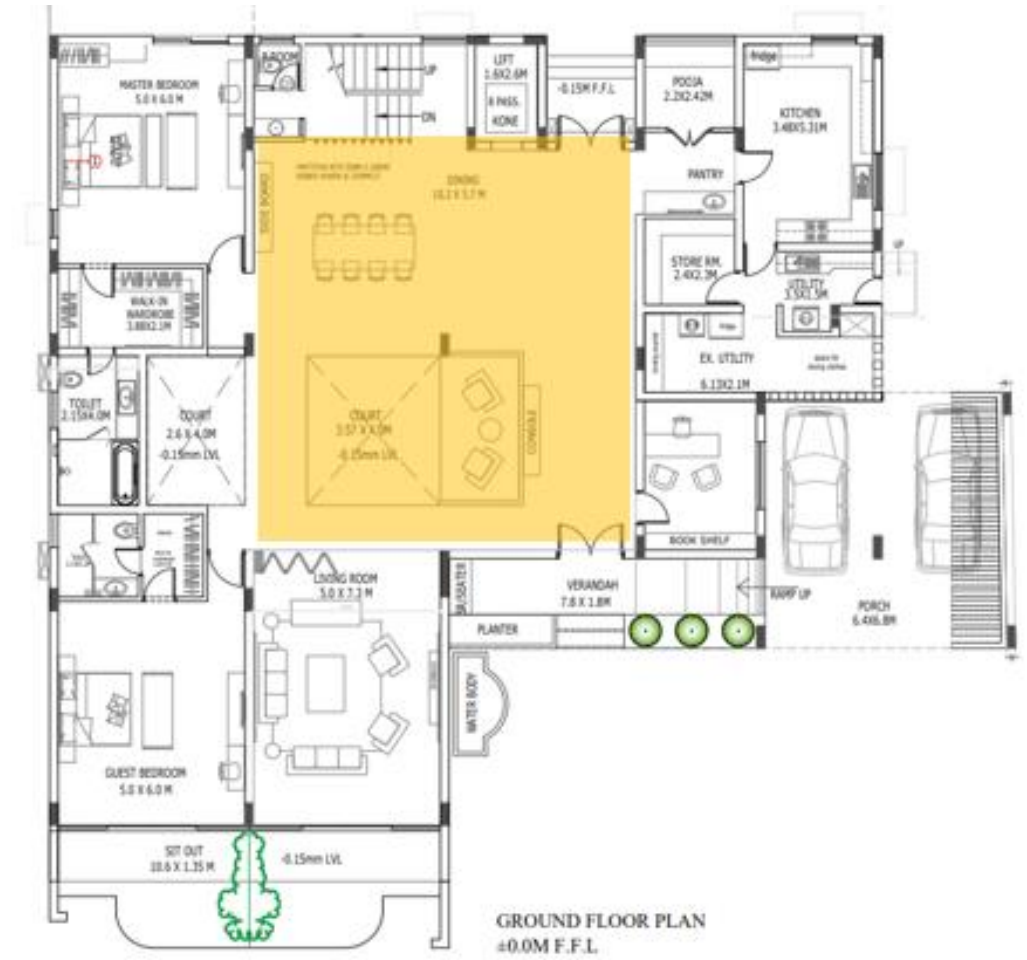
