



# LANDSCAPE RESEARCH LAB

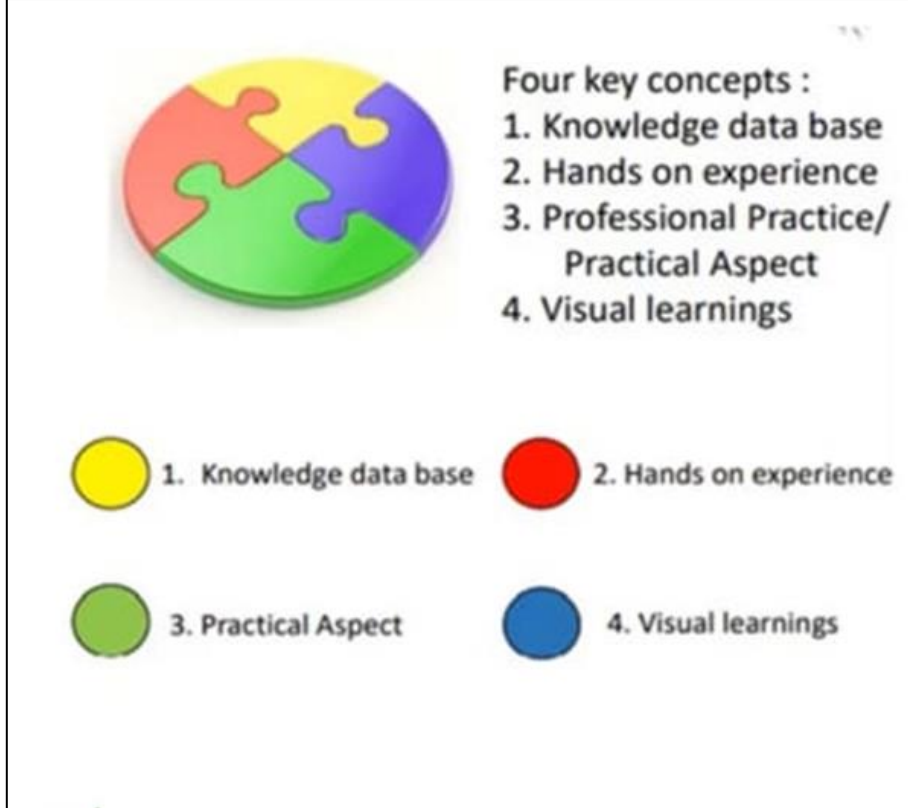
Department of Landscape Architecture,  
BNCA, Pune

Initiated and conceptualized by:  
Dr. Swati Sahasrabudhe, HOD



**Landscape Research Lab**





## INTRODUCTION

Landscape Architecture course being interdisciplinary in nature. It has aspects of research and study of subjects of Pure sciences (botany – plant systematics and taxonomy, geology and soils, geomorphology and hydrology, Ecology and ecosystem analysis etc.) , Study of Social sciences (Human behavioral studies with respect to natural and built environment – simulation based researches of Landscape Performances using Virtual reality, Augmented Reality , Current landscape technologies like GIS (For landscape and ecological assessments) ,Green walls and Vertical Landscapes , Biophilic landscapes, Hydroponics, Futuristic landscape technologies like Virtual Reality and Augmented Reality for Immersive Landscape Designs and Allied Fields study having a component of Hands on activities (Landscape Art , Art Installations in Landscape using Design thinking and prototypes making)

# OBJECTIVES

- The Department of Landscape Architecture intends to revive and extend a Landscape Research laboratory for students and professionals as a platform for interaction enabling hands on experience to various landscape practices and services.( E.g.: Potting, horticultural practices, soil handling, plant care, green wall installation, art workshops, prototype workshops, lighting , irrigation etc)
- The revised syllabus has focus on research based applications of Pure sciences subjects like, Geology, Geomorphology, soils, hydrology, plant systematics and taxonomy, electives like GIS , Horticultural practices, sustainable landscape practices etc. which demands more experiments ( like soil testing for PH values of soil samples, Botony practical to understand the plant characteristics under the microscope, hands on workshops for experimentation in different sustainable landscape practices, learning GIS software etc.
- This landscape research lab shall serve as a value addition to our academic elective – Horticultural Practices, Sustainable Landscape Practices, Landscape and Art etc and short courses like Garden Design and Development, Value Added Courses like Introduction to Landscape Practices etc.
- This Landscape research lab will be a step towards imparting values of sustainable landscape practices. Advanced skill building in students can be achieved by giving them the opportunity to experiment with different landscape materials/techniques and practically apply their landscape theories into practice.

