



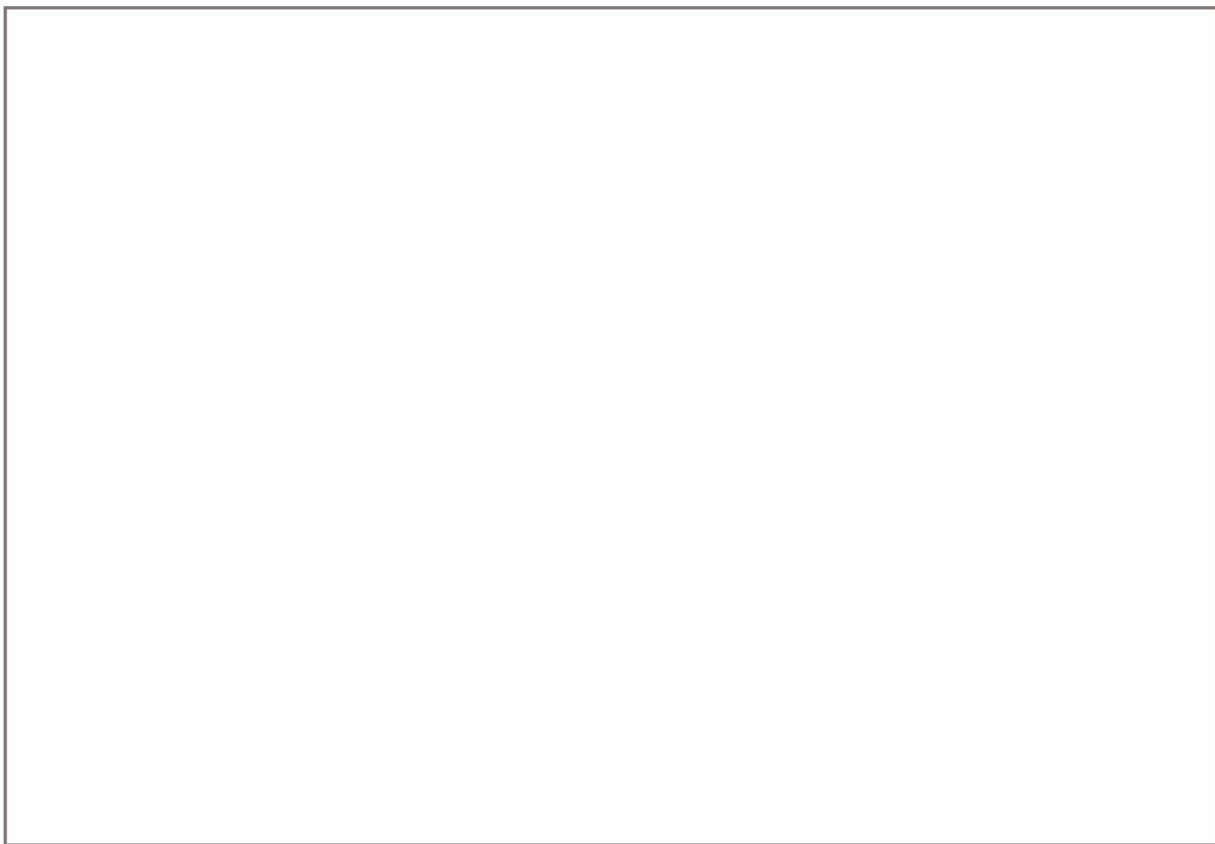
INTERNSHIP PORTFOLIO

SATHYAMOORTHY.M

39210079-19S215097

SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY





SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)

Accredited with “A” grade by NAAC | 12B Status by UGC | Approved by AICTE

Jeppiaar Nagar, Rajiv Gandhi Salai, Chennai – 600 119

www.sathyabama.ac.in

SCHOOL OF BUILDING AND ENVIRONMENT
DEPARTMENT OF ARCHITECTURE
PRACTICAL TRAINING PORTFOLIO (SAR4063)
DEC 2022

Name of the Student : M.Sathyamoorthy

Batch : 2019 - 2024

Reg No. : 39210079

Semester : VII



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SCHOOL OF BUILDING AND ENVIRONMENT

DEPARTMENT OF ARCHITECTURE

VIVA-VOCE EXAMINATION

This is to certify that the practical training SAR 4063 is the work of SATHYAMURTHY who had undergone training in LARSEN & TOUBRO (Name of the Firm) has been monitored by the continuous assessment during JUNE 2022 to NOVEMBER 2022.

Dr. Devyani Gangopadhyay
DEAN

Submitted for Viva voce Examination held on 13/12/2022

Internal Examiner
External Examiner



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DECLARATION

I, SATHYAMOORTHY hereby declare that the Training Report **JUNE 2022 to NOVEMBER 2022** done by me under the guidance of **Ar.**
R. VEJAYAN is submitted in partial fulfillment of the requirements for the completion of practical training session.

DATE : 13.12.2022

PLACE : CHENNAI

A handwritten signature in black ink, appearing to read 'Sathyamoorthy', is written over the printed text 'SIGNATURE OF CANDIDATE'.

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 practical training and for completing it successfully. I am grateful to them.

I convey my thanks to **Dr. Devyani Gangopadhyay**, Dean, School of Building and Environment and **Ar.Sarath Chandra Kanth**, Design Chair, Department of Architecture for having been a constant source of support and encouragement.

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

I also wish to thank **Ar. _____**, for the experience of interning at their firm.



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Date: 23 May 2022

To whomsoever it may concern

As a part of the Academic requirement and the regulations of Sathyabama Institute of Science and Technology and the Council of Architecture, our student **SATHYAMOORTHY. M (39210079)** is required to undergo professional training from the month of June 2022, for a minimum span of 90 working days in his VII semester. The training has to be done under a senior registered architect with a minimum of 5 years of professional experience.

The student will have to submit a documentation report (supported with copies of work done by him, duly attested by the architect) of all the drawings and site related activities undertaken under the supervision of Principal architect at the end of training period to the institution. It is requested that **SATHYAMOORTHY. M (39210079)** may be given an opportunity to undergo training in your Architectural firm.

Kindly send an appointment letter to the undersigned stating that the student has been selected as a trainee in your esteemed office.

Thanking you

Dr. Devyani Gangopadhyay

Dean, School of Building and Environment



B&F IC/EDRC-HR/Training/574-2022

31 May 2022

Head of the Department
Sathyabama Univeristy
Kamaraj Nagar, Semmancheri,
Chennai, Tamil Nadu 600119

Dear Sir/Madam,

Sub: Project Training

This has reference to your letter dated **23-May-2022** regarding Project Training for your student, **Sathyamoorthy**. As a special case, we agree to admit him for Project Training from **01-June-2022 to 9-September 2022**

Please advise «him» to carry 3 Passport size photographs, copy of «His» College ID card and Adhaar card copy while reporting for the project training.

Please note that:

- He has to undergo the training without any financial commitment to our Company and fully at «His» own risk and responsibility.
- He must strictly comply with safety & other rules applicable at the project site/Office.
- He will be awarded His Project Training completion certificate on submission of the Project Report.

Thanking You,

Yours faithfully,
For LARSEN & TOUBRO LIMITED



SUNEET KUMAR
DGM - HUMAN RESOURCES

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DEPARTMENT OF ARCHITECTURE

PROFESSIONAL PRACTICAL TRAINING REPORT 2022

(Continuous progress report of the trainee architect for the period of One month in the office to submitted to HOD by the Trainee in Charge of the Organization)

- Name of the office / organization : LRT Ltd, construction
- Address & Contact Number : Mount Poonamallee Road, Manapakkam
- Name of the student : 9962007996
SATHYAMOORTHY.M
- Duration : From 01/06/2022 To 01/07/2022
- Total No. of days : 24
- Evaluation of Performance criteria shall be on

* 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 90 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 details			✓		
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-9.0, B-8.0, C-7.0, D-6.0, E-5.0)

7. Any other Remarks : PERSISTANT IN HIS WORK

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



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DEPARTMENT OF ARCHITECTURE

PROFESSIONAL PRACTICAL TRAINING REPORT 2022

(Continuous progress report of the trainee architect for the period of One month in the office to submitted to HOD by the Trainee in Charge of the Organization)

- Name of the office / organization : LRT Ltd, construction
- Address & Contact Number : Mount Poonamallee Road, Manapakkam
- Name of the student : 9962007996
SATHYAMOORTHY.M
- Duration : From 02/07/2022 To 02/08/2022
- Total No. of days : 24
- Evaluation of Performance criteria shall be on

* 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 90 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 details			✓		
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-9.0, B-8.0, C-7.0, D-6.0, E-5.0)

7. Any other Remarks : PERSISTANT IN HIS WORK

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



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DEPARTMENT OF ARCHITECTURE

PROFESSIONAL PRACTICAL TRAINING REPORT 2022

(Continuous progress report of the trainee architect for the period of One month in the office to be submitted to HOD by the Trainee in Charge of the Organization)

1. Name of the office / organization : LVT Ltd, Construction
2. Address & Contact Number : Mount Panambur Road, Marapakkam
9452007776
3. Name of the student : SATHYANATHAN
4. Duration : From 01.08.2022 To 03.09.2022
5. Total No. of days : 42

6. Evaluation of Performance criteria shall be on

* 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 90 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	NA				
Understanding of construction details	✓				
Drafting Skills (Manual / Computer)		✓			
Site Supervision / Discussion with clients	NA				
Adherence to Time schedule	✓				
Other computer skills		✓			
File and Office Maintenance	✓				
Coordination with other consultants	NA				
Overall Grading*	A				

(A-9.0, B-8.0, C-7.0, D-6.0, E-5.0)

7. Any other Remarks : Communication skills to be developed further.

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

[Signature]



LTC-HQ/B&F/EDRC-HR/Training/574-2022

23 September 2022

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Sathyamoorthy** from **Sathyabama University Kamaraj Nagar, Semmancheri**, has undergone his project internship at our Engineering Design & Research Centre (EDRC) – Headquarters from **01-June-2022 to 9-September 2022**.

