SCHOOL OF ARCHITECTURE AND PLANNING

BABU BANARASI DAS UNIVERSITY, LUCKNOW (U.P.).

CERTIFICATE

I hereby recommend that the thesis entitled “COGNITIVE HEALTH CARE CENTER, Narela Distt. New Delhi” under the supervision, is the bonafide work of the student “PRANAV MALIK” and can be accepted as partial fulfillment of the requirement for the degree of Bachelor’s degree in architecture, school of Architecture and Planning, BBDU, Lucknow.

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Recommendation Accepted

Not Accepted

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ACKNOWLEDGEMENT

Behind every success there is certainly an unseen power of almighty, but an aim is eternal condition of success which is attainable at perfection in things by those who perverse with the association of their predecessors, teachers, family members and friends.

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Great Thanks to my colleagues for keeping good interest in embodying this work.

In the last but not the least I would like to thank GOD who gave me encouragement and strength to accomplish the work.

ABSTRACT

This Thesis tends to understand the stereotyped views regarding **mental health** in our society and create a safe place for people helping patients get back to the society. Project is an attempt to the built a space spreading awareness about mental health care both on individual and community level where everyone feels free to walk in and mental health is taken care of.

ABOUT THE CLIENT

Client for the project is "**Ministry Of Social Justice and Empowerment, Delhi**" .

This foundation is a Government funded organization working since last 12 years to promote and cure mental health care in the society.

PROJECT TYPOLOGY

The Project Typology for this thesis project is "**Healthcare**" and a "**community gathering space**".

These two typologies will work together to create a space where the two typologies flow together seamlessly.

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Chapter-1 Introduction

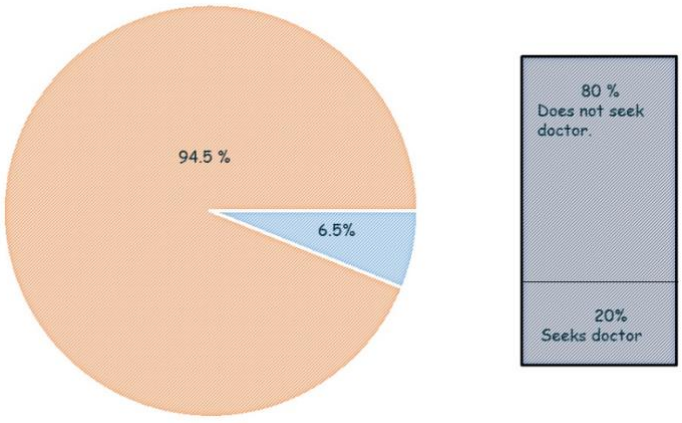
1.1 Introduction

Mental wellness centers are places that promote mental health wellness on both an individual level and community level. Mental wellness centers work hard to provide mental health and wellness services to those in need while promoting more awareness and tolerance for those who are seeking or feel they may benefit from mental health services. Mental wellness centers educate the community about mental health and wellness, organize mental wellness activities, and provide services to individuals, couples, families, children and community groups.

Most mental wellness centers have programs and services that are geared toward promoting overall mental health and wellness. There are plenty of services that help you learn about yourself, your community, and mental health and wellness as a whole. Here is what you can typically find at a mental wellness center:

- ✓ Support groups: Each support group will have its own topic and is geared to help attendees work through and process the struggles in their lives that are related to the topic of the support group.
- ✓ Therapy and counseling**:** There are typically therapy and counseling services available to people who has been diagnosed by mental illness as well as ones who feel unstable and stressed due to various reasons. The therapeutic approach is often individualized based on a person's needs. The counseling modality can include couple's therapy, individual sessions, family therapy, behavioral therapy for children, and counseling for adolescents.
- ✓ Community outreach: Community outreach programs are intended to spread awareness about various mental health topics to the surrounding community, such as providing mental wellness worksheets and apps to its members. Community outreach programs promote education and awareness of mental health wellness and the services available to the community in the surrounding area.

1.2 Need of the Project



For a country not embroiled in war, tribal conflict, disaster, domestic riots, India is oddly one of the most un happy countries places 140 out of 156 countries behind Pakistan ranked 67 and China ranked 93. While we suspect the reason another WHO report says that India (6.5%) is the most depressed countries leaving behind USA (91%) and China (46%) While, 80% people diagnosed with mental sickness do not seek any kind of treatment with ratio of 1 doctor to 10000 patients. There are 150 million more people who need access to therapy and this is projected to increase by 20% by 2020 .

Trouble doesn't end here as according to a survey conducted 6 on 10 people admitted they feel stressed one in week looking for an opportunity to relax and ease out.

1.3 Structure of the thesis

1.3.1 Thesis intent

To develop a green building that helps in natural healing of an individual.

1.3.2 Aim and objectives

Aim

i. To develop a user friendly place.
ii. To provide spaces such that wellness center becomes a part of everyone's day today's life.
iii. To integrate built within the unbuilt effortlessly that naturally provides a soothing environment.
iv. To develop energy efficient building considering the topography of site.

Objectives:

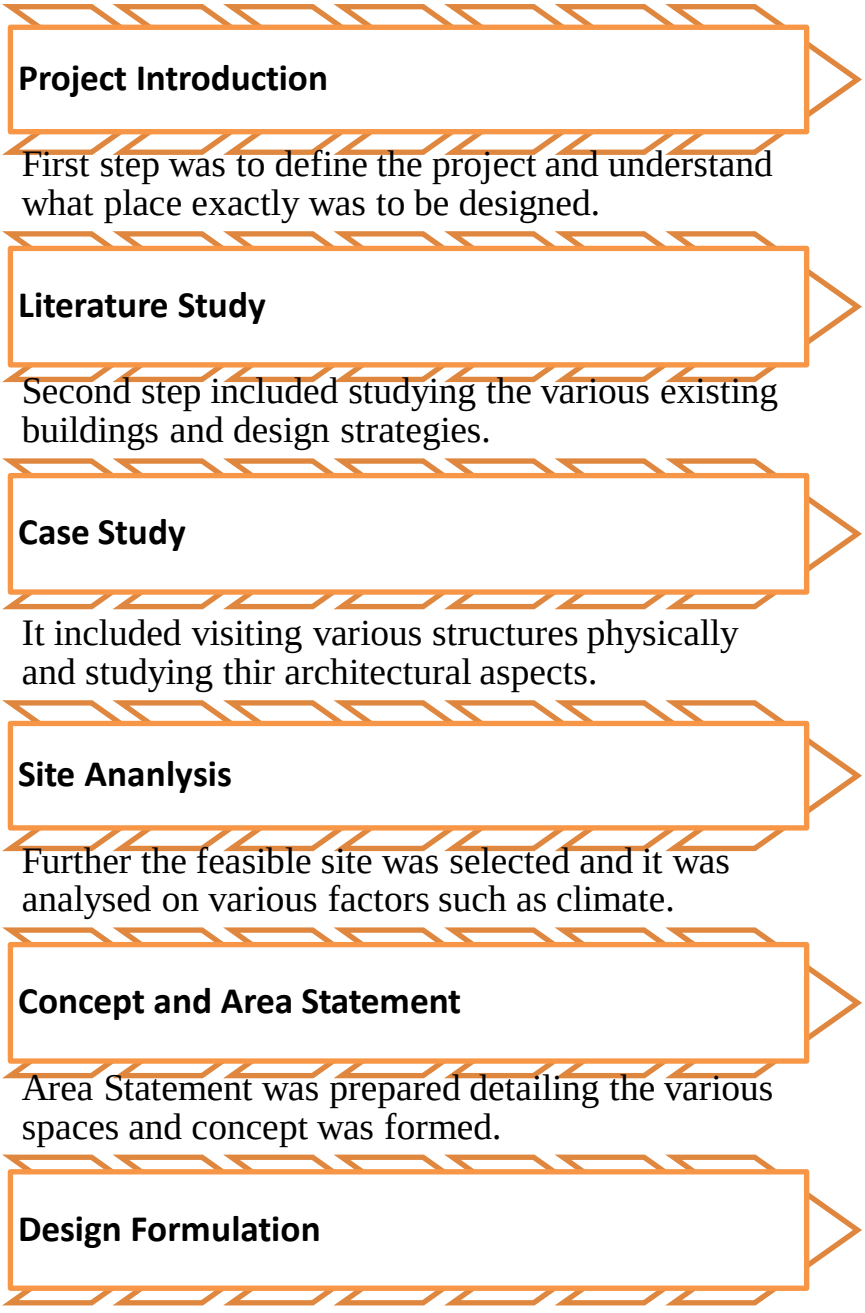
i. Focus stays on the public plaza without compromising with the safety and security of individuals within, yet integrating activities that make them a part of day.
ii. Design focuses on the universal design such that handicapped find it easy and self-directed to access, insisting on factors such as handrail, Toilets etc.
iii. Focus stays on the naturally healing activities and regulations.
Minimum destruction of natural features on the site.
iv. Green IGBC rated building with vernacular material and minimum destruction of contours will be designed.