# TIMELINE

## YEAR 01

Setting up of the Refurbished Lab as prescribed by Council of Architecture



## YEAR 03

Checking and analyzing cross cuttings, overlaps of the different domains of the research, verifying its exact applicability in the field of Landscape Architecture, This study can also be a major part of Research outcome



## YEAR 05

Venturing in Future possibilities of the Landscape Research Lab initiatives



## YEAR 02

Conducting Experiment based Research in Different Domains



## YEAR 04

Review of the Landscape Research Lab and its possible research potentials – SWOT analysis, congruence with the academic curriculum and NEP



# PROPOSED LAB ACTIVITIES

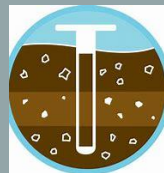
## PLANT SYSTEMATICS AND TAXONOMY PRACTICAL

- Using Dissecting Microscopes



## SOIL TESTING

- Using soil testing sieve
- Checking Organic content in soil



## HORTICULTURAL PRACTICES

- Pot mixture of soil additive
- Potting, handling and maintenance of gardening tools and equipment
- composting techniques
- Green wall & roof installation
- Sample waterproofing for terrace gardens
- drip irrigation installation
- knowhow of landscape materials, landscape lighting, land art



## GEOLOGY

- Special Hammers for taking geology samples
- Hammer handling practical's



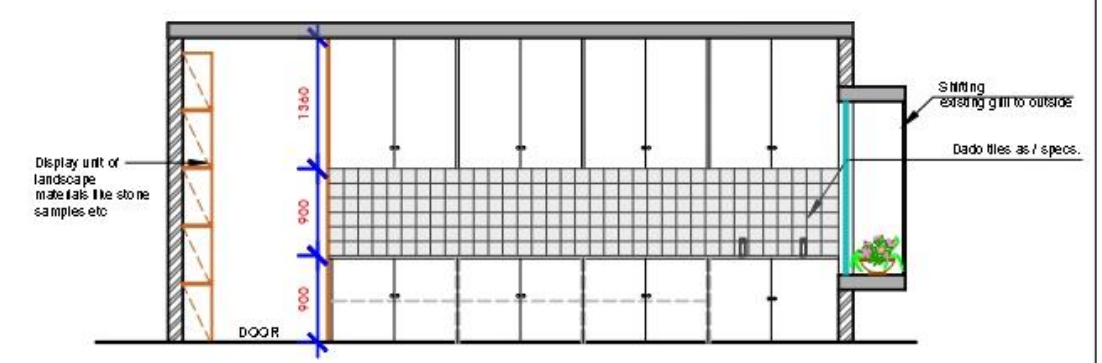
## SOFTWARES

- GPS Handling Practical – before using onsite
- GIS software use on Desktop
- Smart Board for Audio Visual presentations and varied applications