We wish him all the best for his future endeavors.

Yours faithfully,

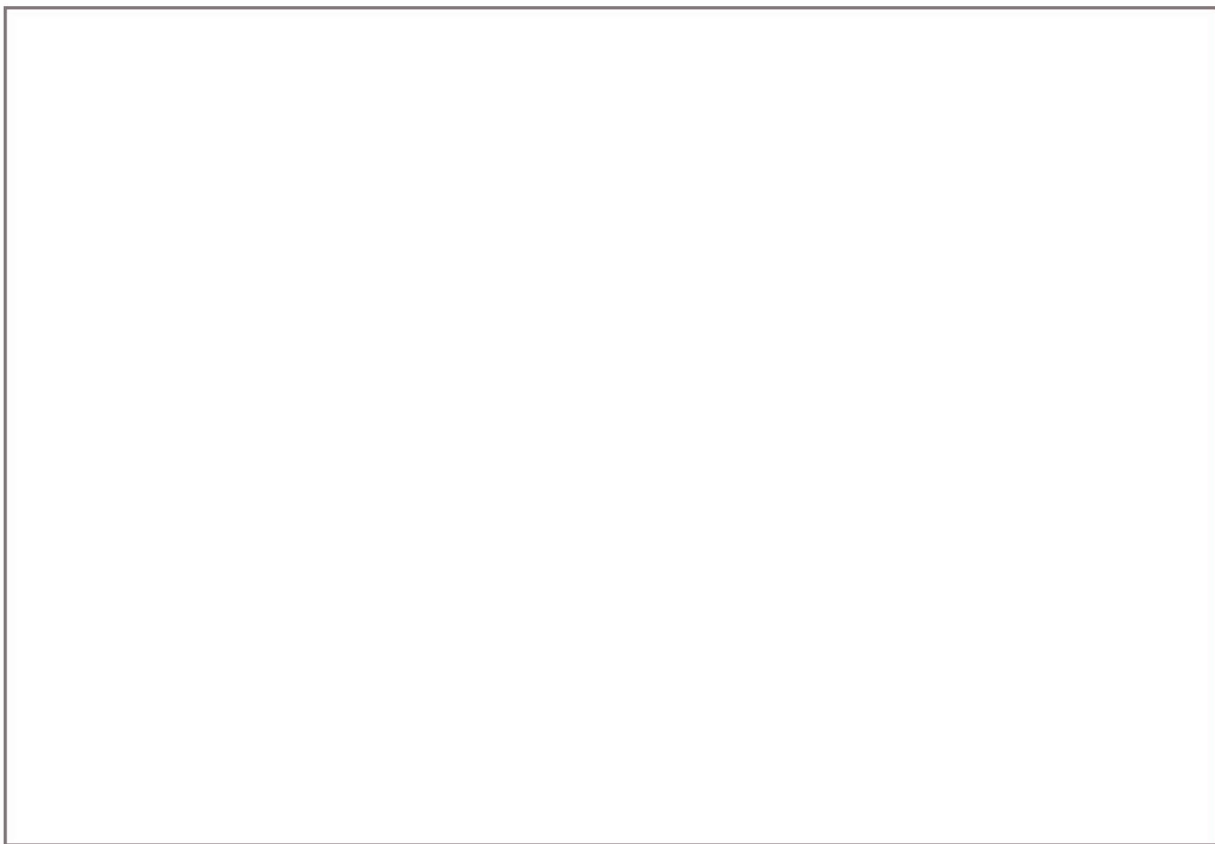
For **LARSEN & TOUBRO LIMITED**



SUNEET KUMAR
DGM - HUMAN RESOURCES

Registered Office: L&T House, N. M. Marg, Ballard Estate, Mumbai - 400 001, INDIA
Licence No.: CIN - L99999MH1946PLC004768

L&T Construction - Buildings & Factories is a brand of Larsen & Toubro Limited





01 HOSPITAL PROJECT LOCATED AT HYDRABAD

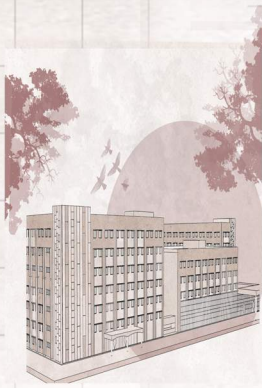


02 OFFICE OF COMMISSIONER OF POLICE, GUWAHATI, ASSAM



03 COA BUS SHELTER COMPETITION - NATIONAL HIGHWAY

04 HOSPITAL, TELANGANA



05 MHADA, MAHARASHTRA AND PCO, GUWAHATI, ASSAM





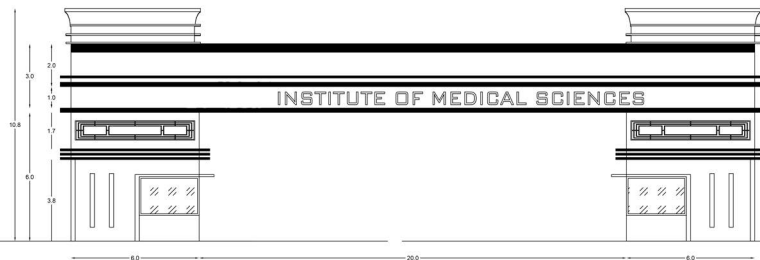
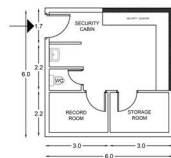
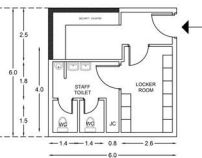
01

HOSPITAL PROJECT LOCATED AT HYDRABAD

This hospital is located in Hyderabad. The work involved in this project was to detail out the facade duct and glazing details, of the OPD department. The details will include the plan, section and 3d layout showing the placement of the detailing in the facade. The other work is the design of the security tower / entrance arch gate. This design involves the plan, elevation and the model view

01

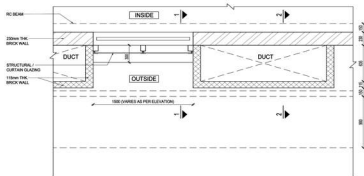
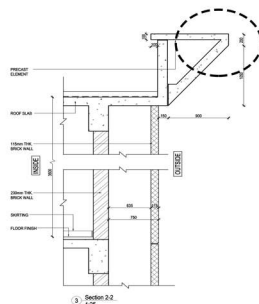
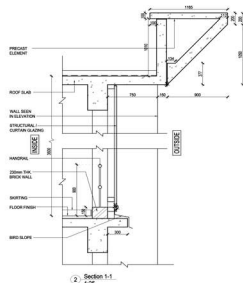
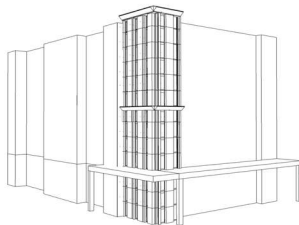
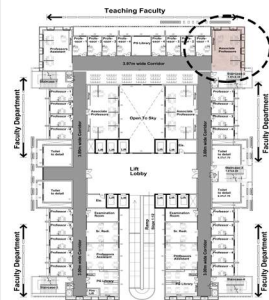
SECURITY TOWER

1 ELEVATION
1:1001 PLAN A
1:1001 PLAN B
1:100

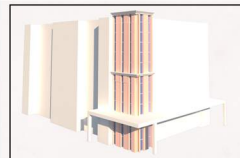
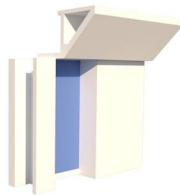
02

SECURITY TOWER VIEWS

HYDRABAD HOSPITAL SECURITY
TOWER DESIGN



1. Facade Part Plan: 1/20



C1

Facade detailing of the Hyderabad hospital. This view specifically shows the detailing of the placement of glazing, duct, and the wall seen in elevation.