1.3.3 Scope and limitations

i. Project focuses only on the design aspects, not on the interior.
ii. Project does not consider any budget restrictions.
iii. Project scope includes focus on the use of sustainable material to have soothing atmosphere.
iv. Lighting and color psychology has been kept in mind since they have an un avoidable impact on human's mind.
v. Barrier – free design has been a focus.
vi. The way spaces integrate and still have a private space has been the prime goal.

1.3.4 Thesis methodology

The methodology for this thesis has been as follows:



Chapter-2 Guidelines

General introduction to guidelines followed by proper sectioning

2.1 Design Guidelines

2.1.1 Adolescent and Child mental health unit

Models of Care include:

i. Children and adolescents together in a fully integrated unit, with separate programs and activities for relevant age groups; this arrangement optimizes staffing and enables efficient use of resources;
ii. Children and adolescents in the same unit but separate "zones" designed to cater for their differing needs; they should operate as two discrete service types with separate functional areas, programs and activities although co-location allows sharing of facilities.
iii. Inclusion of a secured dedicated unit collocated with a pediatric precinct to allow children to participate in activities with other children such as school and play therapy.
iv. Collocation of a Day Unit to minimize the need for hospitalization; the Day unit would provide for day activities and close down at night.

Functional Spaces:

The Unit will cater for both male and female patient and family members as required. The Unit should provide Bedrooms that can accommodate family members in a bed sitting arrangement with a separate bedroom to the child, with a shared Ensuite.

Support areas required in Child/ Adolescent Units will include:

i. Multipurpose Group Therapy/ Activity rooms that can also be used for education purposes.
ii. Large Interview Rooms to accommodate families
iii. Outdoor space for recreation activities.
iv. Storage for general ward equipment, occupational therapy equipment and a range of age appropriate, therapy, sport and recreation equipment in each setting. Office accommodation should be located in a non-patient area of the unit with secured access/ egress.

1. ASSESSMENT/ MEDICATION ROOM (MAY BE A SHARED FACILITY):
   The Unit will include a suitably equipped room for physical/ neurological examinations which will also contain locked cupboards for dressings, medications and emergency equipment in keeping with legislative requirements. The Room will require two entry/ exit doors.

2. EXTERNAL RELAXATION/ ACTIVITIES AREAS:

Each unit will require discrete and separate outdoor relaxation areas. These areas will not be locked but access to and from the units should be only from the respective unit and easily observed and monitored by staff. Staff should however be able to prevent access to these areas at night. A common external activity area may be shared if units are co-located.

CLINICAL SUPPORT AREAS

ROOM / SPACE	Standard Component					Level 5/6 Qty x m2	Remarks
BAY - LINEN	yes					1 x 2	
DIRTY UTILITY	yes					1 x 10	
STAFF STATION	yes					1 x 14	
OFFICE – CLINICAL / HANDOVER	yes					1 x 9	
STORE - EQUIPMENT	yes					1 x 14	
STORE - GENERAL	yes					1 x 9	
CLEANER'S ROOM	yes					1 x 5	
DISPOSAL ROOM	yes					1 x 8	
DISCOUNTED CIRCULATION						32%	

3. HIGH DEPENDENCY / INTENSIVE CARE UNIT (ADOLESCENT UNIT ONLY):
The Adolescent Unit will require a lockable high dependency unit consisting of at least one seclusion room and toilet/bath/ shower room opening onto a locked lounge area which has direct access to an external secure courtyard separate to other external recreation areas. Entry to this area directly from outside the unit will be required for police assisted admissions or where a young person is highly disturbed and at immediate risk of harm to themselves or others.

HIGH DEPENDENCY UNIT (4 BEDS)

ROOM / SPACE	Standard Component					4 Beds Qty x m2	Remarks
WAITING - SECURE						1 x 8	Entry area
EXAMINATION /ASSESSMENT	yes					1 x 16	
STAFF BASE	yes					1 x 10	Optional depending on planning layout
SECLUSION ROOM	yes					1 x 15	
1 BEDROOM – MENTAL HEALTH	yes					4 x 28	
PATIENT TOILET	yes					2 x 3	
PATIENT SHOWER	yes					2 x 3	
BAY HANDWASH	yes					1 x 1	
LOUNGE / DINING / ACTIVITY	yes					1 x 30	7.5m2 per person
COURTYARD	yes					1 x 40	10m2 per person

4. PATIENT BEDROOMS:

Single Patient Bedrooms shall be provided, each with an Ensuite. The patient bedroom doors must be able to be unlocked from the outside, even if locked on the inside. It is advisable to have the capacity to restrict the access to the Ensuite.

5. PATIENT ENSUITES:
An Ensuite shall be provided to each bedroom to comply with Standard Components Ensuite - Mental Health. The fittings must not provide opportunities for self-harm and are to have a breaking strain of less than 15 kg

PATIENT / FAMILY AREAS (8 BEDS)

ROOM / SPACE	Standard Component					8 Beds Qty x m2	
1 BEDROOM - MENTAL HEALTH	yes					6 x 28	
ENSUITE – MENTAL HEALTH	yes					6 x 5	
1 BEDROOM – LARGE	yes					2 x 28	For bariatric patients and/or a child and parent
ENSUITE - SUPER	yes					2 x 6	Standard domestic bath (optional) and raised shower bath for small children.
BATHROOM	yes					1 x 10	Standard domestic bath (optional) and raised shower bath for small children
MEDICATION / TREATMENT ROOM	yes					1 x 16	Includes spatial allowance for Resuscitation Trolley (1m2) & exam couch (3m2).
BAY- HANDWASHING	yes					2 x 1	1 per 4 beds
MULTIPURPOSE ROOM	yes					1 x 20	Classroom, crafts, magistrate sessions. Include lockers for patients' personal items/ work
RECREATION / DAY AREA						1 x 42	Recreation/Dining Areas based on 7m2 per person x 6
PLAY THERAPY ROOM						1 x 12	
DINING ROOM	yes					1 x 30	Assumes 8 patients plus 4 family members
PANTRY / KITCHEN	yes					1 x 12	Collocated with Dining Room
QUIET / TIME OUT ROOM						1 x 9	
COMPUTER ROOM	yes					1 x 12	
STORE – PATIENT PROPERTY	yes					1 x 6	
LAUNDRY - SELF-CARE	yes					1 x 6	Optional

6. PARENT/ FAMILY/ CARER BEDROOMS:
Bedrooms for parents or other family members should include a double bed and a single bed and be of sufficient size to allow a fold away cot for very young children. A shared Ensuite to enable parents/ carers to look after their child accommodated in another room should be available to each parent/ family/ carer bedroom.

7. RECEPTION/ ENTRY AREA:
The entrance to each unit should be readily observable from the nursing station/office and should incorporate a greeting/ waiting area for family, friends and others which is separated from all other functional areas on the units. The area should assist staff to prevent unauthorized entry to the unit and to provide a safe and therapeutic environment for children, adolescents and family members, (passive observation of the patient activity / recreation area from the ward office / nurses station is desirable).

ENTRY / RECEPTION / INTERVIEW

ROOM / SPACE	Standard Component					Level 5/6 Qty x m2	Remarks
ENTRY LOBBY / AIRLOCK	yes					1 x 8	
WAITING	yes					1 x 20	
WAITING - FAMILY	yes					1 x 25	
PLAY AREA - PAEDIATRIC	yes					1 x 20	
TOILET- DISABLED / BABY CHANGE	yes					2 x 5	
CONSULTATION ROOM	yes					2 x 28	

8. OFFICE ACCOMMODATION:
   Offices and workstations shall be provided according to the Operational Policy and staffing establishment. The office area should be located in the 'patient free' area of the unit. Administrative and office areas may be shared with adjacent units.

ROOM / SPACE	Standard Component					Level 5/6 Qty x m2	Remarks
OFFICE - PSYCHIATRIST	yes					1 x 9	
OFFICE - NURSE MANAGER	yes					1 x 12	
WORKSTATION - NURSING STAFF	yes					4 x 6	
WORKSTATION - ALLIED HEALTH	yes					4 x 6	
WORKSTATION - CLERICAL	yes					1 x 6	
WORKSTATION - VISITING PROFESSIONALS	yes					2 x 6	
MEETING ROOM	yes					1 x 25	
STORE – PHOTOCOPY / STATIONERY	yes					1 x 8	
STAFF ROOM	yes					1 x 20	With Beverage Bay
STAFF PROPERTY BAY	yes					1 x 4	
SHOWER - STAFF	yes					1 x 2	
TOILET - STAFF	yes					2 x 3	

Design Considerations:

i. Access to the Unit must not be through other units, also the unit must not form a thoroughfare to any other unit
ii. Bedrooms should provide a comfortable domestic environment with comfortable, robust furniture and furnishings
iii. All glazing must be a grade of safety glass suitable for mental health applications
iv. Where co-located, the Child and Adolescent Acute Psychiatric Inpatient Units should allow full independent operation and separation while enabling common use of appropriate facilities
v. Rooms and equipment need to meet the therapeutic and educational requirements of the patient group, with provisions for video conferencing in at least one large family Meeting Room and video recording in at least one Interview Room or wet and dry Therapy/ Play Room.

vi. The Entry areas to both Units require a Visitors' Toilet - Disabled with baby change facilities and a Waiting Area in close proximity.

vii. Design elements incorporating additional security measures should not be evident to the casual observer.