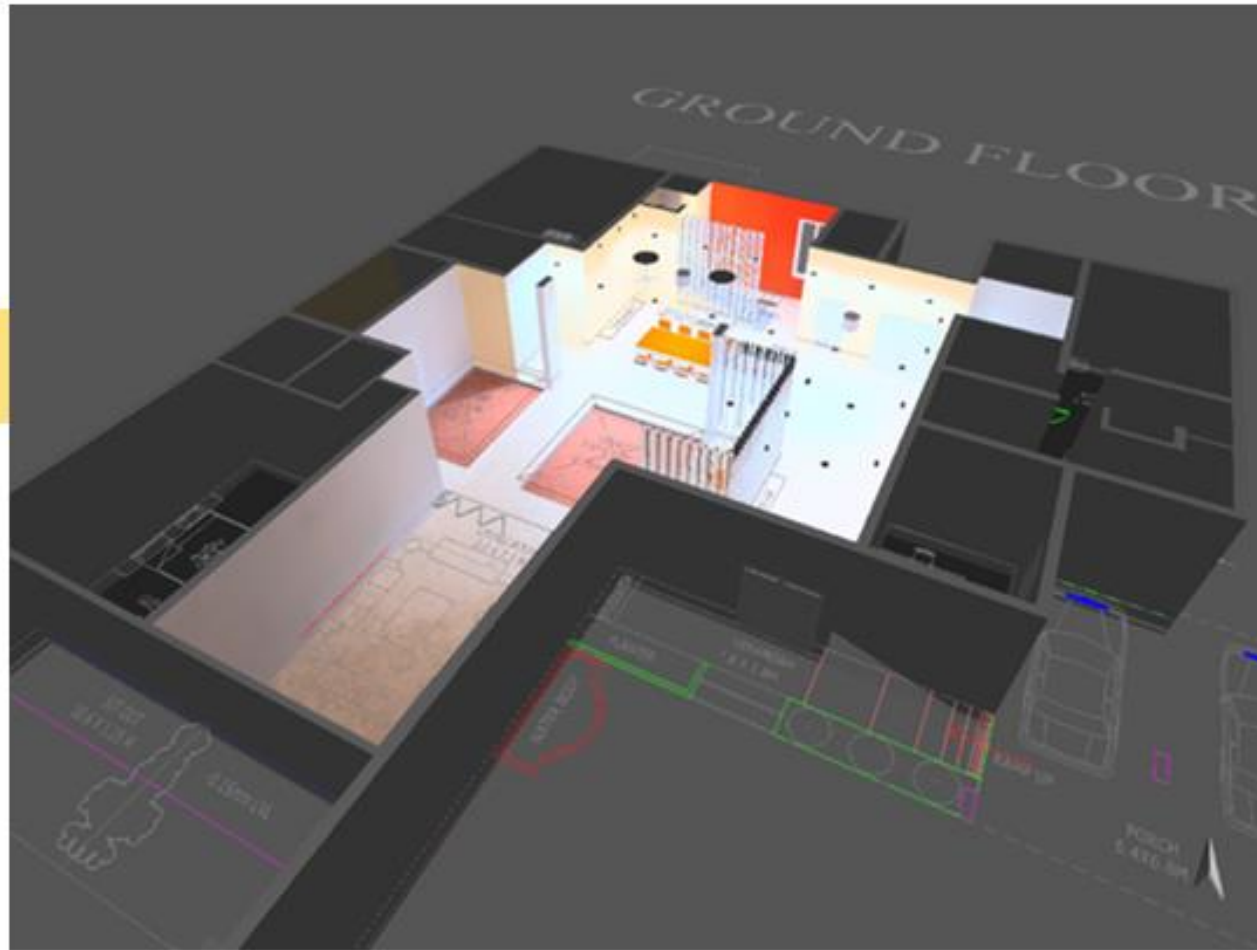
GLASS SELECTION