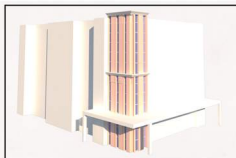
C2

This part of the facade is mainly focuses on the OPD department. The sunshade has been designed in this way for comparatively lower costing. This sunshade comes in 2 places of the facade.



C3

The 1st set of sunshade comes after 7th floor. The 2nd set comes in the last, which is the 13th floor. The outer wall is a 230 mm brick wall with structural / curtain glazing.



C4

The duct wall is 115 mm and the width of the glazing is 1900 mm. This design of the facade will be followed in the other parts of the hospital facade.





02

OFFICE OF COMMISSIONER OF POLICE, GUWAHATI, ASSAM

This design consist of the rendered views of the Commisioner office located in Guwahati, Asaam . This office is located in 1st site which is an integrated township.

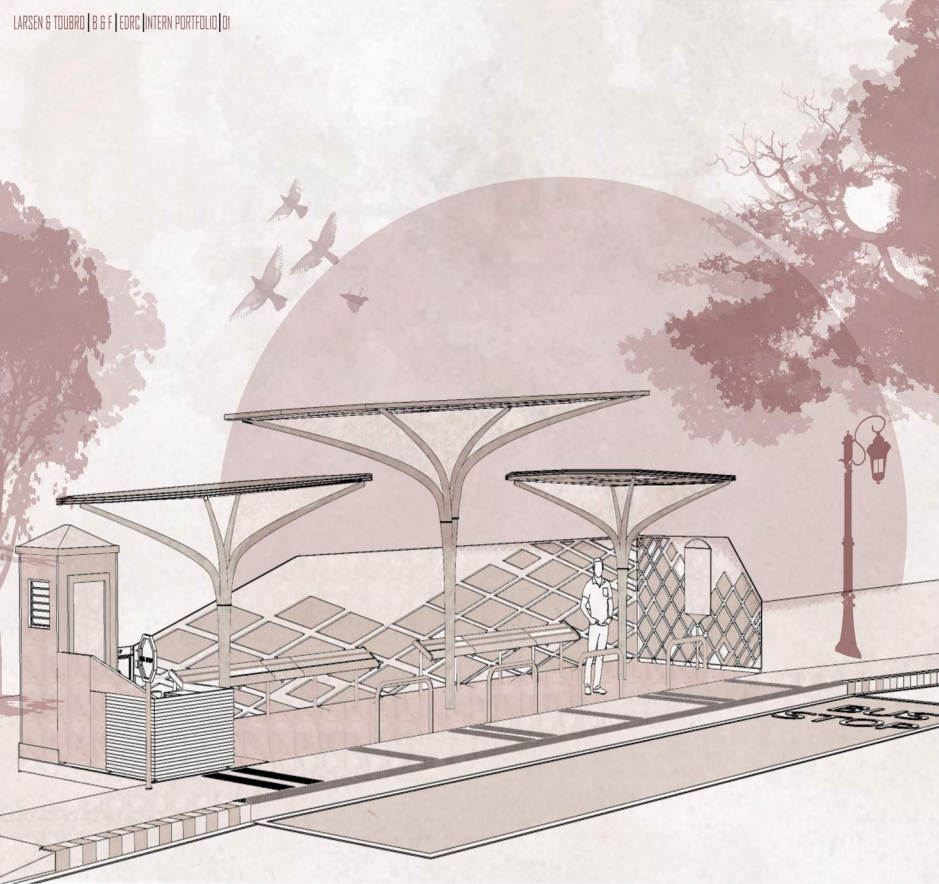
01

RENDERED VIEWS OF COMISIONER OFFICE



ASSAM OFFICE RENDERS





03

COA BUS SHELTER COMPETITION - NATIONAL HIGHWAY

The task was to design a bus shelter for Indian national highway. The design requirement was to design an eco friendly and user friendly sustainable bus stop. The concept of the bus stop is TREE. The concept has been derived from day to day happenings on how people create a shelter under a tree and make it an landmark.

CURRENT SCENARIO | Shelter | People | Information desk | Vendors |

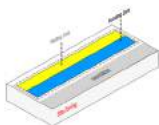
Vendors from selling goods to helping passengers

Unwanted local advertisements instead of information display

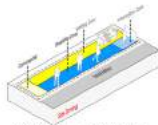
Insufficient Shading and protection

Major bus stops of the city usually have information desk to help commuters

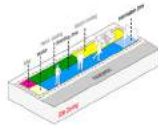
Passengers wait outside the shelter as they don't know when the bus is arriving



Horizontally liberating the space into walking and breathing zones



Adding a commercial zone on the rear and inviting the passengers and an information zone on the far end reveals to the waiting passengers



Further segregation of zones to
match land-quality requirements

Comparison with conventional concrete

- | Cost of LEC > Conventional Concrete |
- | Weight of LEC < Conventional Concrete |

| Expressway signs, illuminated pavements |
| Energy saving, eco-friendly | ID: 20774862/9

Cost

for Exterior and Interior Walls - Rs.500/SFT

Cost

Sand + Alkali + Silica + Industrial waste + Water +

<http://www.elsevier.com/locate/jphotochem>

STATION OF BEING
Ulrich Sander

Arctic context specific:
for improving the waiting conditions for passengers in cold weather

市

100

Lean on Timber pods

<http://www.danmccart.com/2015/07/17/thermal-imaging-aid-work-blue-prints-when/>

Platforms
Enable passengers to enter a bus without climbing up steps
























Easy accessibility

<http://www.basisswitzerland.ch>



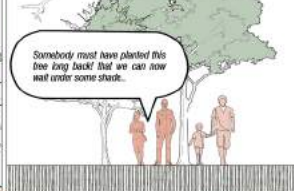
What used to be a bus stop
amidst open lands...



To bus stops formed at
known Landmarks, back then.



...A shaded Landmark
to wait for your commute.



WHY?

POINT OF DEPARTURE

Remember how bus stops used to be in your native? People always find their way to congregate when its for one purpose. Gradually, urban development has led to a much systematic manner to board our commute.

And over the years across the globe, it's a challenge how technology has been integrated to design bus shelters for people in addition to sustainable efforts. Current shift to E-highways and Vehicles are also getting tested and deployed to function. **This bus shelter proposal is a prototype for the National Highways in India.**

Unlike being a conventional structure in urban context, the approach is synonymous to how bus stops used to be; bus stop at a landmark that is as simple as - tree(s). People of a town should be able to easily identify, refer and connect over for transit besides way finding and place making.

NEED FOR BETTER DESIGN



Bus stops in the middle of highway attract legal notice,
By Times of India Feb 10, 2012

<https://timesofindia.indiatimes.com/story/buses-stop-in-the-middle-of-highway-attract-legal-notice/1532148.cms>



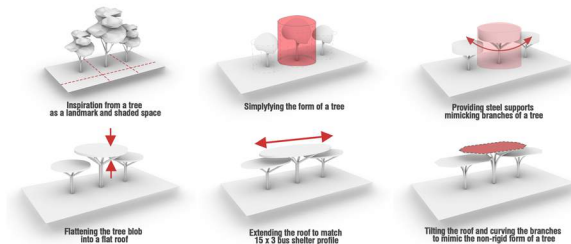
What A Waste of Peoples' Money! Unplanned Bus Shelters
are in Ruins in the City? Team Mangalorean July 8, 2021

<https://www.mangalorean.com/what-a-waste-of-peoples-money-unplanned-bus-shelters-are-in-ruins-in-the-city/>

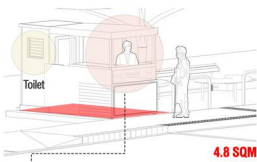


NHEV ties up with UNL Global to geofence Jaipur - Delhi-
Agra E- Highway, Written by Express Intra July 7, 2022

<https://www.expressinfra.com/infrastructure/roadways/paper-delhi-agra-e-highway-geofencing2566296>



COMPONENT	TYPE	SSM
SEATING Type 1 in SS	Supporting Frames - Base	1.35
	Ledge	1.64
SEATING Type 2 in SS	Supporting Frames - Base	0.46
	Ledge	1.19
PERCH SEATING in SS	Supporting Frames - Base	0.97
	Ledge	0.95
BENCH SEATING in SS	Supporting Frames - Base	0.17
	Ledge	2.87
BRANCHING MODULE-A in MS	Branching column @2500 M	5.99
	Main frame (75x25mm)	2.68
	Corrugated sheet @ 2500 M	15.47
BRANCHING MODULE-B in MS	Branching column @2500 M	7.64
	Main frame (75x25mm)	4.6
	Corrugated sheet @ 2500 M	28.37
RAILING in SS	Railing 50mm dia (S Nox)	0.53
		2.85
TOTAL		104.2

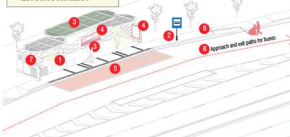


Vendor responsible for maintenance of the bus stop.
Employed by govt from local nearby village/town.