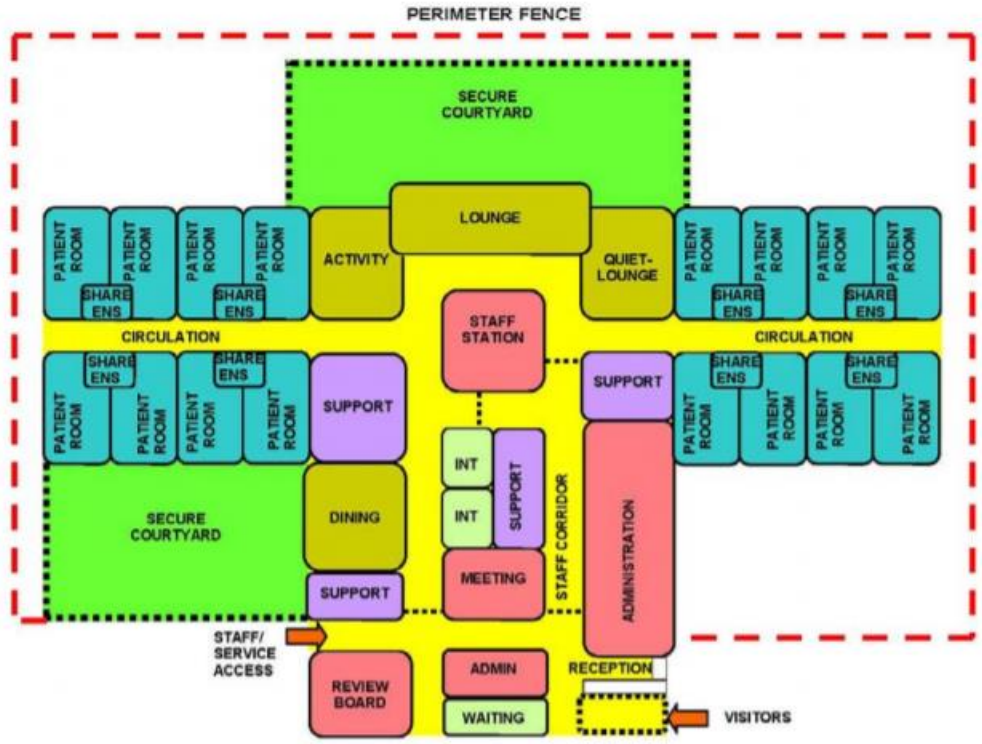


Figure 1: Design layout

Standard Spaces

Provide space for key areas according to the following guide:

i. Lounge/ Activities areas for social activities, 3.5 m2 per patient minimum
ii. Activities/ Dining areas, 5.5 m2 per patient, minimum.
iii. Separate Dining area 1.5m2 per patient.
iv. Courtyard and Terrace - minimum area - 20m2
v. Outdoor areas (courtyards and terraces) - General - 5m2 per person

Non – Standard Components

i. PLAY THERAPY ROOM
Description and Function: A Play Therapy Room shall be provided for 'regressive' therapies such as artwork, doll play and clay modelling. The room shall be designed with the young child 10-12 years in mind.
Location and Relationships: The Play Therapy Room should be located within the patient treatment / therapy zone of the Unit.
Considerations: Fittings, fixtures and equipment will include:
Bench, open under, Storage cupboards for materials, Whiteboard, Chairs, Hand basin with soap and paper towel fittings. Finishes should be smooth and easily cleaned, flooring should be vinyl.

ii. RECREATION / DAY AREA

Description and Function: A Recreation / Day area shall be provided for a wide range of activities including watching TV, listening to music, computer and other activities.

Location and Relationships: The area requires ready access to the secured courtyard and must be overseen from the Staff Station.

Considerations: Fittings and furniture should be suitable for children up to 10-12 years, for teenagers up to the age of 18 and visiting family members.

DAY UNIT

ROOM / SPACE	Standard Component					Level 5/6 Qty x m2	Remarks
RECEPTION	yes					1 x 12	
STORE – PHOTOCOPY / STATIONERY	yes					1 x 8	
STORE - FILES	yes					1 x 8	
WAITING	yes					1 x 40	
WAITING - FAMILY	yes					1 x 25	
CHILD PLAY	yes					1 x 15	
TOILET / BABY CHANGE - ACCESSIBLE	yes					1 x 5	
TOILET – PUBLIC	yes					2 x 3	
CONSULT ROOM	yes					4 x 14	No. to be determined by Service plan
OBSERVATION ROOM	yes					1 x 6	One-way observation window
STORE - GENERAL	yes					1 x 9	
DISCOUNTED CIRCULATION						35%	

iii. QUIET/TIME OUT ROOM

Description and Function: The unit will require a room to be used for quiet time/ time out for agitated and distressed children. The room will be lockable and permit observation by staff while providing privacy to the room occupant.

Location and Relationships: The room should be located in an area that will minimize disruption to unit activities. The room should have ready access to a toilet and washing facilities close by that does not require traversing the unit.

Considerations: The room will be very plain and simple with unbreakable fittings. The room will be similar to Lounge- Patient, suitable for mental health areas. Television, DVD and CD players are not permitted in this room.

2.1.2 Mental Health Unit: Older People

The function of the Older Persons Mental Health Unit is to provide appropriate facilities for the reception, multidisciplinary assessment, admission, diagnosis and treatment of patients presenting with known or suspected psychiatric conditions and behavioral disorders along with assessment of physical health and psycho-social issues. Patients may be admitted on a voluntary or involuntary basis. Treatment is focused on clinical symptom reduction with a reasonable expectation of substantial improvement in the short term. The Unit must provide a safe, restorative environment. Optimal physical environments are

associated with shorter lengths of stay, lower levels of aggression and critical incidents, better client outcomes and better staff conditions and satisfaction. Recurrent costs will be substantially reduced and client services and outcomes improved in such settings. Some patients may be agitated, aggressive and potentially a risk to themselves or others, including staff. The Unit must therefore provide a high level of security and the capacity for observation and even temporary containment. However, this should be achieved with a therapeutic focus so that while necessary measures for safety and security are in place, they are non-intrusive and do not convey a custodial ambience. It must be stressed that Older Persons Mental Health Units are not "dementia" units but they should be able to accommodate people with dementia, confusion and disturbed behavior appropriately.

Planning Models

Unit Design

The following principles should be applied:

i. Reduce the size of the patient groups.
ii. Make the environment as familiar as possible
iii. Make the environment as domestic as possible
iv. Make the environment safe and secure
v. Make the environment simple, with good visual access
vi. Reduce unnecessary stimulation
vii. Highlight helpful stimuli
viii.
ix. Provide for planned wandering
x. Provide opportunities for both privacy and community, i.e. a variety of social spaces
xi. Provide for visitors, i.e. links to the community

Layout

Consideration should also be given to the following issues when planning the layout of a mental health unit:

i. Prevalence of violence and theft
ii. Availability of qualified staff
iii. Need for space, light and a functional layout
iv. Changes in the composition of the patient population
v. Rapid changes in technology
vi. Maximizing efficiencies in recurrent /operating costs.

The final layout of a mental health unit will reflect the interplay between the following factors;

i. The interplay between inpatient and ambulatory care services in the Health Service model of service delivery
ii. Special needs of potential patients
iii. The effect of mixing mental health and non-mental health clients
iv. Proximity to Emergency Unit
v. Lines of sight – along corridors and across recreational and common areas into courtyard

vi. Dead-end corridors where patients may be unable to be seen must be avoided and consideration must be given to safe and supervised access for housekeeping, catering, maintenance, security, contractors and other staff who may feel uncomfortable in the mental health environment.