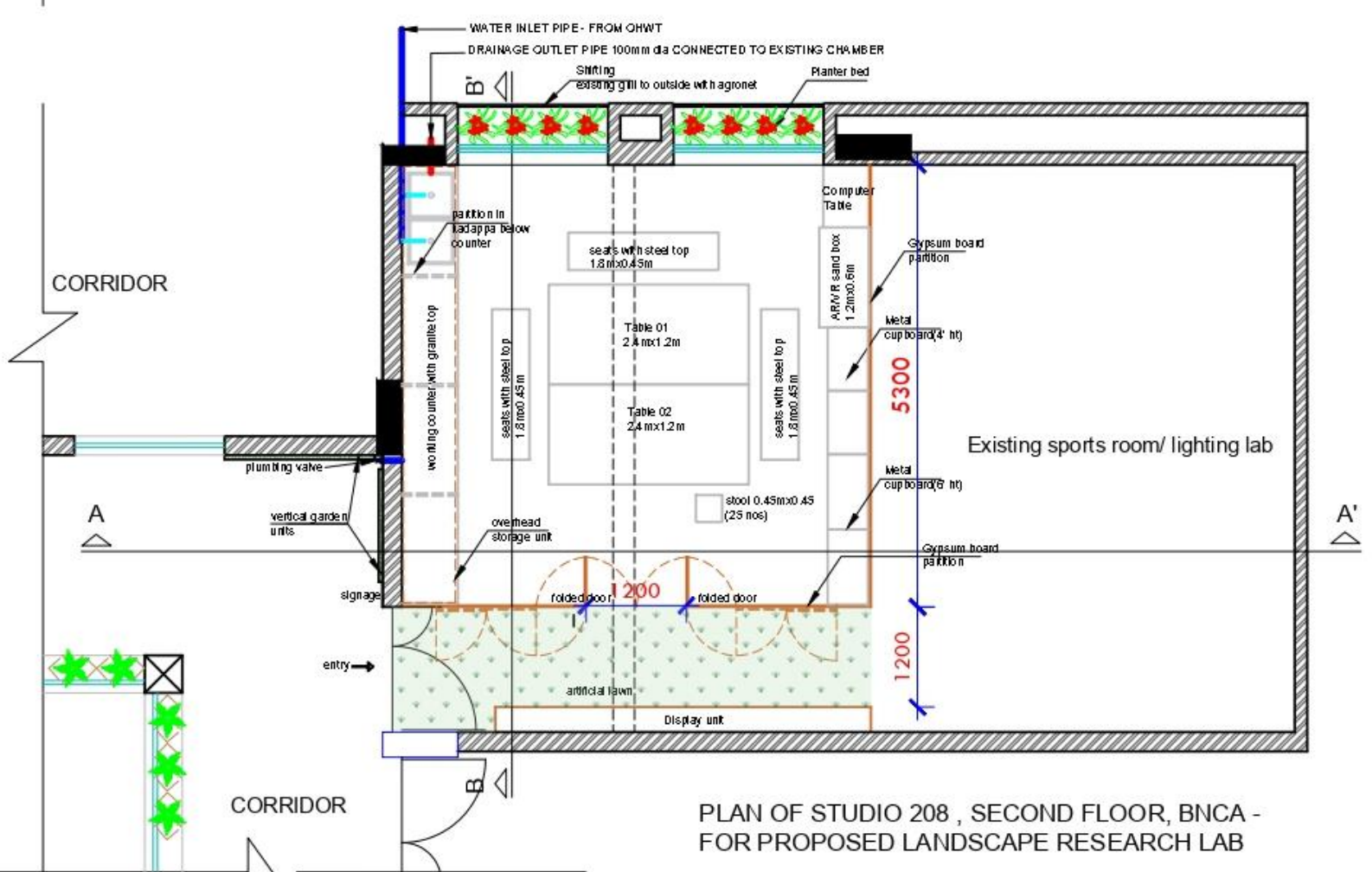




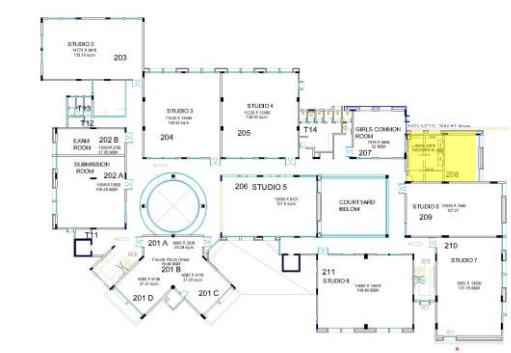
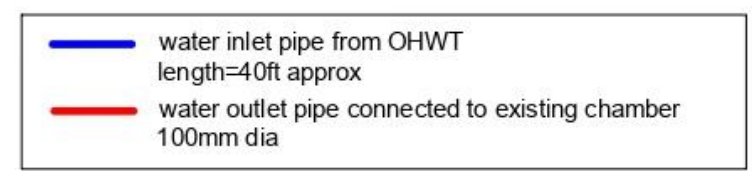
SECTION - AA'



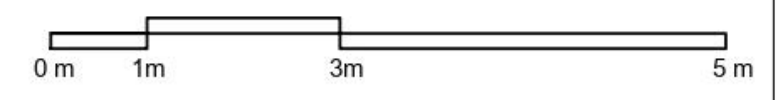
SECTION - BB'