Showing all products for: #any air VLT #0-74 OLR #0-43 SHGC #0.1-1 U-Value #1-6 LSG #0.3-1.9

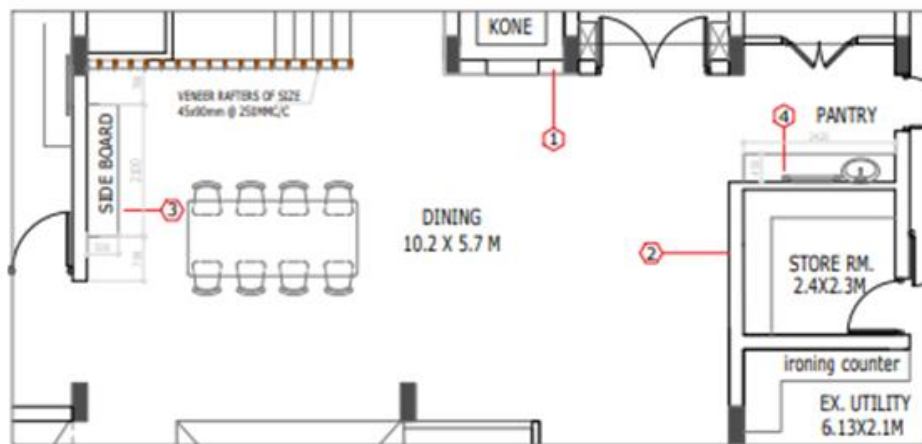
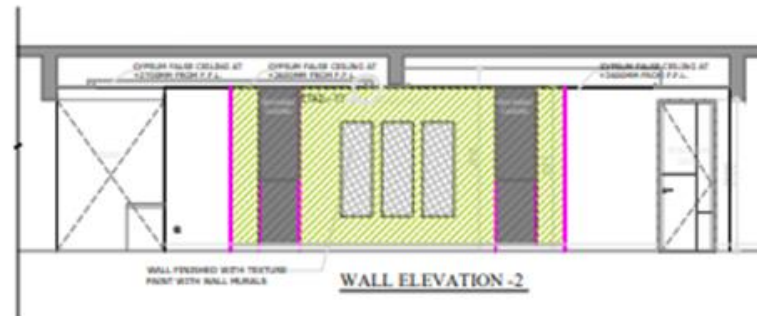
Glazing Config	Thickness	Shade	Brand	Product Code	VLT %	OLR(%)	SHGC	U-VALUE (AIR)	U-VALUE (ARGON)	LSG Ratio	Available Thickness	Compare
Double Glazed Unit	24	Neutral	Envision	SKN 165	59	16	0.32	1.50	1.20	1.80	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Envision	SKN 144	39	20	0.23	1.60	1.30	1.70	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Planitherm	PLT T	74	12	0.54	1.80	1.50	1.40	4, 5, 6, 8, 10, 12	☒
Double Glazed Unit	24	Neutral	Nano	KT 164	56	14	0.44	1.90	1.60	1.30	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Nano	KT 140	36	23	0.27	1.80	1.50	1.30	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Nano	KT 155	46	17	0.36	1.90	1.60	1.30	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Nano	KN 130 II	31	21	0.24	1.80	1.50	1.30	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Evo	ET 125	25	28	0.23	2.00	1.70	1.10	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Antelio Plus	ST 167	59	22	0.56	2.80	2.60	1.10	4, 5, 6, 8, 10, 12	☒
Double Glazed Unit	24	Neutral	Cool-lite	ST 150	45	20	0.44	2.80	2.60	1.00	4, 5, 6, 8, 10, 12	☐
Double Glazed Unit	24	Neutral	Cool-lite	ST 136	33	23	0.33	2.70	2.60	1.00	4, 5, 6, 8, 10, 12	☐