(Reliability of chosen belief and shape if required) | (Enter Bus stop maintenance will be the individual's responsibility)
(More Employment Chances for the economically weaker class) | (No. of each Bus Stops = New Employment Opportunities)



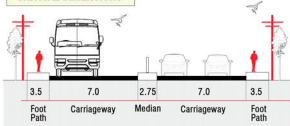
ENVIRONMENT



1. Lighting | 2. Bus stop post and flag | 3. Bus passenger shelter and seating | 4. Information, timetables and map | 5. Space for bus to straighten | 6. Connectivity with footway | 7. Convenience for passengers | 8. Approach and exit paths for buses |



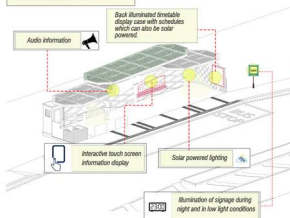
CRITICAL DIMENSIONS



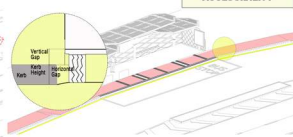
Street Section AA

Note: All dimensions are in metres

DIGITALIZATION



ACCESSIBILITY



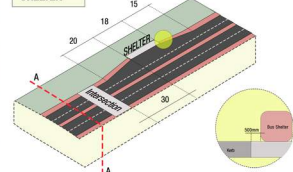
• Clearway in place – On thorough roads a clearway is denoted by a thick solid yellow line

• Access free of impediments – A visual check of the area around the bus stop, including the surrounding pavement be undertaken.

• Kerb >100mm – In order for a bus to deploy its ramp safely the ideal range in terms of kerb height is 125-140 millimetres, however 100 millimetres is the minimum for it to be compliant

• Allow the bus to line up within 200mm of and parallel with the kerb

SHELTER



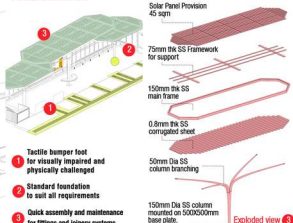
Bus stop location is 30-50m away from intersection. In other cases, the distance may be related to a certain extent considering the local conditions. However, if a substantial volume of buses were to turn right at the intersection, it is advisable to provide a far-side bus stop.

The shelter shall be set back from the kerb line by at least 500 mm

KEY TAKEAWAYS

Quick installation | Low maintenance | Sustainable Energy | Incur small business opportunity |

STANDARDISATION



01

MOTION BLUR VIEW



02

ISOMETRIC VIEW



03

NIGHT VIEW 1



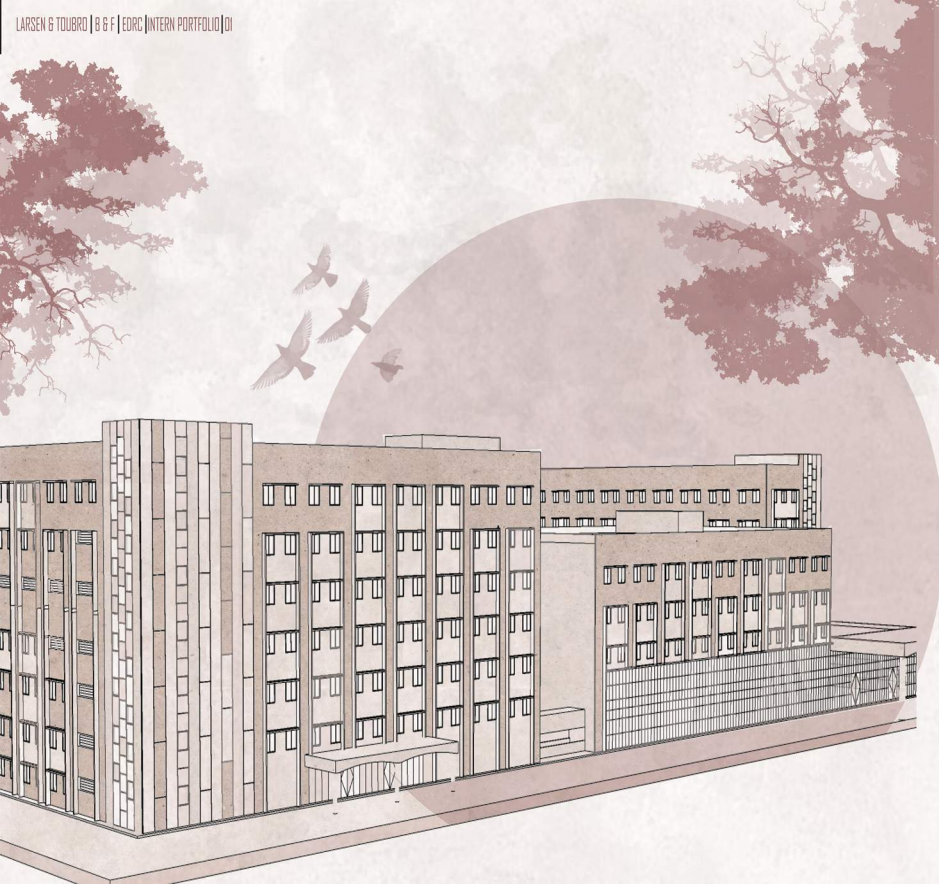
04

NIGHT ISOMETRIC VIEW



COA BUS SHELTER - RENDERS



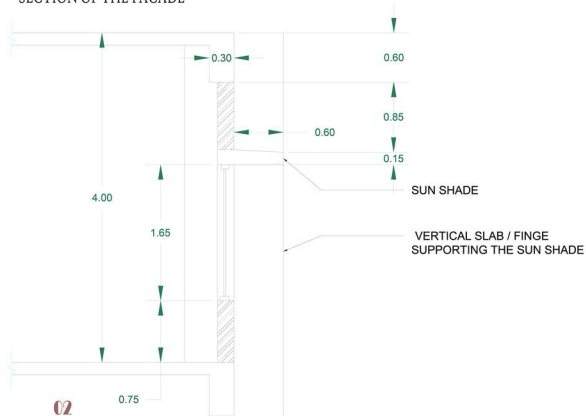


04

HOSPITAL , TELANGANA

This Hospital is located in Telangana . The first work given was to put P-lines to calculate the quantity of 200 mm block wall and 100mm block wall for the BOD . Work 2 was to design the CSSD department , Anesthesia , Dharmasala (Stay) , Morgue , Utility area , Kitchen , Laundry and Central storage . Work 3 was to do minor changes in the site plan and take views of the hospital .

01 SECTION OF THE FACADE



02 FRONT ELEVATION



FRONT ELEVATION OPTION -1

EMERGENCY	OPS	OT COMPLEX	ONCOLOGY UNIT	GENERAL WARD	WORTHY	HOSPITAL KITCHEN	TRAFFIC
PHARMACY	LABORATORY	LABORATORY	ONCOLOGY UNIT	GENERAL WARD	WORTHY	HOSPITAL KITCHEN	TRAFFIC
OPS REGISTRATION	LABORATORY	LABORATORY	ONCOLOGY UNIT	GENERAL WARD	WORTHY	HOSPITAL KITCHEN	TRAFFIC
OPS REGISTRATION	LABORATORY	LABORATORY	ONCOLOGY UNIT	GENERAL WARD	WORTHY	HOSPITAL KITCHEN	TRAFFIC

03 ELEVATION VIEW 1



04 ELEVATION VIEW 2



KEY PLAN:



GENERAL NOTES:

1. ALL DIMENSIONS ARE IN MM.
2. DIMENSIONS MUST BE READ IN CONJUNCTION WITH CONSTRUCTION DETAILS.
3. DIMENSIONS MUST BE READ IN CONJUNCTION WITH CONSTRUCTION DETAILS.
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19. ALL DIMENSIONS MUST BE READ IN CONJUNCTION WITH CONSTRUCTION DETAILS.
20. ALL DIMENSIONS MUST BE READ IN CONJUNCTION WITH CONSTRUCTION DETAILS.