PLAN OF STUDIO 208 , SECOND FLOOR, BNCA - FOR PROPOSED LANDSCAPE RESEARCH LAB



KEY PLAN



PROPOSED LAYOUT FOR LANDSCAPE RESEARCH LAB AT BNCA-STUDIO 208

Prepared By : Pranali Jadhav  
 SYM.Arch LA  
 28.08.2023





Views



Existing Lab



Existing Lab



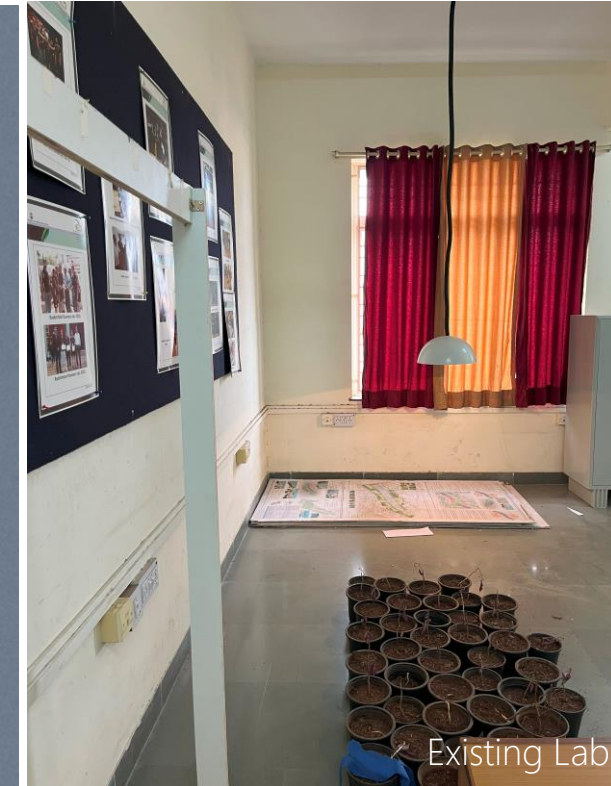
Views



Existing Lab



Views



Existing Lab



Views



Existing Lab

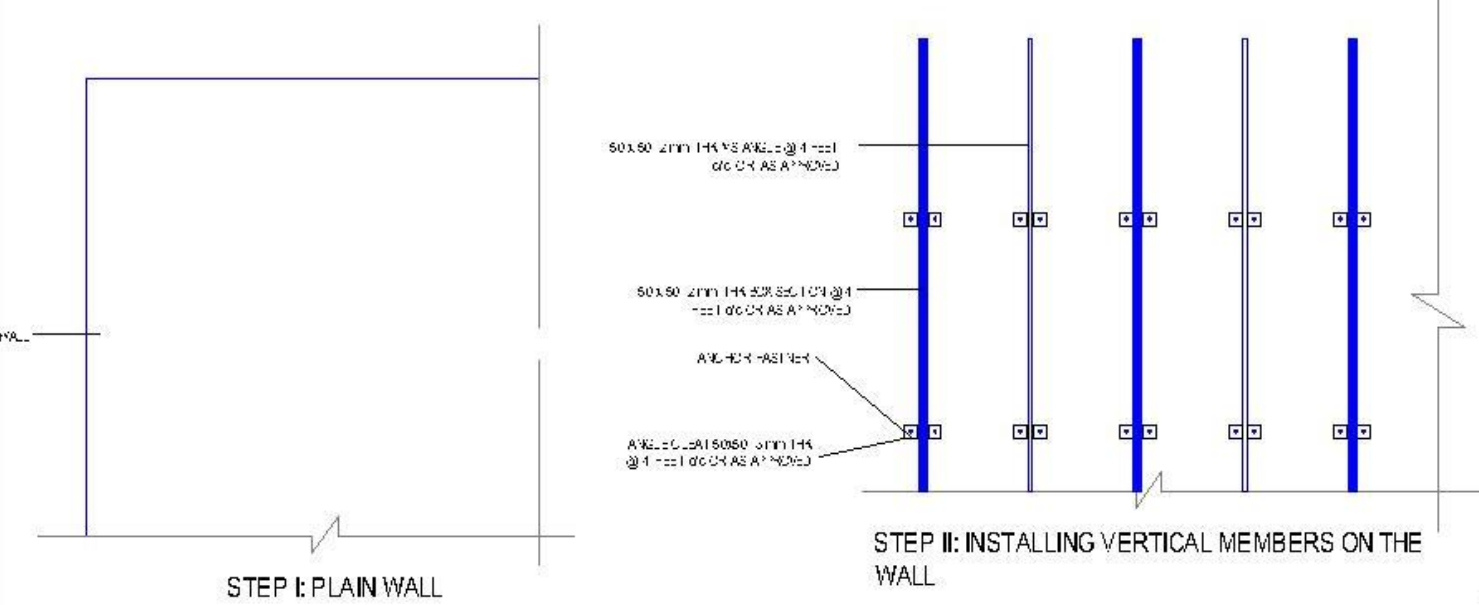


Views

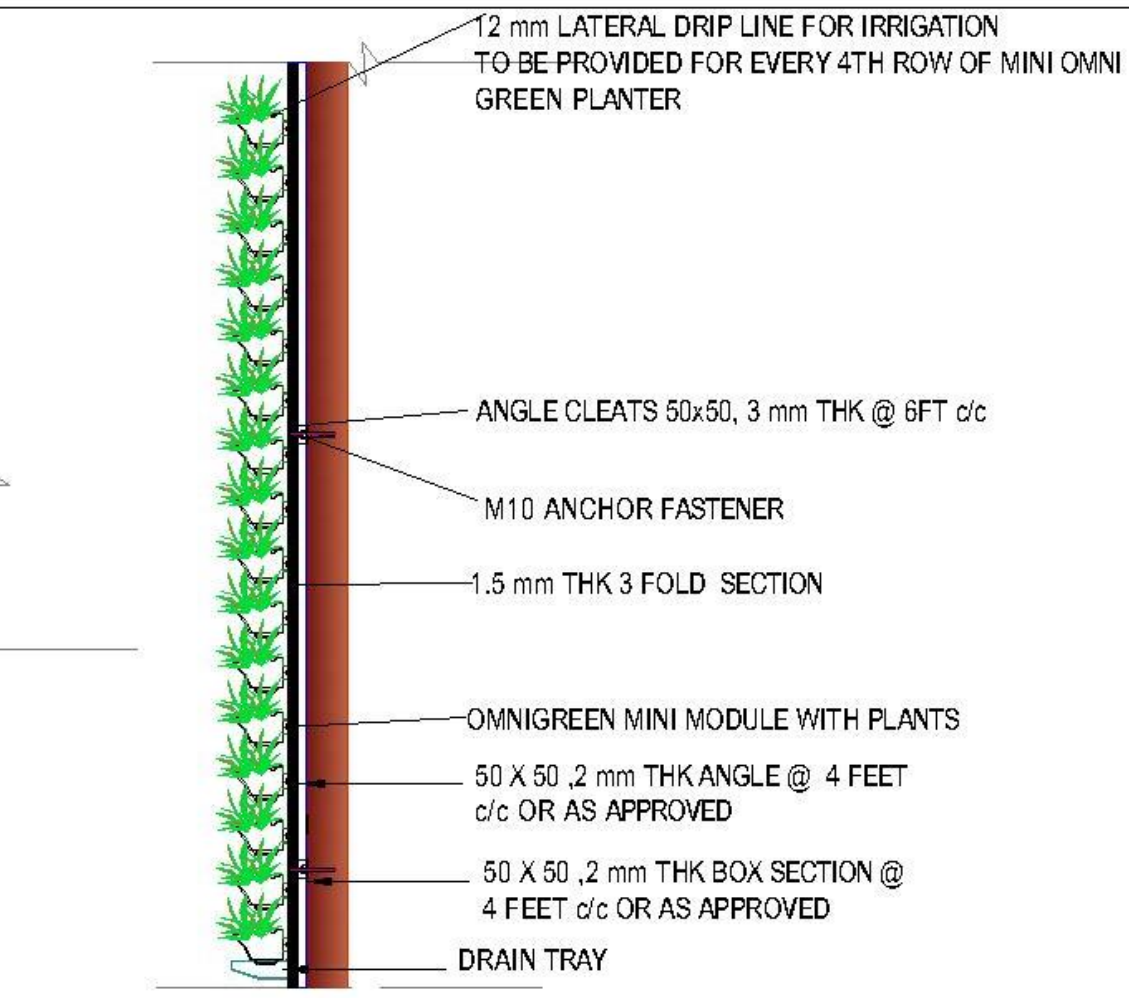
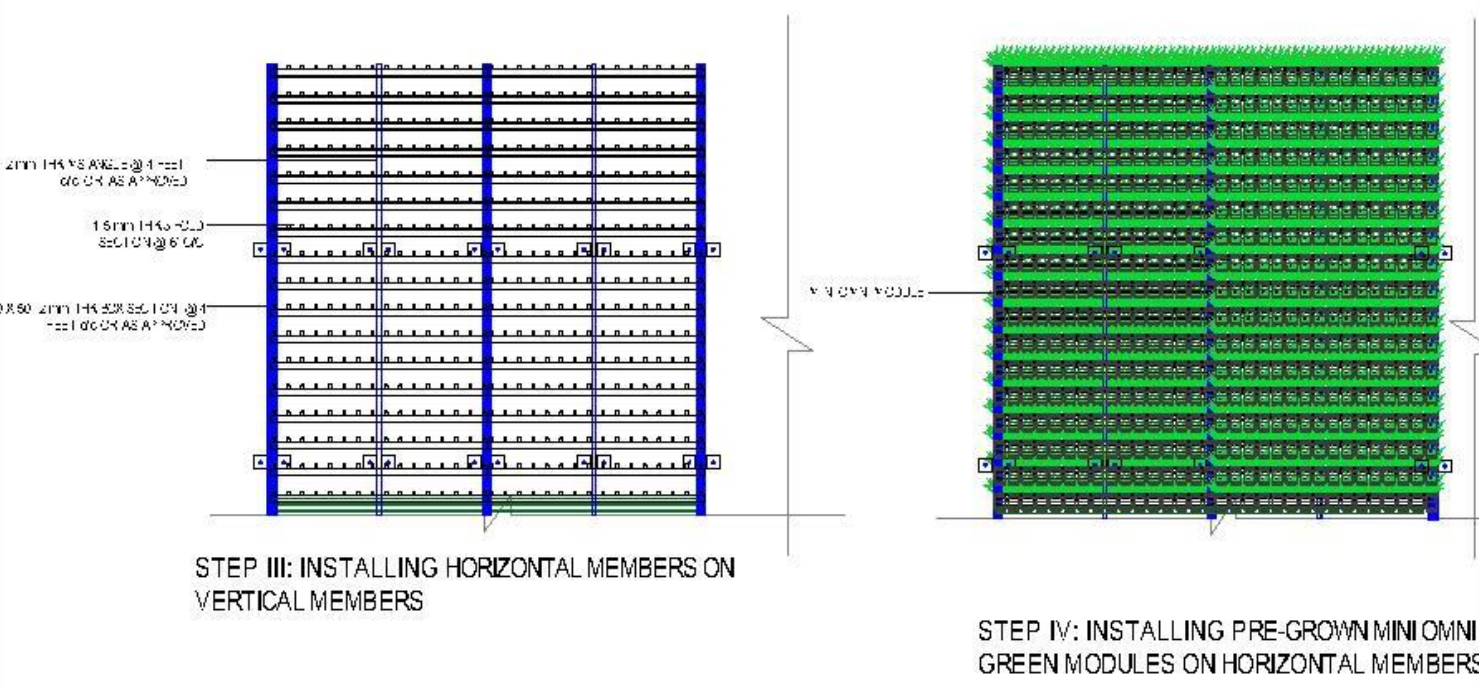