Space Modelling

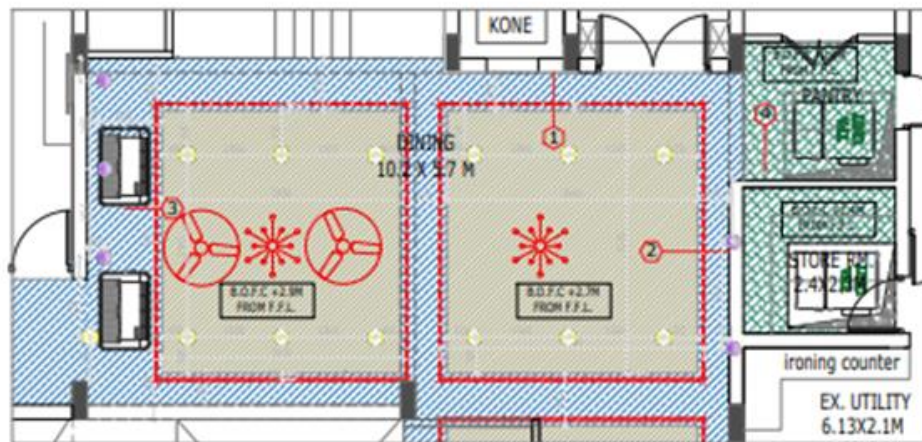
KOTTIVAKKAM RESIDENCE



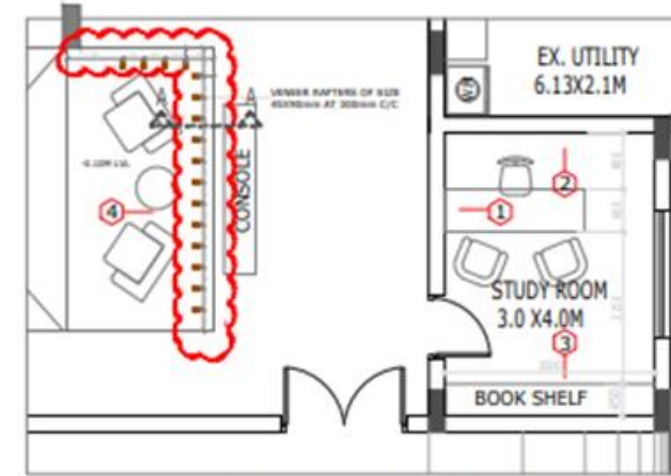
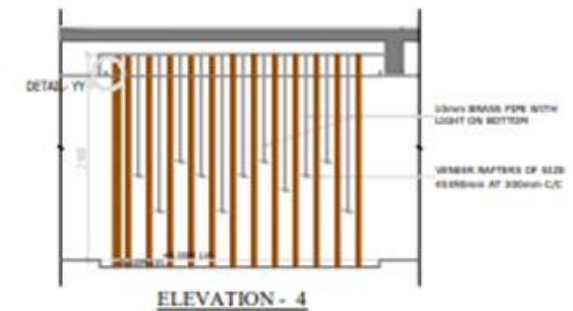
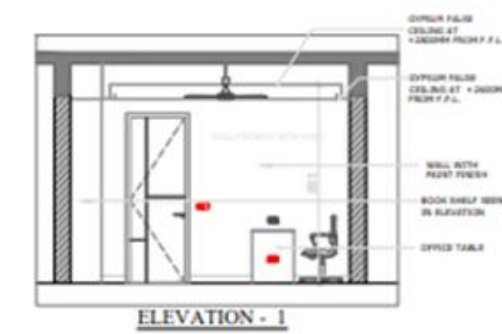
DINING ROOM



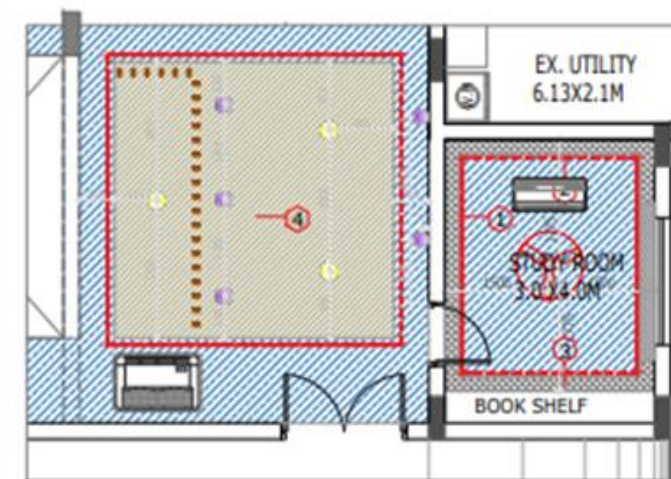
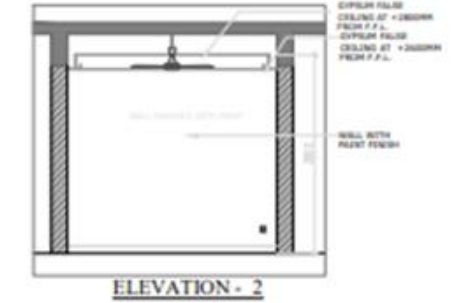
PART GROUND FLOOR PLAN SHOWING DINING AREA INTERIOR LAYOUT



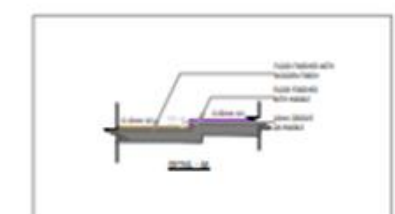
PART GROUND FLOOR PLAN SHOWING DINING AREA FALSE CEILING LAYOUT