Functional Areas

The Older Persons Mental Health Units will comprise a number of zones as follows:

- Main Entry / Reception / Clerical area
- Admissions Area
- Inpatient bedrooms
- Recreation and family / career areas including outdoor areas
- Clinical support areas – utilities, treatment rooms, storage etc.
- Staff offices, administrative and management area
- Staff amenities

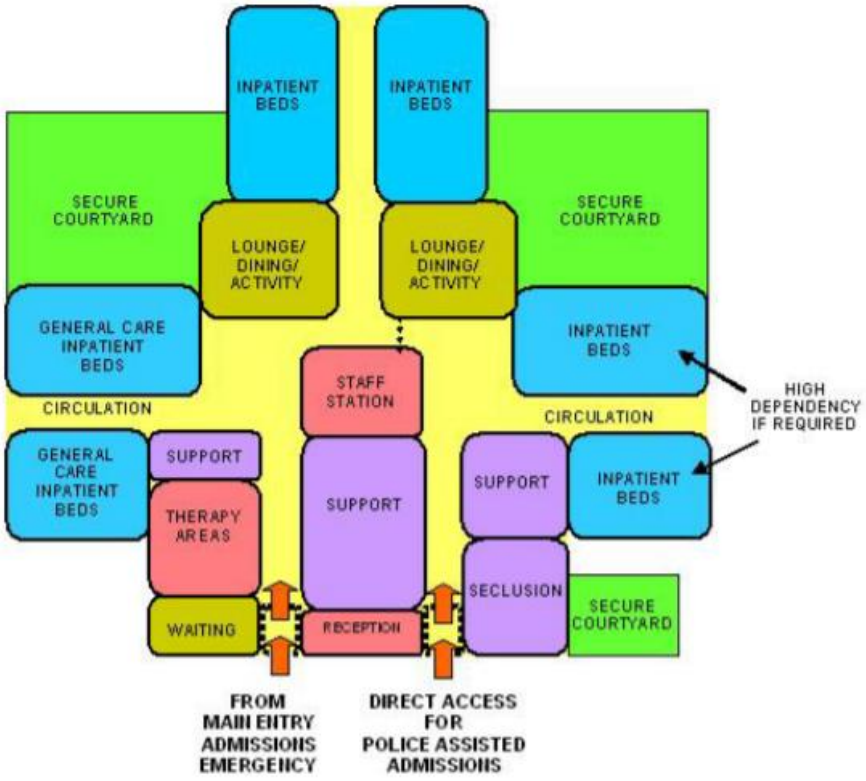


Figure 2: design layout

i. MAIN ENTRY / RECEPTION

These areas are designated for the reception of all persons entering the Unit with the exception of involuntary admissions who will access the unit via a separate Secure Entry (if provided), and deliveries and staff from within the Hospital itself. A safe environment must be provided for staff in this workspace while providing a welcoming ambience for patients and others. Direct access for reception staff to a safe retreat in an adjacent secure area should be provided in the case of any threat to staff safety from persons arriving at the main entry.

Main/Entry Reception Areas

ROOM / SPACE	Standard Component					Qty x m²	Remarks
						16 Bed 2 x 8 Beds	
AIRLOCK - ENTRY	AIRLE-10-I					1 x 10	
RECEPTION	RECL-9-I					1 x 9	
OFFICE - 2 PERSON SHARED	OFF-2P-I					1 x 12	For Administration staff
STORE - PHOTOCOPY/ STATIONERY	STPS-8-I					1 x 8	
STORE - FILES	STFS-10-I					1 x 10	
WAITING - PUBLIC	WAIT-10-I					1 x 10	
TOILET - PUBLIC	WCPU-3-I					2 x 3	
TOILET - ACCESSIBLE	WCAC-I					1 x 6	
CONSULTATION/INTERVIEW ROOM	CONS-MH-I					3 x 14	
MEETING ROOM (& REVIEW BOARD)	MEET-L-30-I					1 x 30	Also used for Group / Family Therapy

ii. ADMISSION AREA:
This zone may include Consult / Exam Rooms

iii. BEDROOMS:

Inpatient Bed Area (8 Bed)

ROOM / SPACE	Standard Component					Qty x m²	
						16 Bed 2 x 8 Beds	
1 BED ROOM - MENTAL HEALTH	1 BR-MH-I					6 x 18	
2 BED ROOM - MENTAL HEALTH	2 BR-MH-I					1 x 28	Optional. May be 2 additional single rooms.
ENSUITE - MENTAL HEALTH	ENS-MH-I					7 x 5	
BAY - HANDWASHING	BHWS-B-I					2 x 1	Recessed bays in corridors. 1 per 4 beds
BAY - LINEN	BLIN-I					1 x 2	Lockable

Inpatient Bed Area – Module B (8 Beds)

ROOM / SPACE	Standard Component					Qty x m²	
						16 Bed 2 x 8 Beds	
1 BED ROOM - MENTAL HEALTH	1 BR-MH-I					6 x 18	
2 BED ROOM - MENTAL HEALTH	2 BR-MH-I					1 x 28	Optional. May be 2 additional single rooms.
ENSUITE - MENTAL HEALTH	ENS-MH-I					7 x 5	
BAY - HANDWASHING	BHWS-B-I					2 x 1	Recessed bays in corridors. 1 per 4 beds
BAY - LINEN	BLIN-I					1 x 2	Lockable

Generally single bedrooms are recommended but it may be appropriate to include one or two 2 bed rooms in order to assess a patient's ability to socialize once discharged particularly if returning to shared accommodation in a Nursing Home or similar. Ideally adjustable hi-lo beds be selected for the unit; "hi" adjustable bed position to assist nursing staff in patient care and bed making; "lo" adjustable bed position when patients are resting/sleeping to minimize falls. A personal display board and lockable storage for personal clothes/ belongings should be provided in bedroom.

iv. BATHROOMS:

Most bedrooms should have a dedicated ensuite shower/ toilet. However, consideration may be given to having a one or two fully accessible showers and toilets apart from the bedrooms for use by patients occupying recreational areas. Size and design of these rooms are crucial as it is a high risk area for both agitated patients and staff and as far as possible, design should be such as to make the showering experience safe and pleasant. Fixtures and fittings should be securely attached and designed so as to provide no possibility for self-harm or use as a weapon. Refer to Fixtures and Fittings Section for details.

v. STAFF STATION:

Handover Ideally staff station & staff handover areas should be a single space oversighting all inpatient zones. Conflict of observation versus confidentiality should be reviewed.

Staff Areas

ROOM / SPACE	Standard Component					Qty x m²	
						16 Bed 2 x 8 Beds	
OFFICE - SINGLE 12 m2 (DIRECTOR)	OFF-S12-I					1 x 12	
OFFICE - SINGLE 9 m² (NURSE MANAGER)	OFF-S9-I					1 x 9	
OFFICE - SINGLE 12 m² (PSYCHIATRIST)	OFF-S12-I					1 x 12	No. determined by Staff Establishment
OFFICE - SHARED - MEDICAL STAFF	OFF-WS-I					5.5	No. determined by Staff Establishment
OFFICE - SHARED - NURSING STAFF	OFF-WS-I					5.5	No. determined by Staff Establishment
OFFICE - SHARED - ALLIED HEALTH	OFF-WS-I					5.5	No. determined by Staff Establishment
STORE - PHOTOCOPY / STATIONERY	STPS-8-I					1 x 8	
MEETING ROOM	MEET-L-30-I					1 x 30	
STAFF ROOM	SRM-20-I					1 x 20	
PROPERTY BAY - STAFF	PROP-2-I					1 x 2	
TOILET - STAFF	WCST-I					2 x 3	
CIRCULATION ALLOWANCE						32 %	

vi.

vii.

CLEAN UTILITY:

If appropriately sized and equipped, a single room can serve the following functions;

Examination and procedures that may be best undertaken away from the bedside

Visual acuity testing; storage & use of ophthalmoscope & auroscope

X-ray viewing (screens or PACS monitor)

Medication storage and distribution

Storage of medical / surgical consumables and sterile supplies

Storage of resuscitation trolley and defibrillator Provision of Hand basin is essential.

Direct access from the Staff Station for access control and second locked access from the Unit corridor is recommended.

viii. COURTYARDS:

Courtyards/ Gardens When designing courtyards and gardens the following requirements need to be considered;

Oversighted by the Staff Station

Controlled access for patients, preferably from recreation area/s

Separate discreet access for gardeners and maintenance staff

Weather-protection to allow use during inclement weather (agitation may increase if no external access)

Shade cloth and sun protection.

No footholds on fences. (Fencing height to be addressed)

Shared Areas between Modules

ROOM / SPACE	Standard Component					Qty x m²	
						16 Bed 2 x 8 Beds	
DINING ROOM	DINMH-30-I similar					1 x 50	
PANTRY / SERVERY	PTRY-I					1 x 8	With servery counter
LOUNGE / ACTIVITY AREA	LDA-MH-20-I similar					1 x 50	
MULTIFUNCTION ACTIVITY AREA	MAC-20-I similar					1 x 32	Shared by 2 units. Access to
OCCUPATIONAL THERAPY ROOM	-					1 x 20	Separated for Male & Female
COURTYARD	CTSE-I similar					1 x 100	
LAUNDRY - MENTAL HEALTH	LAUN-MH-I					1 x 6	
SECLUSION ROOM	SECL-I					1 x 12	Optional if location of Obs (secure) unit too remote
STORE - PATIENT PROPERTY	STPP-I					1 x 8	
BATHROOM	BATH-I					1 x 16	Optional
TOILET - STAFF	WCST-I					1 x 3	Optional if location of main amenities too remote

ix. OCCUPATIONAL THERAPY ROOMS:

The Occupational Therapy Room should be multi-purpose, in design and fit-out, to allow varied activities aimed at promoting independence in daily living. Functions and activities involve:

A.D.L. assessment and retraining
ergonomic assessment
sensory, perceptual, cognitive and motor assessment and therapy
group treatments
leisure activities
social interaction

Ideally the occupational Therapy Room may be adjacent to the multifunction activity Room and may share a common movable wall. This would enable the potential for a large space if required.