Views



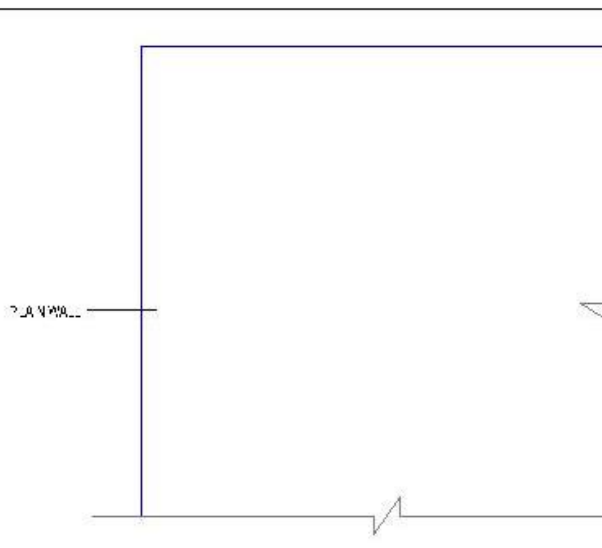


TITLE- PARTS LIST FOR MINI OMNI GREEN SYSTEM				
SR NO	PART	PART NAME	DESCRIPTION	MATERIAL
1		VERTICAL MEMBER	BOX SECTION 50 X 50 X 2MM THICK	G.I.
2		ANGLE CLEAT	50 X 50 X 3MM THICK	M.S., G.I.
3		ANCHOR FASTENER	M10 X 75MM	G.I., S.S.
4		SELF TAPPING SCREW	HEX HEAD Ø8 X 25MM	G.I., S.S.
5		HORIZONTAL MEMBER	65 X 1.5 MM THICK, 4FT	ALUMINIUM, G.I.
6		MINI OMNI GREEN MODULE	4 ATTACHED POTS OF 70 X 140 X 100MM EACH	PPCP
8		ANGLE	25 X 25, 2MM THICK	M. S., G.I.
9		DRAIN TRAY	340X125, 1.5MM THK, 8' LONG	G. I.