PART GROUND FLOOR PLAN SHOWING FOYER & STUDY INTERIOR LAYOUT



PART GROUND FLOOR PLAN SHOWING FOYER & STUDY FALSE CEILING LAYOUT



IGBC - Indoor Environmental Quality

Modules		Points Available	
		Owner-occupied Buildings	Tenant-occupied Buildings
Indoor Environmental Quality		12	11
IEQ Mandatory Requirement 1	Minimum Fresh Air Ventilation	Required	Required
IEQ Mandatory Requirement 2	Tobacco Smoke Control	Required	Required
IEQ Credit 1	CO ₂ Monitoring	1	1
IEQ Credit 2	Daylighting	2	2
IEQ Credit 3	Outdoor Views	1	1

What constitute Indoor Environment?

- Air Quality.
- Thermal comfort.
- **Lighting comfort**
- Acoustics (significant only for schools).

Why is IEQ Important?

- We spend 90% of our time indoor.
- Indoor 2-5 times more polluted compared to outdoors.
- Improvement in indoor environment improves productivity and reduces absenteeism.

Lighting

Following are the credits which address Lighting:

- Controllability of systems – Lighting.

- Daylight & Views.

Controllability of Systems – Lighting

Why? The significance:

- To provide the occupants with control of their lighting according to their requirement.
- Increases productivity.
- May provide an opportunity for save energy.

How? The Strategies:

- Provide individual lighting control for a percentage of occupants.
- Provide lighting system controllability for all shared multi occupant spaces (meeting room, conference halls etc).

Day light & Views

Why? The significance:

- Provide daylight and views to connect the occupants with outdoor.
- Research proves that children studied at daylight class rooms perform better than other children consistently.

How? The Strategies:

- In early design phase, optimize the glazing orientation to optimize between heat gain and daylight.
- Daylight strategies shall be implemented with Glare control. Glare control strategies include internal shading devices, external shading devices, providing light shelves above the working level etc
- Automated shading devices shall be used to control operation of the shading devices based on time of the day.
- Day light factor value depends upon Visible light transmittance (VLT) and window-to-floor area ratio (WFR). Hence optimize WWR and VLT of glazing to maximize daylight and minimize heat gain/loss
- Day light penetration for occupied space is function off color of the window. Hence select the color of the window to optimize daylight and heat gain / loss

TIRUNELVELI RESIDENCE, IGBC GREEN HOMES BUILDING: 75 POINTS (PLATINUM RATED)

CREDITS	POINTS AVAILABLE
Site Selection & Planning	9
Water Efficiency	11
Energy Efficiency	22
Material & Resources	13
Indoor Environment Quality	15
Innovation & Design Process	5
TOTAL	75



WATER EFFICIENCY

✓ Rainwater harvesting ✓ Water efficient Plumbing fixtures ✓ Landscape Design ✓ Management of Irrigation systems ✓ Rainwater harvesting, Roof and Non roof Measures. ✓ Water efficient Plumbing fixtures.



The Rainwater that is collected undergoes necessary filtration before re-use.

Waste-water is minimized by utilizing water conserving fixtures such as low flush toilets and low-flow tap and shower heads fitted with aerators.

SCAD has given high priority to its Green belt in conserving existing natural areas and promotes biodiversity in its premises.

To minimize the water consumption on the site, the design team has zero turf area for landscaping and planted fruit bearing fruits native plants & preserved drought tolerant existing trees.



CRITICAL OVERVIEW

I had a wonderful time in learning many new things in this firm. The project which I worked on was sustainable in many ways like use of recycled materials, use of lime mortar, which has eliminated the use of Cement which is huge contribution towards sustainability.

Another great thing I learnt from the Firm is dealing with the client. Clients usually keep changing their requirement which needs to be updated in the drawings but keep on changing Irritates a lot, Patience is very important and Understanding the Client and convincing them is a great challenge. If the project needs to be Sustainable, we need to develop Managing skills in dealing with client, contractors and labors which directly and indirectly affects the Project.