Design Requirements:

i. Access
External
Discreet access for goods and services (linen, food, supplies etc.) that does not traverse patient occupied areas.

Internal Access
to and between zones needs to be restricted to authorized persons only (including access by patients to external areas).

ii. Parking
The following will be required;
Disabled access drop-off for patients and their visitors.
Ambulance (If appropriate)
Police (if appropriate)
General visitor parking including disabled access parking bays.

iii. Acoustics:
The unit should be designed to minimize the ambient noise level within the unit and transmission of sound between patient areas, staff areas and public areas. Acoustic treatment will be required to the following:
Day areas such as patient living, dining and activities areas.
Consulting Rooms

iv. Natural Light:
The provision of natural light is important particularly in the management of dementia. Natural Light has calming effect, affects sleeping patterns of patients.

v. Observation and Privacy:
The design of the Inpatient Unit needs to consider the requirement for staff visibility of patients while maintaining patient privacy. Unit design and location of staff stations will offer varying degrees of visibility and privacy.
Factors for consideration include:
use of windows in internal walls and / or doors
location of beds that may affect direct staff visibility
provision of bed screens to ensure privacy of patients undergoing treatment;
location of sanitary facilities to provide privacy for patients while not preventing observation by staff.

vi. Interior Design

Consider the following

- ✓ Some colors, particularly the bold primaries and green should be avoided as many people find them disturbing.
- ✓ Extremes of color and pattern such as geometric designs which may disturb perception should be avoided. However, strong colors on floors may assist in orienting patients to their bedroom cluster etc.
- ✓ Colors and interior design should also be chosen to reflect the tastes and age of patients who will use the facility.
- ✓ Re-decoration is not a budgetary priority so care in selection of materials and color is important in the first instance.
- ✓ Wall color should be different to floor color to define floor plan.
- ✓ Consider use of color and stepping of ceiling heights to provide node points along corridors and to define seating alcoves.

2.2 IGBC Healthcare Rating

2.2.1 Site Selection and Planning

i. SSP MANDATORY 1: LOCAL BYE LAWS REGULATION

ii. SSP MANDATORY 2: SOIL EROSION CONTROL

iii. SSP CREDIT 1: INTEGRATED DESIGN APPROACH (1PT)

Demonstrate that the project has involved team members from multi-disciplinary fields for enhanced building performance.

iv. SSP CREDIT 2: PASSIVE APPROACH (2 PT)

Demonstrate that the passive architecture measures implemented in the project has resulted in at least 2% energy savings of total annual energy consumption.

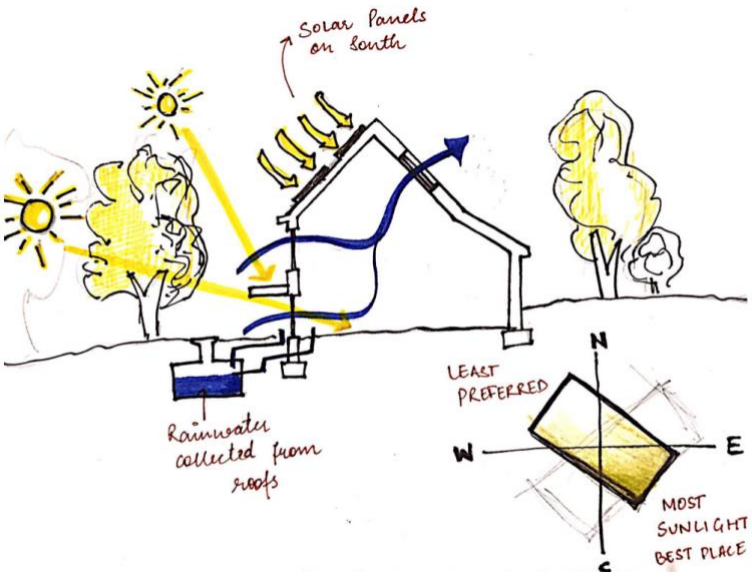


Figure 3:Passive Design

v. SSP CREDIT 3: BASIC AMENITIES
Select a site with access to at least seven basic amenities, within a walking distance of 1KM.

vi. SSP CREDIT 3: PUBLIC TRANSPORT PROXIMITY
Locate the building within 800 meters walking distance from an intra-city railway station (or) a bus-stop (or) other modes of public transport.

vii. SSP CREDIT 5: LOW EMITTING VEHICLES
Use electric vehicles within or outside the site, to cater at least 5% of the building occupants.

viii. SSP CREDIT 6: HEAT ISLAND REDUCTION, NON ROOF
1.Provide one or combination of the following, for at least 50% of exposed non-roof impervious areas within the project site:
2.Shade from existing tree cover/ newly planted saplings within 5 to 8 years of planting.
3.Open grid pavers or grass pavers
4. Hardscape materials (including pavers) with SRI of at least 29 (and not higher than 64).

ix. SSP CREDIT 7: HEAT ISLAND, ROOF
Use material with a high solar reflective index to cover at least 75% of the exposed roof area,
including covered parking.

x. SSP CREDIT 8: UNIVERSAL DESIGN
1. Appropriately designed preferred car park spaces having an easy access to the main entrance or closer to the lift lobby.
2. Non-slippery ramps, with handrails on at least one side (as applicable).
3. Braille and audio assistance in lifts for visually impaired people.
4.Seating area near lift lobbies.
5. Uniformity in floor level for hindrance-free movement in common areas & exterior areas.
6. Restrooms (toilets) in common areas designed for differently abled people.

xi. SSP CREDIT 9: BASIC FACILITIES FOR CONSTRUCTION WORKERS
1.First-aid and emergency facilities.
2.Adequate drinking water facilities.
3. Personal protective equipment (by owner / contractor).
4. Dust suppression measures.
5. Adequate illumination levels in construction work areas.

2.2.2 Building Material and Resources

i. BMR MR 1: HANDLING OF WASTE MATERIAL DURING CONSTRUCTION

Demonstrate that at least 75% of waste generated during construction (as per owner / developer's scope) is diverted from landfills, for reuse or recycling. Use consistent metrics, either weight or volume, to show compliance.

ii. BMR MR 2: SUSTAINABLE BUILDING MATERIAL

1. Materials with Recycled Content

Use materials with recycled content in the building (as per owner / developer's scope) such that the total recycled content constitutes at least 10% of the total cost of building materials.

iii. LOCAL MATERIAL

Ensure at least 20% of the total building materials (by cost) used in the building (as per owner / developer's scope) are manufactured locally within a distance of 400 km.

iv. WOOD BASED MATERIAL

Ensure at least 50% of all new wood based materials (by cost) used in the building (as per owner / developer's scope) are:

Rapidly renewable (And / Or) Wood certified by Forest Stewardship Council (FSC).

v. USE OF GREEN BUILDING MATERIAL

Ensure that the project uses at least 5 active or passive green building materials, projects and equipment's that are certified by IGBC under green product certification.

2.2.3 Water Conservation

vi. WATER CONSERVATION MANDATORY: RAINWATER HARVESTING

Enhance ground water table and reduce municipal water demand through effective rainwater management

vii. MANDATORY 2: WATER EFFICIENT PLUMNG FIXTURE

Use water efficient plumbing fixtures (as applicable) whose flow rates meet the baseline criteria in aggregate.

viii. WC CREDIT 1: LANDSCAPE DESIGN

Limit use of turf on the site to conserve water and / or ensure that landscaped area is planted with drought tolerant / native / adaptive species.

ix. WC CREDIT 2: MANAGEMENT OF IRRIGATION SYSTEM

1. Turf and each type of bedding area must be segregated into independent zones

based on watering needs.
2.At least 75% of landscape planting beds must have a drip irrigation system to reduce evaporation Time based controller for the valves such that evaporation loss is minimized and plant health is ensured.
3. Pressure regulating device(s) to maintain optimal pressure to prevent water loss.

2.2.4 Indoor environmental quality

i. IEQ MR 1: FRESH AIR VENTILATION
Ensure all regularly occupied spaces are adequately ventilated, thereby improving health and wellbeing of the occupants.

ii. IEQ MR 2: TOBACCO SMOKE CONTROL
Minimize exposure of non-smokers to the adverse health impacts arising due to passive smoking in the build.