TITLE: **OMNI GREEN MINI SYSTEM-TYPICAL DETAILS**

**TYPICAL MOUNTING DETAIL**

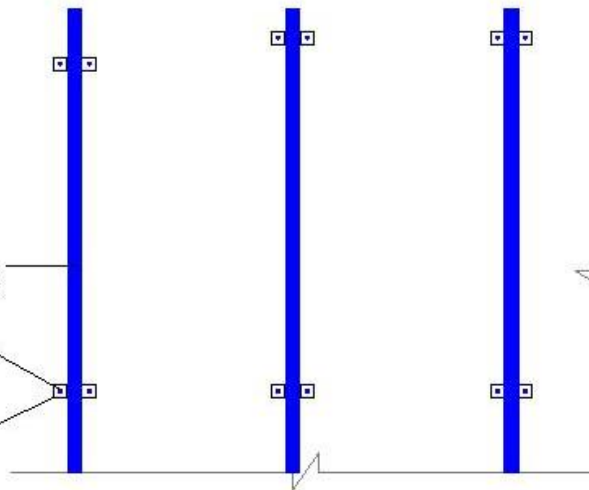


STEP I: PLAIN WALL

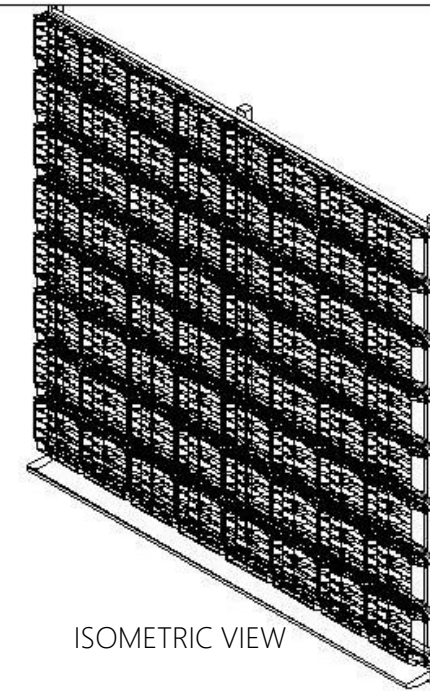
60x60 2mm THK BOX SECTION @ 4 FEET c/c OR AS APPROVED

ANCHOR FASTENER

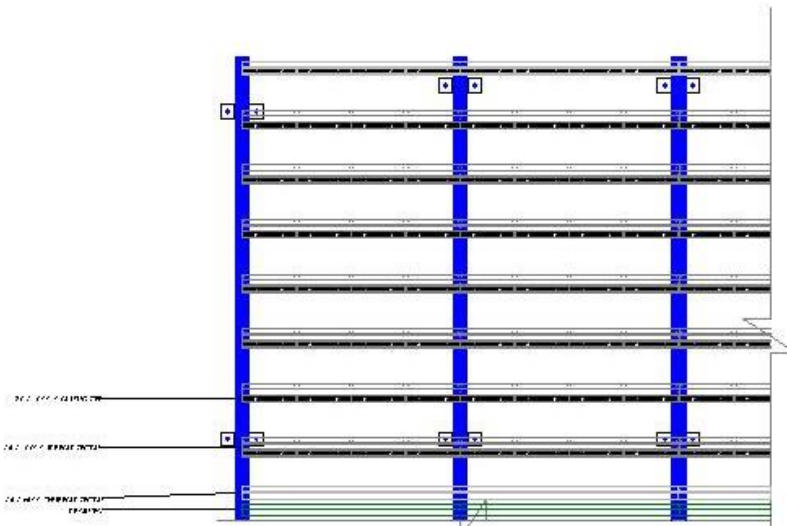
ANGLE CLEAT 50x50 3mm THK @ 4 FEET c/c OR AS APPROVED



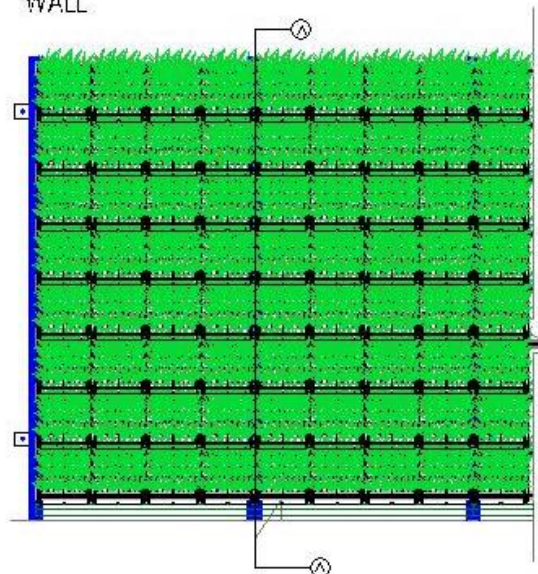
STEP II: INSTALLING VERTICAL MEMBERS ON THE WALL