REVISION:

REVISION	DATE
1	
2	
3	
4	
5	

MEP CONSULTANT:

STRUCTURAL CONSULTANT:

MEDICAL PLANNER:

CLIENT:
HOSPITAL BUILDINGS DEPARTMENT
GOVT. OF TELANGANA
E-Block Market, Hyderabad, Telangana 500002

ARCHITECT:
Hafeez Contractor
29 Bank Street, Mumbai 400 009

PROJECT TITLE:
HOSPITAL, TELANGANA

DATE: 26.07.2022 SCALE: 1:500

DRAWN BY: CHECKED BY:

L&T Construction
Buildings & Facilities

DRAWING TITLE:

FOURTH FLOOR PLAN

DRAWING NUMBER: R0



01

ISOMETRIC VIEW OF THE HOSPITAL



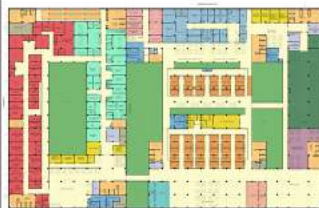
02

ELEVATIONAL VIEW



TIMS HOSPITAL , TELANGANA





GROUND FLOOR PLAN



FIRST FLOOR PLAN



SECOND FLOOR PLAN



THIRD FLOOR PLAN



FOURTH FLOOR PLAN



FIFTH FLOOR PLAN



SIXTH FLOOR PLAN

LEGEND

- EMERGENCY
- PHARMACY
- OPD REGISTRATION
- IPD REGISTRATION
- OPD
- PATHOLOGY
- TRANSFUSION MEDICINE
- RADIOLOGY
- OT COMPLEX
- LABOUR COMPLEX
- PMR DEPARTMENT
- CATH LAB COMPLEX
- DIALYSIS UNIT
- ENDOSCOPY SUITS
- RADIOTHERAPY
- GENERAL WARDS
- ICU WARDS
- PRIVATE WARDS
- MORTUARY
- CAFETERIA
- FACULTY OFFICES
- HOSPITAL ADMIN
- HOSPITAL SERVICES
- ENGINEERING SERVICES
- TOILETS
- VERTICAL CIRCULATION
- HORIZONTAL CIRCULATION
- BMT DEPARTMENT

HOSPITAL , TELANGANA - PLAN COLOUR CODING



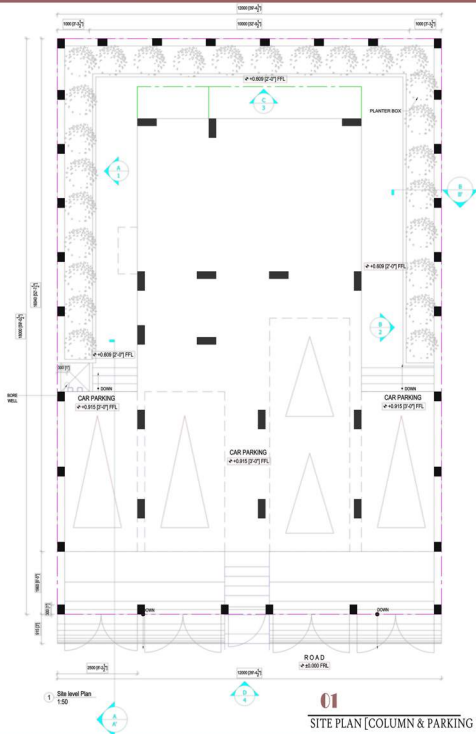


05

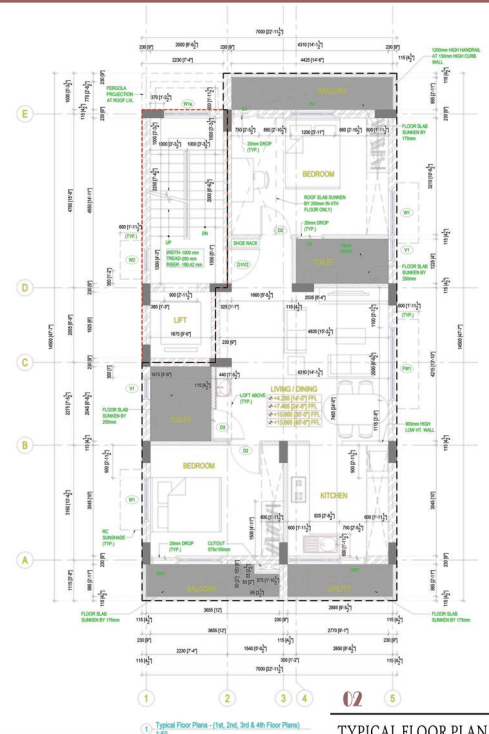
CUPBOARD DESIGN FOR PCO GUWAHATI, ASSAM AND DETAILS FOR MHADA, MAHARASHTRA.

Cupboards were designed in various dimensions and typologies for an Integrated township which is located in Guwahati, Assam. This township is located in two sites. Cupboard design of typology A houses which is for higher end. Kitchen layout for A typology houses were also designed. The other site had typology B, C and D houses. Bedroom cupboards and kitchen layout was done for the above. Area requirement for primary school was asked to be done. And minor corrections in the school plan was done.

MHADA is a housing project in large scale, where the site is located in Maharashtra. Flooring, Section, Elevation, Ceiling layout and Toilet details for the township of multiple apartment of TOWER A, B, C and D.



SITE PLAN [COLUMN & PARKING DETAILS]

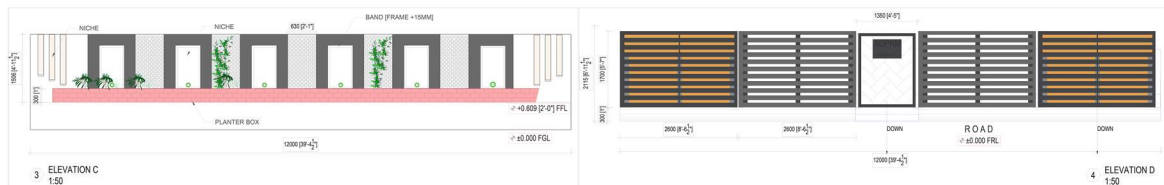
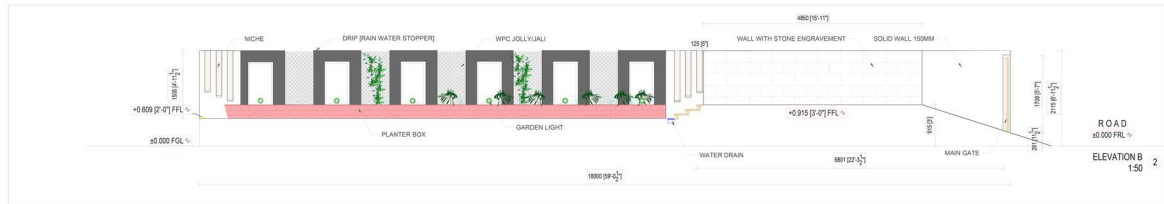


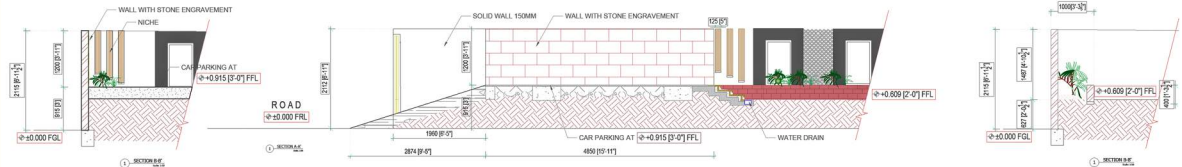
1. Typical Floor Plans - (1st, 2nd, 3rd & 4th Floor Plans)
1:50

TYPICAL FLOOR PLAN

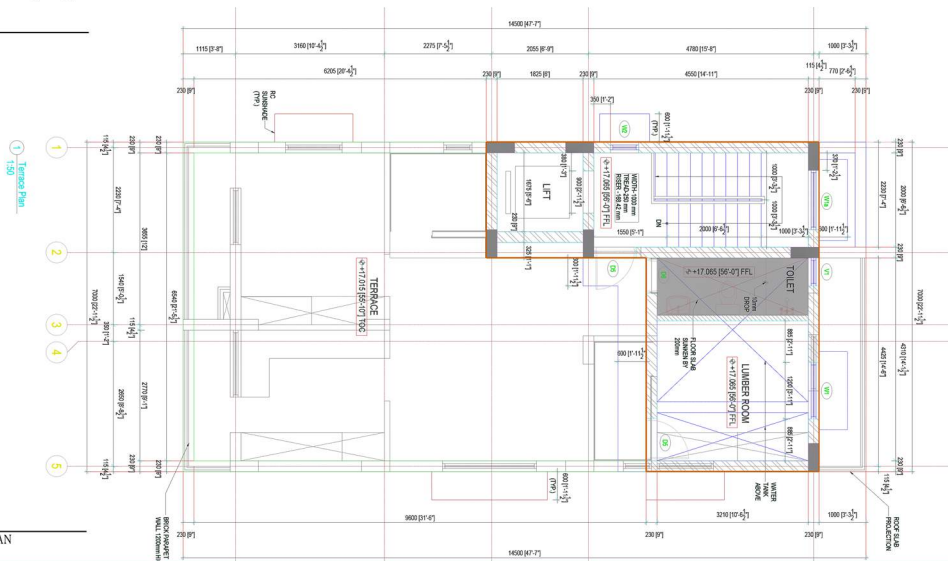
ADPKM HOUSING







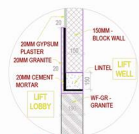
01 SECTIONS



02 TERRACE PLAN

ADPKM HOUSING

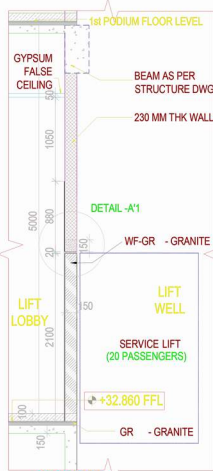




2 DETAIL 'A'1
1:20



KEY PLAN
NOT TO SCALE



1 SECTION 'A'1
1:50





-  100 - ACC BLOCK WORK
 150 - AAC BLOCK WORK
 200 - AAC BLOCK WORK
 75 - SOLID BLOCK WORK
 150 - SOLID BLOCK WORK
 RC COLUMN / BEAM / L
 SUNKEN FILLING