2.2.5 Healing environment

i. DAY LIT SPACES: (2 PT) Demonstrate that at least 25% of regularly occupied spaces achieve daylight illumination levels of minimum 110 Lux.

ii. CONNECTIVITY TO NATURE (2 PT): The building occupants must not have any obstruction of views at least 8 meters (26.2 feet) from the exterior vision glazing.

iii. GREEN OPEN SPACES (2 PT):
Demonstrate that at least 20% of the project area (excluding the building footprint) is covered with greenery.

iv. HEALING GARDEN (2 PT):
Demonstrate that at least 10% of the green open spaces are designed as patient centric Healing Garden.

v. IEQ CR 4: STRESS RELIEVING SPACES
1. Demonstrate that at least three of the following stress relieving spaces for staff
2. Crèche facility for staff
3. Games facilities such as gymnasium, aerobics, yoga, meditation or any indoor outdoor games to cater to at least 10% of staff, through the day
4. Meditation room, recreation spaces such as TV room, spa facility.

vi. IEQ CR 5: ENHANCED VENTILATION
Ensure comfortable indoor air ventilation, thereby promoting productivity & well-being of occupants.

vii. IEQ CR 6: LOW EMITTING MATERIAL
Encourage use of material with low emissions, so as to reduce adverse health impacts on the occupants.

viii. IEQ CR 7: BUILDING FLUSH OUT DURING / AFTER OCCUPANCY
Reduce indoor air quality problems resulting from construction activities, and promote comfort and well-being of construction workers and building occupants.

ix. IEQ CR 8: AIR QUALITY MONITERING
Encourage monitoring and maintenance of indoor environmental quality, to ensure occupants' comfort and well-being.

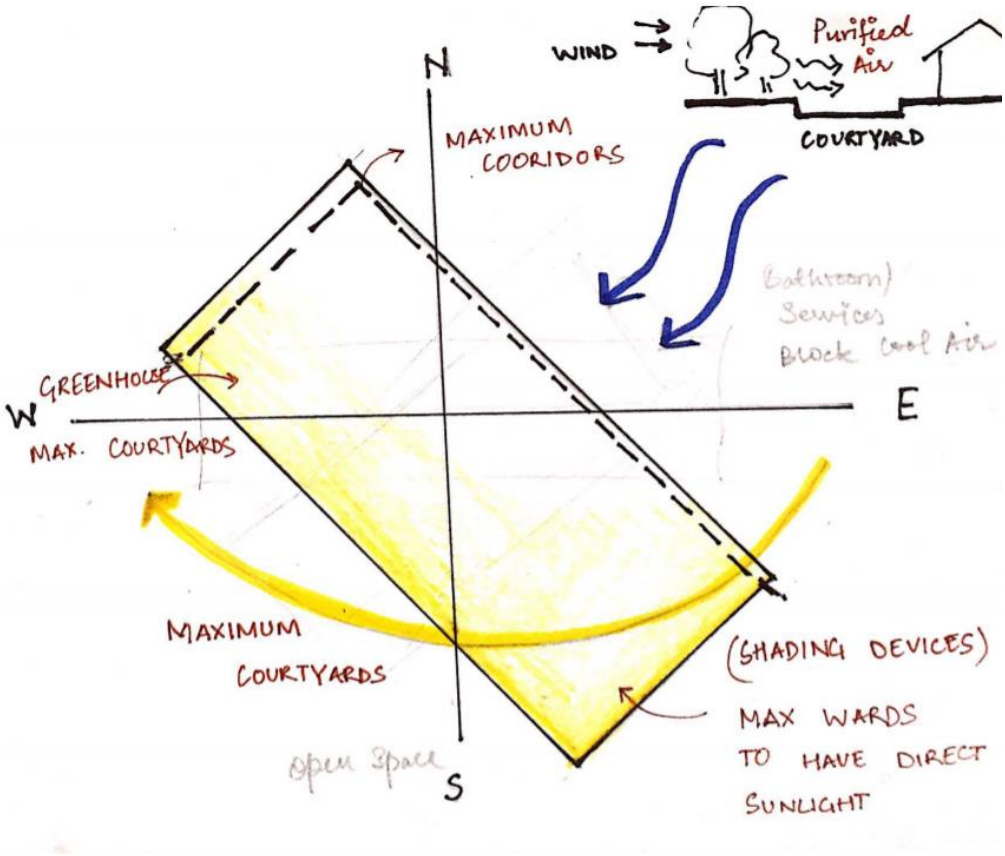


Figure 4: Conclusion-Literature Study

2.2.6 Sanitation and Hygiene

i. SH MR 1: MUNICIPAL SOLID WASTE MANAGEMENT
Segregate municipal waste generated in healthcare facilities at source, so as to prevent the waste being sent to land-fills.

ii. SH MR 2: BIO MEDICAL WASTE MANAGEMENT
Segregate bio-medical waste at source, so as to prevent direct exposure, thereby improving sanitation & hygiene.

iii. SH C1: AUTOMATED SOIL WASTE MANAGEMENT SYSTEM

Install automatic waste collection systems for handling at least 25% of biomedical waste.

iv. SH C2: ORGANIC WASTE MANAGEMENT

Install an on-site waste treatment system for handling at least 50% of the organic (kitchen) waste generated in the building. The generated manure shall be utilized for landscape requirement.

v. SH C3: INFECTION CONTROL WITHIN SPACES

vi. SH C4: ISOLATION ROOM

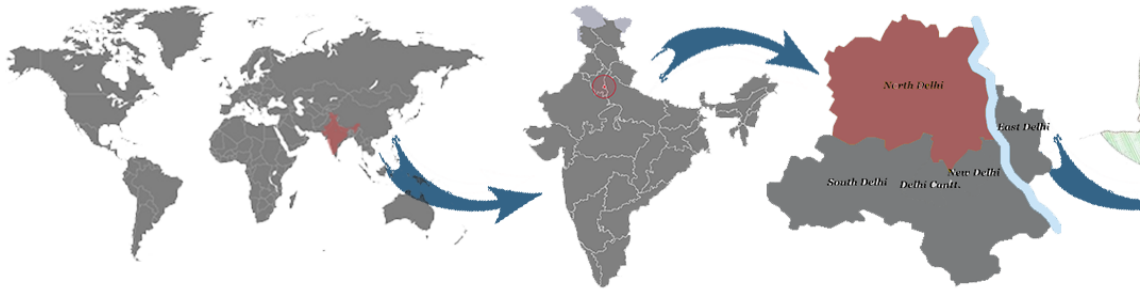
10% of the total bed Inpatient Accommodation Units shall be designed as isolation room, Class S – Standard Pressure.

vii. SH C5: SANITATION DESIGN AND CLEANING PRACTICES

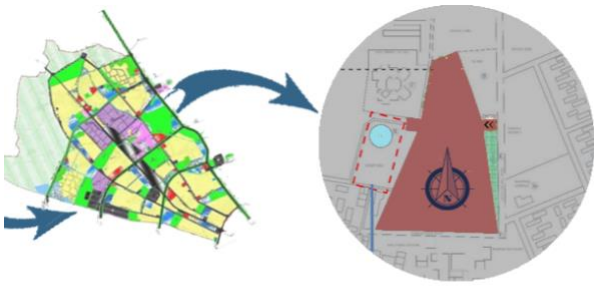
1. Ensure the washroom design shall adhere to the requirement of National Building Code- Part 9, Table 13, 14 & 15 (Refer Appendix-III)
2. Demonstrate that project is using housekeeping chemicals that meet green seal standard (GS-37) or other Indian/European equivalent standards, for all building applications.

Chapter-3 Site Analysis

3.1. About



WORLD MAP DEPICTING INDIA | INDIA MAP DEPICTING DELHI | DELHI MAP DEPICTING NORTH DELHI



NARELA MASTERPLAN 2021 | 28°50'41"N 77°05'39"E THE SITE

Location: Sector A-10, Narela Mandi, near talab, Narela 110040

Site Area- 7.5 Acres (30477 sq.mtr.)

Ground Coverage- 30% (12024 sq.mtr.)

F.A.R. - 120 (36572.4 sq.m.)

Height restriction: 26 m

Client: Ministry of Social Justice and Empowerment, Delhi Govt. Initiated in 2008 by Social welfare department.

E.C.S- 1.8 ECS/100 Sq. M

3.2 Connectivity

Site is well connected by Road, Rail and Airport.
There is a **6KM** from the **GT Road** to the Site.

Delhi metro is in Close Proximity to the site. The nearest metro Station is **SAMAYPUR BADLI** which is **19KM** from the site and it takes **29 min.** by bus to reach there.

DMRC

Bus routes for the site are **DTC BUSES NO. 131,120(B), 193, 133**. The DTC bus terminal is 3.2 KM from the site. Daily, there are more than 100 buses running to and fro.

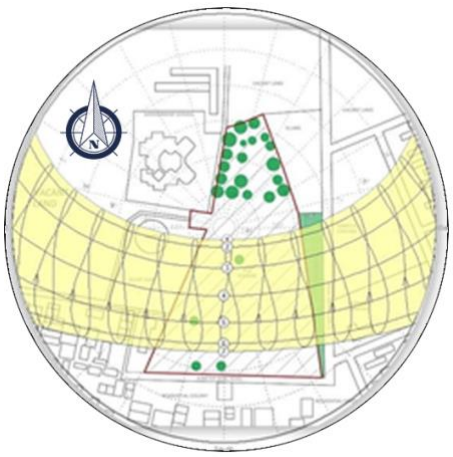
The nearest Railway Stations to the site is **NARELA JUNCTION(NUR), Anand Vihar Terminal**, and **New Delhi** which are **3.1 km, 41 km** and **37 km** resp.