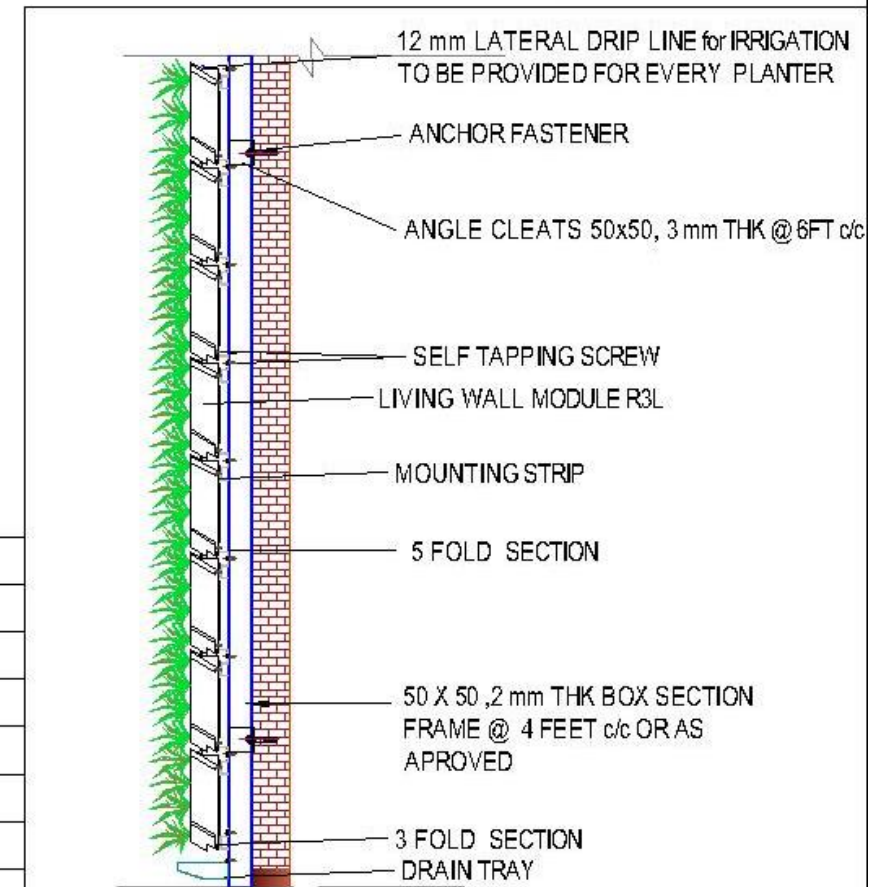
ISOMETRIC VIEW



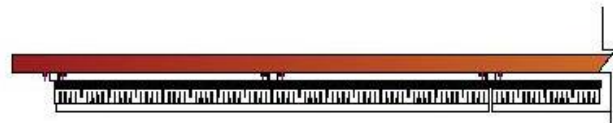
STEP III: INSTALLING HORIZONTAL MEMBERS ON VERTICAL MEMBERS



STAGE IV INSTALLING LIVING WALL MODULES



TYPICAL MOUNTING DETAIL

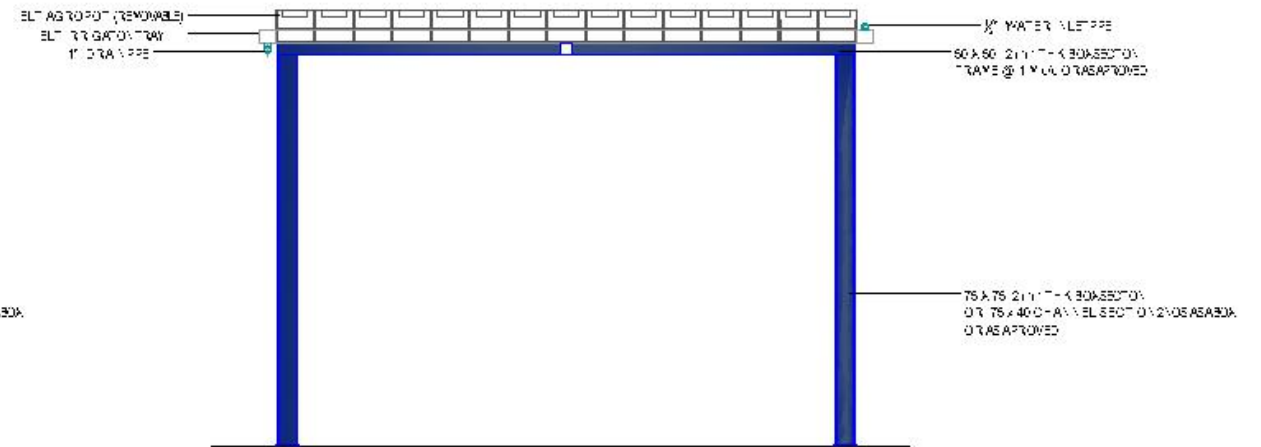
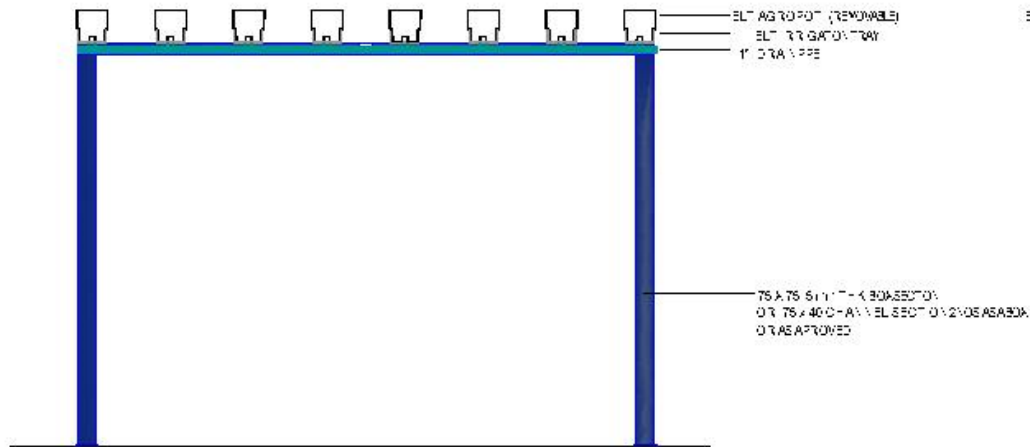