DOOR AND WINDOW SCHEDULE				
S.NO.	TAG	WIDTH	HEIGHT	SILL
1.	D3	750	2250	0
2.	V1	600	1350	900
3.	V2	600	1350	900

- START TILE
- TILE DROP
- CENTER LINE

FM	FORMED ROAD LEVEL	TR	TOWEL RAIL / RING																																												
FL	FINISHED FLOOR LEVEL	TS	FLUSHING CISTERN																																												
AFPL	ABOVE FINISHED FLOOR LEVEL	SP	SPOUT	OV	OVER TOP	ST	STAIR TREAD	TYP	TYPICAL	WD	SINGLE LEVER INVERTOR	EQ	EQUAL	AV	ANGLE VALVE	EX	EXHAUST FAN	WC	WET WALL BIR CO	FT	FLOOR TIE	HC	HEALTHY HAZARD CISTERN	EW	EUROPEAN WATER CLOSET	ML	MIRROR LIGHT	EW	(WALL MOUNTED)	PS	POWER SOCKET	INC	INDIAN WATER CLOSET	WL	WALL LIGHT	WR	WARM (REDIATIVE)	CR	CEILING ROSE	BS	BATH	R BAL	REMAINING / BALANCE	WB	WASH BASIN	LV	LEVEL
OV	OVER TOP	ST	STAIR TREAD	TYP	TYPICAL	WD	SINGLE LEVER INVERTOR	EQ	EQUAL	AV	ANGLE VALVE	EX	EXHAUST FAN	WC	WET WALL BIR CO	FT	FLOOR TIE	HC	HEALTHY HAZARD CISTERN	EW	EUROPEAN WATER CLOSET	ML	MIRROR LIGHT	EW	(WALL MOUNTED)	PS	POWER SOCKET	INC	INDIAN WATER CLOSET	WL	WALL LIGHT	WR	WARM (REDIATIVE)	CR	CEILING ROSE	BS	BATH	R BAL	REMAINING / BALANCE	WB	WASH BASIN	LV	LEVEL				
TYP	TYPICAL	WD	SINGLE LEVER INVERTOR	EQ	EQUAL	AV	ANGLE VALVE	EX	EXHAUST FAN	WC	WET WALL BIR CO	FT	FLOOR TIE	HC	HEALTHY HAZARD CISTERN	EW	EUROPEAN WATER CLOSET	ML	MIRROR LIGHT	EW	(WALL MOUNTED)	PS	POWER SOCKET	INC	INDIAN WATER CLOSET	WL	WALL LIGHT	WR	WARM (REDIATIVE)	CR	CEILING ROSE	BS	BATH	R BAL	REMAINING / BALANCE	WB	WASH BASIN	LV	LEVEL								
EQ	EQUAL	AV	ANGLE VALVE	EX	EXHAUST FAN	WC	WET WALL BIR CO	FT	FLOOR TIE	HC	HEALTHY HAZARD CISTERN	EW	EUROPEAN WATER CLOSET	ML	MIRROR LIGHT	EW	(WALL MOUNTED)	PS	POWER SOCKET	INC	INDIAN WATER CLOSET	WL	WALL LIGHT	WR	WARM (REDIATIVE)	CR	CEILING ROSE	BS	BATH	R BAL	REMAINING / BALANCE	WB	WASH BASIN	LV	LEVEL												
EX	EXHAUST FAN	WC	WET WALL BIR CO	FT	FLOOR TIE	HC	HEALTHY HAZARD CISTERN	EW	EUROPEAN WATER CLOSET	ML	MIRROR LIGHT	EW	(WALL MOUNTED)	PS	POWER SOCKET	INC	INDIAN WATER CLOSET	WL	WALL LIGHT	WR	WARM (REDIATIVE)	CR	CEILING ROSE	BS	BATH	R BAL	REMAINING / BALANCE	WB	WASH BASIN	LV	LEVEL																
FT	FLOOR TIE	HC	HEALTHY HAZARD CISTERN	EW	EUROPEAN WATER CLOSET	ML	MIRROR LIGHT	EW	(WALL MOUNTED)	PS	POWER SOCKET	INC	INDIAN WATER CLOSET	WL	WALL LIGHT	WR	WARM (REDIATIVE)	CR	CEILING ROSE	BS	BATH	R BAL	REMAINING / BALANCE	WB	WASH BASIN	LV	LEVEL																				
EW	EUROPEAN WATER CLOSET	ML	MIRROR LIGHT	EW	(WALL MOUNTED)	PS	POWER SOCKET	INC	INDIAN WATER CLOSET	WL	WALL LIGHT	WR	WARM (REDIATIVE)	CR	CEILING ROSE	BS	BATH	R BAL	REMAINING / BALANCE	WB	WASH BASIN	LV	LEVEL																								
EW	(WALL MOUNTED)	PS	POWER SOCKET	INC	INDIAN WATER CLOSET	WL	WALL LIGHT	WR	WARM (REDIATIVE)	CR	CEILING ROSE	BS	BATH	R BAL	REMAINING / BALANCE	WB	WASH BASIN	LV	LEVEL																												
INC	INDIAN WATER CLOSET	WL	WALL LIGHT	WR	WARM (REDIATIVE)	CR	CEILING ROSE	BS	BATH	R BAL	REMAINING / BALANCE	WB	WASH BASIN	LV	LEVEL																																
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BS	BATH	R BAL	REMAINING / BALANCE	WB	WASH BASIN	LV	LEVEL																																								
WB	WASH BASIN	LV	LEVEL																																												

GENERAL NOTES:

7. ALL DIMENSIONS SHALL BE VERIFIED AT SITE PRIOR TO START OF WORK AND ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF THE ARCHITECT AT EDC.

8. ANY DISCREPANCY NOTICED SHALL BE BROUGHT TO THE ATTENTION OF THE CONSULTANTS WITHIN 7 WORKING DAYS OF RECEIVING THE DRAWINGS. PRIOR TO PROCEEDMENT / EXECUTION OF WORK.

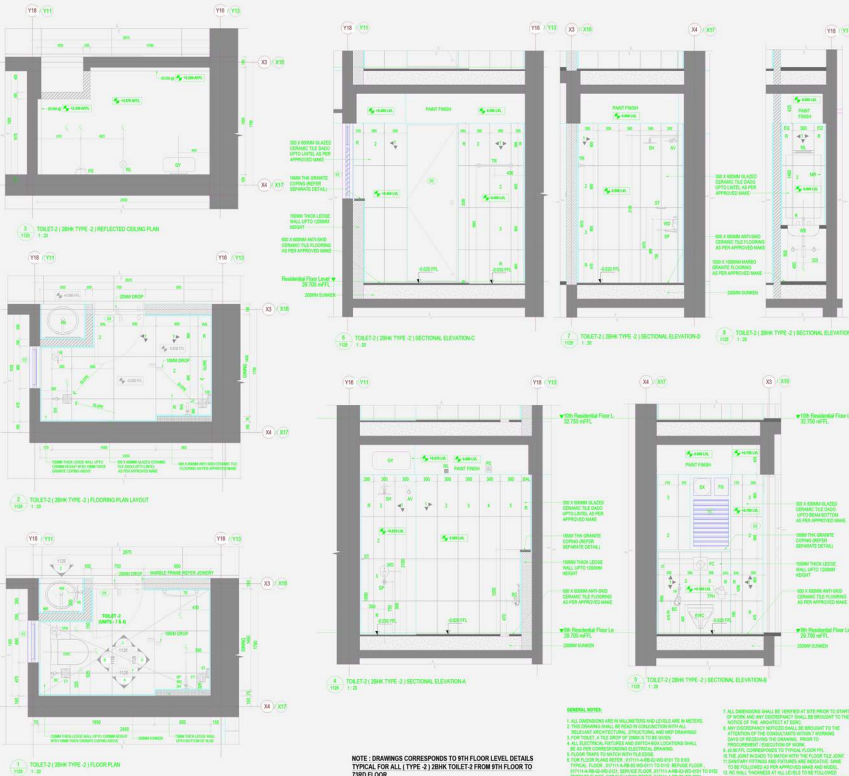
9. 42.60 FPF CORRESPONDS TO PHYSICAL FLOOR FPF.

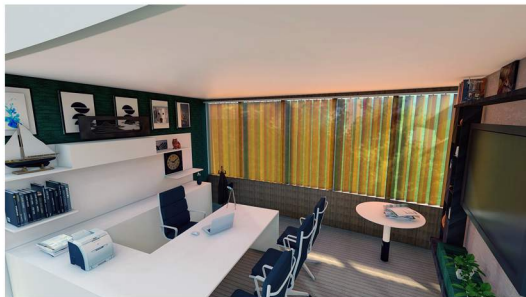
10. THE JOINT IN CLINO TO MATCH WITH THE FLOOR TILE JOINT.