TERTIARY ROAD

I.G.I Airport is loacted at **43 km** distance from the SITE.

airport

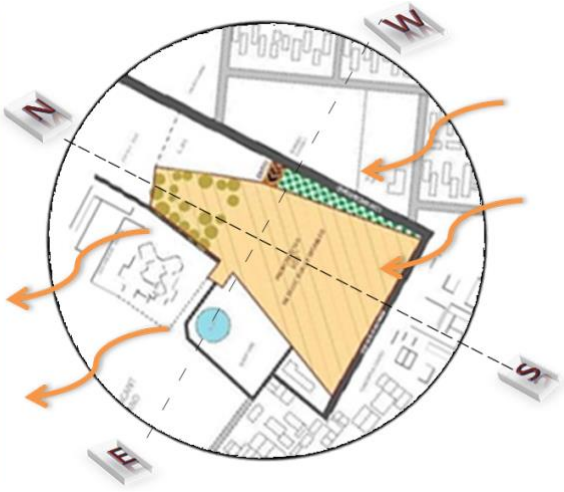
3.3 Sun Path & Wind Direction



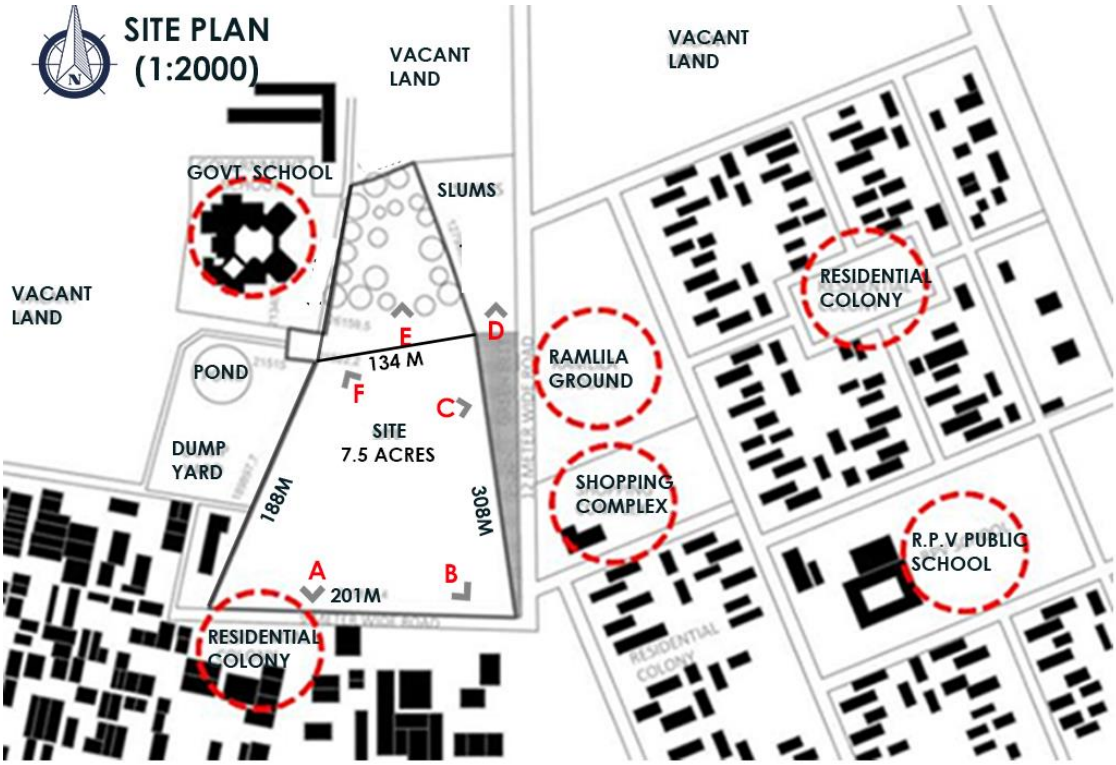
The sun travels from East to West via South throughout the day.
According to the climate of Delhi, minimum or no openings shall be provided on the east and West facade of the designed instituition.

The wind is directed from South -West to North-East for maximum time of the year.

The average wind speed in the region is **6.7 miles/hour.**



3.4 Site Plan



POINT A

POINT B

POINT C

POINT D

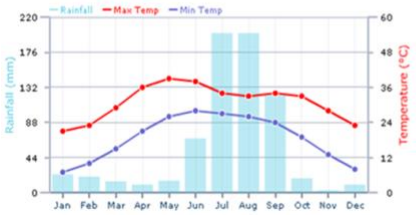
POINT E

POINT F

3.5 ANALYSIS

CLIMATE ANALYSIS

Narela experiences a **composite climate**, which is hot and dry in Summers and Cold in Winters.



Temperature and Precipitation

The above Chart explains that the temperature in the hottest months of May and June ranges from 30-38 degree celcius.

The temperature of the coldest months Dec. and January ranges from 7-22 degree celcius.

The precipitation is max. in July and August averaged at 180mm

The average precipitation is lowest in November 5-6MM.

VEGETATION & TOPOGRAPHY

Site has very small undulated chunks of land but overall site is **relatively flat** with **no contours** or any large undulation.

This makes it an ideal site for the project. Water gets accumulated during monsoon season in undulated region.

The mature vegetation is of **Ashoka and Neem** trees in the site's vicinity.

Major soil types of the district are **sand and clay** as site is in close proximity to River Yamuna. The **Safe bearing Capacity** if the Soil is **150 KN / cu.m**

ASHOKA NEEM BANYAN

The Ashoka and Neem contributed to a major tree percentage on the site nearly 80% of the total.

Other trees were 20% including legumes, bushes, mango and ashwagandha.

SERVICES

Water is Supplied from the **O,H.T** Overhead Tank which is loacted at a distance of **450 m** from the site.

The Tank Capacity is **2000KL** which supplies water to the nearby locations up to a radius of **600 m**.

Electricity in the area is supplied by **Tata Power Electricity Board** which is a joint venture of Tata power and govt. located at **2.8KM** from site.

The company spans an area of 510 sq. km. with a recorded peak load of around **1976 MW**

Sewer lines and drains run alongside the site.

The drainage system of the area is run and managed by PNC Delhi Industrialinfra Pvt. Ltd

3.6 S.W.O.T ANALYSIS

S.W.O.T ANALYSIS

STRENGTH

The Site is easily **accessible** by maximum modes of transportation, such as by a car, bus or metro.
The site will serve both **rural and urban population** of Delhi as well as the neighboring states.
The site is just **6km. from the G.T. Road** which connects it to various cities.

WEAKNESS

The site is surrounded by **dump garbage** and a dirty **pond** on the other side.
The site in close contact with the encroached **slums** so it will be creating a problem in aesthetic value.
The site is in close proximity to a **school**, so **noise** will be a constraint at some hours.

OPPORTUNITY

Narela being a **mega sub-city project of DDA** in urban extension thus holds a huge opportunity and scope of development.
There isn't any institute for or **wellness center near vincinity of radius**, therefore, the building will act as an ideal environment for people.

THREAT

The site is surrounded by Ram Leela ground, a vacant land and encroached slums on different sides. All will experience development, therefore might act as hindrance to the building in future.
Acceptance of such a place in rural livelihood.

Chapter-4 Case studies

4.1 Institute of Human Behavior and Allied Sciences (I.H.B.A.S)

4.1.1 About

Figure 5:ibhas

i. Institute of Human Behavior & Allied Sciences (IHBAS) was established in 1993, and is located at East Delhi at Dilshad Garden (road no. 64).

ii. IHBAS is the first Neuro-Psychiatric Hospital in India with NABH Accreditation.
iii. Registered under the Societies Act 1860, funded jointly by Ministry of Health and Family Welfare, Government of India and Government of NCT of Delhi.

iv. As an autonomous body, the institute has its Memorandum of Association and Rules and Regulations duly approved under the Societies Act.
v. Minister for Health, Govt. of NCT of Delhi is the President and Chief Secretary, Govt. of NCT of Delhi is the Chairman of the Executive Council of the institute.

4.1.2 Concept

i. The Institution is designed by Ar. C.P. Kukreja for their client Ministry of Health And Family Welfare who wanted to have a perfect blend of the building and the atmosphere.
ii. The Architect kept the requirement in mind and has created spaces which give an outdoor feel and a feeling of REJUVINATION.
iii. The architect has also followed a concept of Sustainability in his design which makes the building more cost effective and environmental-friendly.

4.1.3 Site Approach

i. IHBAS is well connected by Road, Rail and Airport. There is a 300 M walk from the GT Road to I.H.B.A.S.

ii. Delhi metro is in Close Proximity to IHBAS. The nearest metro Stations are Mansarovar Park, Dilshad Gardens and Jhilmil which are 200M, 600M, and 400M.

iii. Bus routes for Hospital are 280, 281, 164, 33, 333, 212, 375, 205, 235, 239. The DTC bus terminal is just opposite to the medical institute.

iv. The nearest Railway Stations to IHBAS are Delhi Shahdara Junc., Anand Vihar Terminal, and New Delhi which are 3.1 km, 4.8 km and 15.2 km resp.

v. I.G.I Airport is located at 38 km distance from the institute.