TYPICAL PLAN

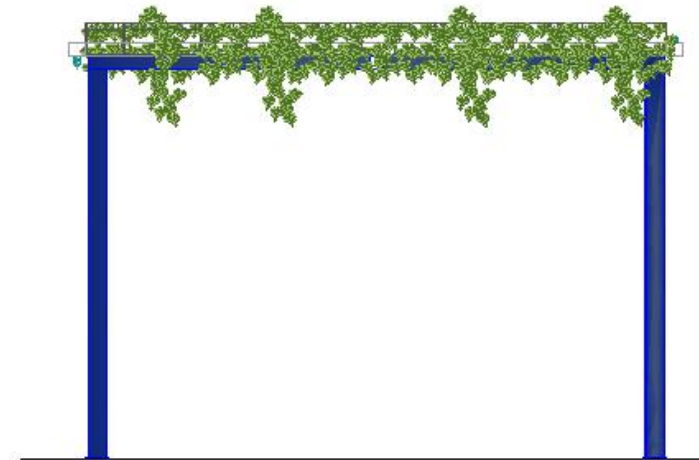
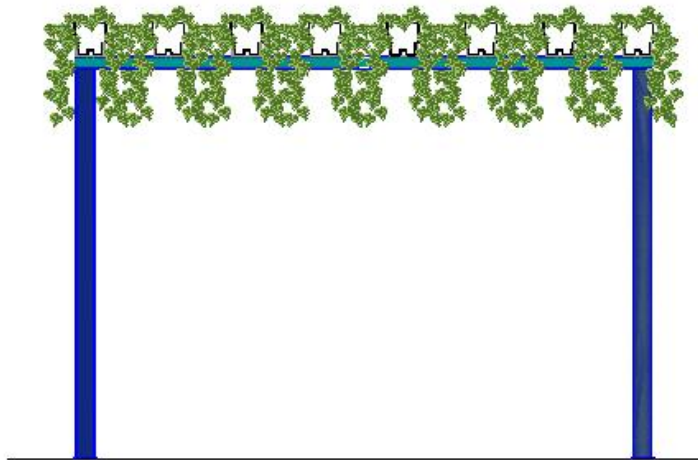
TITLE- PARTS LIST FOR GREEN WALL SYSTEM

SR NO	PART	PART NAME	DESCRIPTION	MATERIAL
1		VERTICAL MEMBER	BOX SECTION 50 X 50 X 2MM THICK OR CHANGED AS PER SITE	G. I.
2		ANGLE CLEAT	50 X 50 X 3MM THICK	M. S./ G. I.
3		ANCHOR FASTENER	M10 X 75MM	S. S.
4		SELF TAPPING SCREW	HEX HEAD 8 X 25MM	G. I./S. S.
5		FIVE FOLD SECTION	25 X 100 X 1.5MM THICK, 8FT LONG	G. I.
6		THREE FOLD SECTION	25 X 65 X 1.5MM THICK, 8FT LONG	G. I.
7		MOUNTING STRIP	30 X 10MM THICK	PPCP
8		DRAIN TRAY	341 X 123 X 1.5MM THICK, 8FT LONG	G. I.
9		LIVING WALL MODULE R3	305 X 305 X 75MM	PPCP

TITLE: LIVING WALL SYSTEM- TYPICAL DETAILS



TYPICAL PLANTER WITH FABRICATION DETAILS



TYPICAL LINEAR GREEN PERGOLAS

TITLE- PARTS LIST FOR LINEAR GREEN PERGOLA SYSTEM

SR NO	PART	PART NAME	DESCRIPTION	MATERIAL
1		VERTICAL MEMBER	75 X 75 X 5MM THICK BOX SECTION OR CHANGED AS PER SITE	G. I.
2		BASE PLATE	200X200, 8MM THK	M. S., G. I.
3		ANCHOR FASTENER	M10 X 75MM	S. S., G. I.
4		IRRIGATION TRAY	100 X 50, 1.2MM THK, 8' LONG	G. I.
5		AGROPOT	150 X 125 X 125MM	PPCP
6		HORIZONTAL MEMBER	50 X 50 X 2MM THICK BOX SECTION OR CHANGED AS PER SITE	G. I.



**TITLE: LINEAR GREEN PERGOLAS- TYPICAL DETAILS**



## SUMMARY

The Department of Landscape Architecture in BNCA wants to focus on the Research based Design in Academics as also specified in program outcomes of the revised SPPU syllabus in 2019. The department also wishes to substantially contribute to Research from academics in the BNCA Research Hub in the next five years. The Proposed Landscape Research Lab will foster in experiment based research and evidence based research in Landscape Architecture.





THANK YOU