11. SHANTER SHALL BE CONSIDERED AS NEGATIVE. SAME TO BE FOLLOWED AS PER APPROVED MARK AND MODEL.

12. 90 WGL THICKNESS AT ALL LEVELS TO BE FOLLOWED AS PER STRUCTURE DRAWINGS. BLOCKWORK / BRICKWORK EXCEPT TO BE ADJUSTED ACCORDINGLY.

NOTE : DRAWINGS CORRESPONDS TO 9TH FLOOR LEVEL DETAILS
TYPICAL FOR ALL (TYPE -2) 2BHK TOILET-2 FROM 9TH FLOOR TO
73RD FLOOR





01

OFFICE CABIN INTERIOR DESKSPACE VIEWS



02

OFFICE CABIN INTERIOR VIEWS



THE ABOVE OFFICE CABIN RENDERS ARE DONE AS PER THE CLIENT REQUIREMENT WITH TWO POSSIBLE OPTIONS





SITE VISIT PHOTOS



1. CLASSROOM- GROUPING OF CLASS LEVEL

S.NO	CATEGORY	AGE GROUP	LEVEL
1	PRE-SCHOOL	3-5 YEARS	PRE-NURSERY, NURSERY
2	PRIMARY/LOWER	6-10 YEARS	I to IV/V
3	SECONDARY/MIDDLE	10-13 YEARS	V to VII or VIII
4	HIGHER SECONDARY/LO	14-16 YEARS	VIII/X to X
5	HIGHER SECONDARY(HIGH LEVEL-1)	17-18 YEARS	XI and XII
6	HIGHER SECONDARY(HIGH LEVEL-2)	19-22 YEARS	30 and 32

The size of a classroom shall depend on the following:
 a) Anthropometric dimensions of children and their space requirements
 b) Circulation, arrangement of furniture and equipment and their facilities
 c) Number of students to be accommodated
 d) Types of activities to be carried out and
 e) Different seating arrangements according to these activities.

Essential Constructional Requirement of Classroom

REQUIREMENTS	MEASUREMENT	REMARKS
1. Height of Classroom	2.8M	Not be less than 2.7M as measured at any point from the surface of the floor to the lowest point of the ceiling
2. Headroom from luminous light	2.5M	The minimum headroom shall be under the lowest of beams, bars and light fixture to be at an average not less than each time, due to light
3. Proportion of a classroom	11:5	The proportion of the length (maximum dimension) to the breadth (minimum dimension) of the classroom should be not more than 1:5
4. Floor height	0.80 m	The floor height for classrooms with American arrangement should be not more than 0.80 m measured from finished floor level
5. Seating arrangement	900mm	The classroom with seating arrangement should be not less than 900 mm
6. Distance between chalkboard and first row of seats	3000 mm	The minimum clear distance between the chalkboard and the first row of seats when chalkboard is in use, shall be at least 3000 mm

Room shall have, for the illumination of light and air, one or more openings, such as windows and louvers, opening directly to the external air without any intervening wall. The minimum height above the floor of any opening shall be not less than 2.00 m. All openings of the floor shall be such that openings are located in one wall and not less than 10 percent of the floor area is covered by openings on the other wall.

TYPICAL ILLUSTRATIONS OF CLASSROOMS

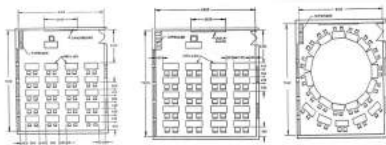


Fig. 1. American Classroom

Fig. 2. French Classroom

Fig. 3. Indian Classroom

CLASSROOM FITTINGS

S.NO	FITTINGS	NO. OF UNITS	AREA	REMARKS
1.	Essential Fittings			
a.	Chalkboard	1	1200 mm x 2.400 mm	Area should be different with the floor area
b.	Cupboard	1	1.20 SQM	400 mm high and not less than 1200 mm
c.	Plinth	1	1200 mm x 2.400 mm	There should be one or more for the chalkboard and one or more for the floor area
2.	FITTINGS WHEN NEEDED			
a.	Fans	3	1200 mm x 2.400 mm	
b.	Light points	4		
c.	Shelving racks			Shelving racks for books and other materials should be provided in the classroom

CLASSROOM FITTINGS

S.NO	FITTINGS	REMARKS	AREA	REMARKS
1.	Chalkboard	1	1200 mm x 2.400 mm	Area should be different with the floor area
2.	Cupboard	1	1.20 SQM	400 mm high and not less than 1200 mm
3.	Plinth	1	1200 mm x 2.400 mm	There should be one or more for the chalkboard and one or more for the floor area
4.	Fans	3	1200 mm x 2.400 mm	
5.	Light points	4		
6.	Shelving racks			Shelving racks for books and other materials should be provided in the classroom

ARRANGEMENT OF FANS AND LIGHT IN A CLASSROOM



OTHER TEACHING SPACES-SCIENCE LABORATORIES

S.NO	ROOMS	CONSTRUCTION OF AREA (sq. m)	TOTAL AREA (sq. m)
1.	Physics Laboratory	40	96
2.	Chemistry Laboratory	40	96
3.	Biology Laboratory	40	96
4.	Mathematics Laboratory	40	96
5.	Art Laboratory	40	96
6.	Music Laboratory	40	96
7.	Drama Laboratory	40	96
8.	Physical Education	40	96
9.	Library	40	96
10.	Computer Laboratory	40	96
11.	Workshop	40	96
12.	Store Room	40	96
13.	First Aid Room	40	96
14.	Staff Room	40	96
15.	Principal's Office	40	96
16.	Teacher's Office	40	96
17.	Student Office	40	96
18.	Parent's Office	40	96
19.	Guest Office	40	96
20.	Security Office	40	96
21.	Medical Office	40	96
22.	Law Office	40	96
23.	Engineering Office	40	96
24.	Architecture Office	40	96
25.	Design Office	40	96
26.	Production Office	40	96
27.	Marketing Office	40	96
28.	Finance Office	40	96
29.	Human Resources Office	40	96
30.	Information Office	40	96
31.	Legal Office	40	96
32.	Medical Office	40	96
33.	Law Office	40	96
34.	Engineering Office	40	96
35.	Architecture Office	40	96
36.	Design Office	40	96
37.	Production Office	40	96
38.	Marketing Office	40	96
39.	Finance Office	40	96
40.	Human Resources Office	40	96
41.	Information Office	40	96
42.	Legal Office	40	96
43.	Medical Office	40	96
44.	Law Office	40	96
45.	Engineering Office	40	96
46.	Architecture Office	40	96
47.	Design Office	40	96
48.	Production Office	40	96
49.	Marketing Office	40	96
50.	Finance Office	40	96
51.	Human Resources Office	40	96
52.	Information Office	40	96
53.	Legal Office	40	96
54.	Medical Office	40	96
55.	Law Office	40	96
56.	Engineering Office	40	96
57.	Architecture Office	40	96
58.	Design Office	40	96
59.	Production Office	40	96
60.	Marketing Office	40	96
61.	Finance Office	40	96
62.	Human Resources Office	40	96
63.	Information Office	40	96
64.	Legal Office	40	96
65.	Medical Office	40	96
66.	Law Office	40	96
67.	Engineering Office	40	96
68.	Architecture Office	40	96
69.	Design Office	40	96
70.	Production Office	40	96
71.	Marketing Office	40	96
72.	Finance Office	40	96
73.	Human Resources Office	40	96
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75.	Legal Office	40	96
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78.	Engineering Office	40	96
79.	Architecture Office	40	96
80.	Design Office	40	96
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85.	Information Office	40	96
86.	Legal Office	40	96
87.	Medical Office	40	96
88.	Law Office	40	96
89.	Engineering Office	40	96
90.	Architecture Office	40	96
91.	Design Office	40	96
92.	Production Office	40	96
93.	Marketing Office	40	96
94.	Finance Office	40	96
95.	Human Resources Office	40	96
96.	Information Office	40	96
97.	Legal Office	40	96
98.	Medical Office	40	96
99.	Law Office	40	96
100.	Engineering Office	40	96

FUNCTIONAL REQUIREMENTS

ILLUMINATION LEVELS ON WORK AREAS FOR SCHOOL BUILDINGS

S.NO	VISUAL TASK	ILLUMINATION LEVEL (lx)
1.	Classroom desk top, chalkboards	150-300
2.	Laboratories/Workshops	300-500
3.	Library reading tables	150-300
4.	Drawing, typing	300
5.	Trains	150
6.	Manual training	150

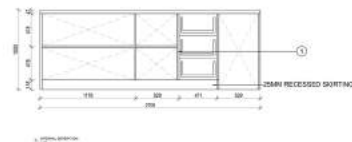
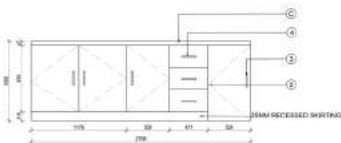
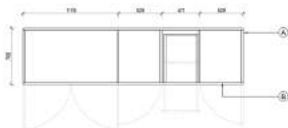
6.1 Maximum acceptable noise levels in classrooms and other teaching spaces due to external sources should be 40 dB(A) or equivalent to 100-120.
 6.2 Level of ventilation in the classrooms and other teaching areas shall be six air changes per hour.
 6.4 The orientation of the building should be in conformity to IS : 9646 (Part 1)-1994.

SCHOOL AREA REQUIREMENT - IS 8827-1978

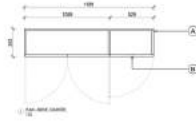


KITCHEN LAYOUT - TYPE A - 1

ELEVATION A



ELEVATION B



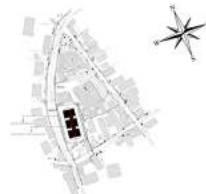
MATERIAL LEGEND

- Canvas - 15mm thick HICHER with 0.5mm thick plain laminate finish at inside. All exposed sides to have decorative laminate finish of 15mm thick. Backside and unexposed sides of the cupboard shall be with painted finish.
- 15mm thick HICHER with 1.5mm thick decorative laminate finish on front face and 0.5mm thick plain laminate finish on inside face of shutter.
- 40mm thick Granite counter top with rounded edge chamfer.

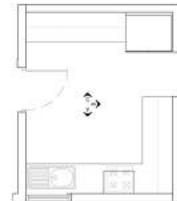
FIXTURES SCHEDULE

- BALL BEARING DRAWER DIVIDER, BRASS (PT-1) (10MM)
- SUP ON CABINET HINGE ASST. 2 HOLES - 4 NOS
- 15MM DOOR HANDLE (UNDESIGNED ALUMINIUM) - 2 NOS
- 15MM UP PULLING (DOOR HINGE) (UNDESIGNED ALUMINIUM) - 1 NOS
- MAGNETIC DOOR CATCHER - 7 SETS

KEY PLAN



KEY PLAN (Not to Scale)



KEY PLAN N.T.S.

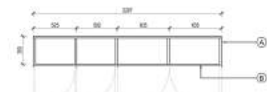
* This drawings prepared for Tender purpose only.
* The details and sizes marked in the drawing may vary as per the actual design.

PROJECT NO.		DATE									
DESCRIPTION		REVISIONS									
		OFFICE OF THE COMMISSIONER OF POLICE, GUWAHATI, ASSAM									
PROJECT :		TITLE :									
JAN-11-10001		KITCHEN LAYOUT - TYPE A - 1									
DRAWING NO. : 000000 - A - SP - 00 - WD - 0001		PROJECT NO. : 000000 - A - SP - 00 - WD - 0001									
RELEASED FOR : ☐ PRELIMINARY ☐ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION		<table border="1"> <tr> <th>REV</th> <th>DATE</th> <th>BY</th> <th>APP</th> </tr> <tr> <td>01</td> <td></td> <td></td> <td></td> </tr> </table>		REV	DATE	BY	APP	01			
REV	DATE	BY	APP								
01											

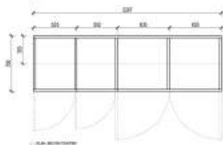
25MM RECESSED SKIRTING

INTERVAL SEPARATION B
1.25

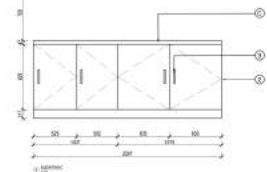
KITCHEN LAYOUT - TYPE A - 2 - ELEVATION C



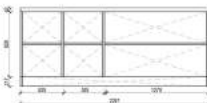
1. 10mm thick Granite



1. 10mm thick Granite



1. 10mm thick Granite

INTERNAL SEPARATION C
125

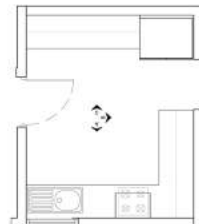
MATERIAL LEGEND

- (A) Granite - 10mm thick HIGHGloss with 0.5mm thick plain laminate finish on inside.
All Exposed sides to have decorative laminate finish of same thick. Backside and unexposed sides of the cabinet shall be with channel finish.
- (B) 15mm thick HIGHGloss with 1.5mm thick decorative laminate finish on front face and 0.5mm thick plain laminate finish on inside face of shutter.
- (C) 45mm thick Granite counter top with rounded edge channel.

HARDWARE SCHEDULE

- (1) BALL BEARING DRAWER CHANNEL 800MM (DFT) - 5 PAIRS
- (2) SLIP-ON CHERRY HIDE INSET - 2 PILES - 14 NOS
- (3) 150MM DOOR HANDLE (WOODS ALUMINUM) - 7 NOS
- (4) 150MM OF ROUNDED DOOR HANDLE (WOODS ALUMINUM) - 3 NOS
- (5) MAGNETIC DOOR CATCHER - 7 SETS

KEY PLAN

KEY PLAN
(Not to Scale)KEY PLAN
NTS

* This drawings prepared for Tender purpose only.
* The details and sizes marked in the drawing may vary as per the actual design.

REV NO.	DESCRIPTION	DATE
		REVISED

OFFICE OF THE COMMISSIONER OF POLICE
DURGAHATI, ASSAM

PROJECT :	WAP :
AWR No. : 12002	KITCHEN LAYOUT - TYPE A - 2

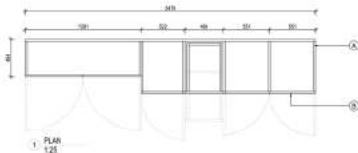
DRAWN BY: OXXXXX - A - SP - 00-WD - 0001

RELEASE FOR: ☐ PRELIMINARY ☒ TENDER ☐ INFORMATION ☐ APPROVAL ☐ CONSTRUCTION

PROJECTION: FIRST ANGLE

SCALE: A3
A

KITCHEN LAYOUT - TYPE B and C

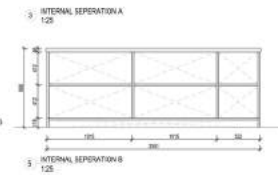
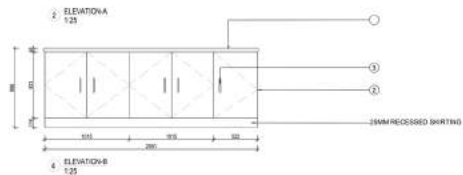
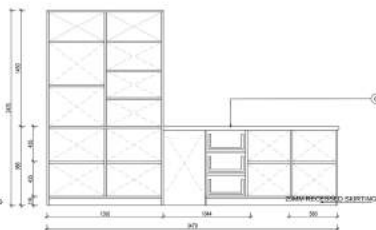
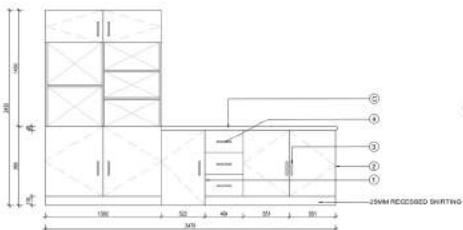


MATERIAL LEGEND

- ① Ceramic - 15mm thick HCMVR with 0.6mm thick plain laminate finish at inside.
All Exposed edges to have decorative laminate finish of 1mm thick. Backside and unexposed sides of the cupboard shall be with painted finish.
② 15mm thick HCMVR with 1.0mm thick decorative laminate finish on front face and 0.6mm thick plain laminate finish on trade face of shutter.
③ 40mm thick Granite counter top with rounded edge chamber

HARDWARE SCHEDULE

- ① BALL BEARING DRAWER CHANNEL 850MM (2") - 3 PAIRS
② SLIP ON CABINET HINGE INSET - 2 HOLES - 14 NOS
③ 150MM DOOR HANDLE (ANODISED ALUMINIUM) - 7 NOS
④ 150MM OF RECESSED DOOR HANDLE (ANODISED ALUMINIUM) - 3 NOS
⑤ MAGNETIC DOOR CATCHER - 7 SETS



KEY PLAN

KEY PLAN
(Not to Scale)

TYPE - B & C



* This drawings prepared for Tender purpose only.
* The details and sizes marked in the drawing may vary as per the actual design.

REV NO.	DESCRIPTION	DATE	REVISION
1			
OFFICE OF THE COMMISSIONER OF POLICE GUWAHATI, ASSAM			
PROJECT:		TITLE:	
JOB No. 12345		KITCHEN LAYOUT - TYPE B and C	
DRAWING No. OXXXXX - A - SP - 00 - WD - 0001		PREPARED BY: [Signature] CHECKED BY: [Signature] DATE: [Date]	
RELEASED FOR:	☐ PRELIMINARY ☒ TENDER ☐ INFORMATION ☐ APPROPRIATE	SCALE: 1:25 ☐ CONSTRUCTION	SIZE: A3 REV: A