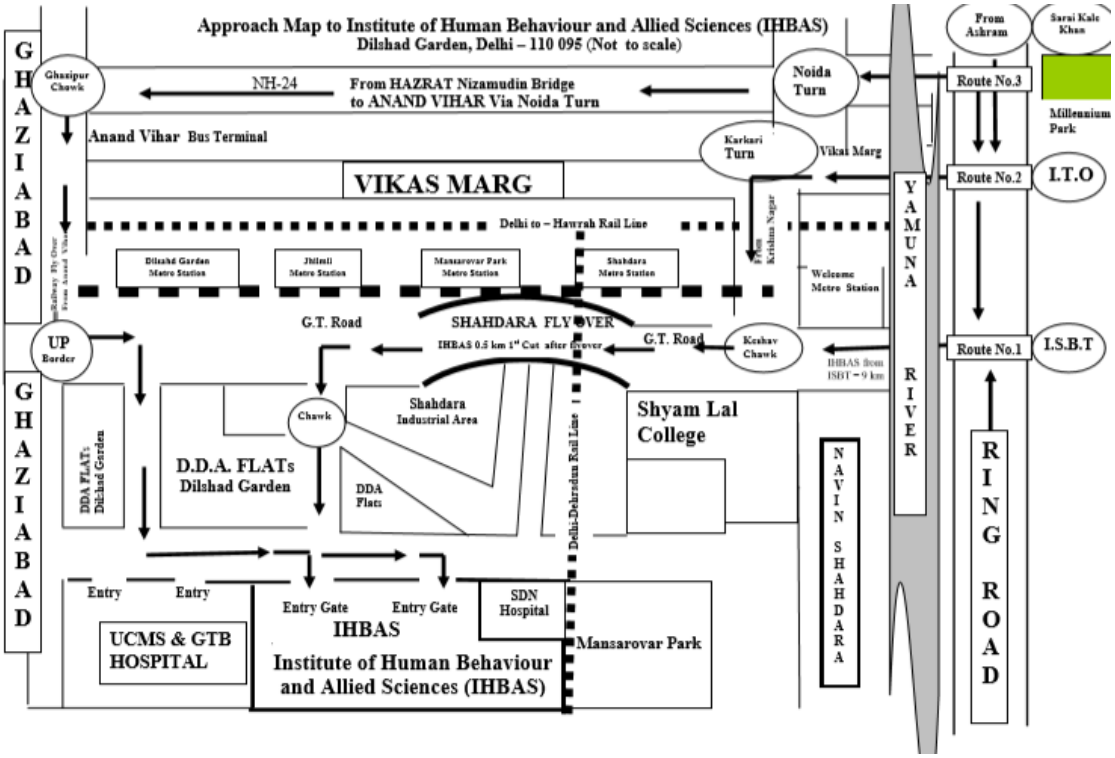


Figure 6:ibhas surrounding

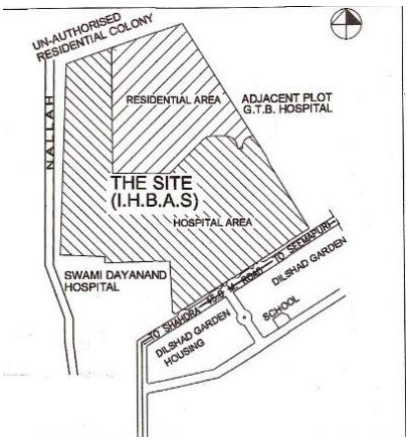


Figure 7: Site-Ibhas

4.1.4 Site Plan

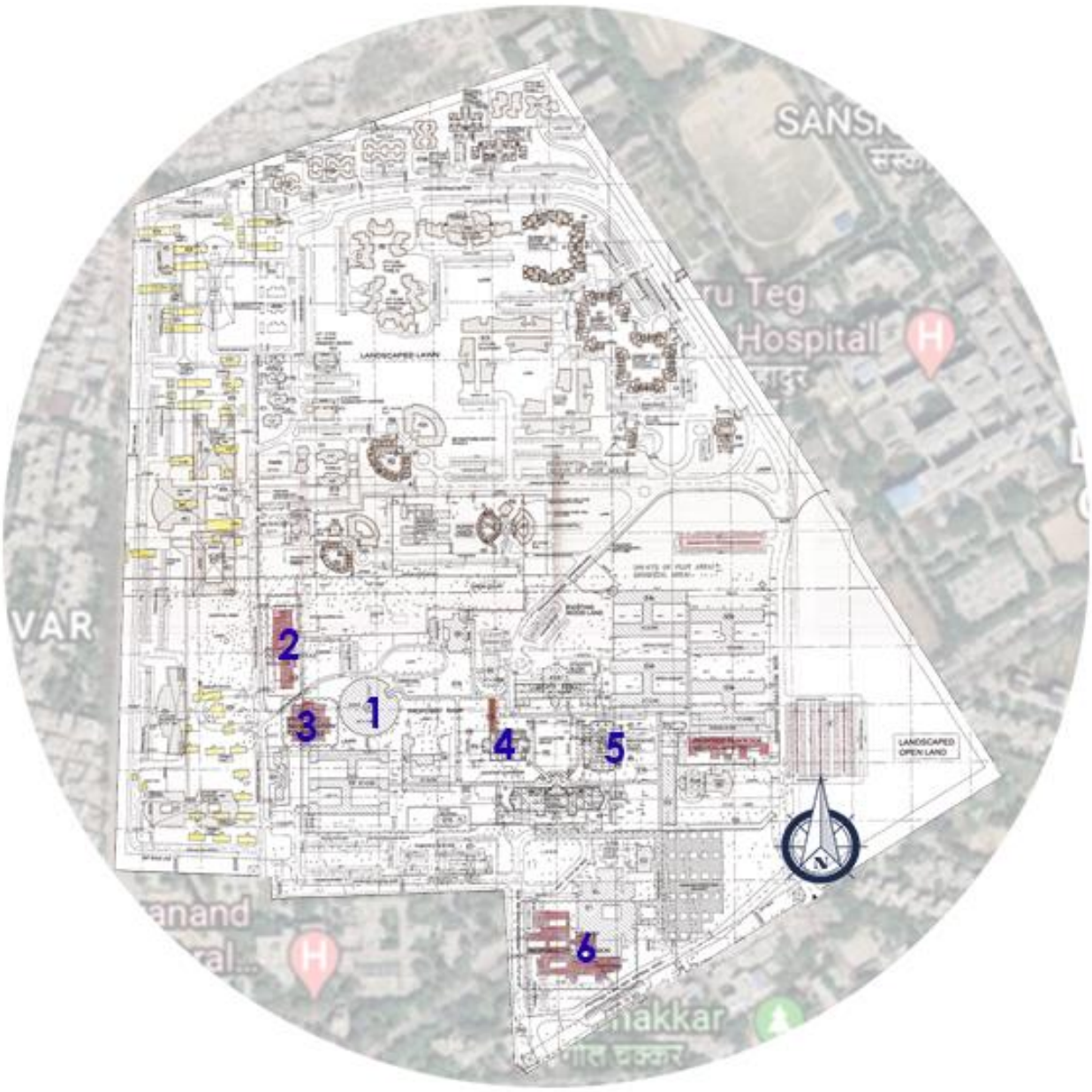


Figure 8:Site PLan-Ibhas

1. ADMIN. BLOCK 2. MENTAL HEALTHCARE 3. REHAB
4 PSCHOLOGY BLOCK 5. NEUROLOGY BLOCK 6. HOSTELS

4.1.5 Area Statement

AREA STATEMENT
TABLE-1

TOTAL AREA OF LAND FOR I.H.B.A.S (HOSPITAL)	= 111.69 Acres OR 45.2 HA. (A) = 451989.63 SqM.
PERCENTAGE OF LAND FOR HOSPITAL AND RESIDENTIAL	= 2/3 FOR HOSPITAL USE & 1/3 FOR RESIDENTIAL USE OF TOTAL AREA
FOR HOSPITAL 2/3 i.e (OF 'A')	= 74.46 Acres OR 301326.42 Sq.M. (B) = 30.13 HA.
FOR RESIDENTIAL 1/3 i.e (OF 'A')	= 37.23 Acres 150663.21 Sq.M. (E) = 15.06 HA.
PERMISSIBLE NORMS FOR HOSPITAL USE AS/MPD 2001/BBL	
GROUND COVERAGE 25% OF 301326.42SqM. (OF 'B')	= 75331.60 SqM. (D)
FAR 200%	= 301326.42 (C)
HEIGHT	= 26 Mt. = BELOW BLDG. BLOCKS
BASEMENT	= EQUAL TO GROUND COVERAGE FOR PARKING / SERVICES
PERMISSIBLE NORMS FOR RESIDENTIAL COMPLEX AS/MPD 2001/BBL	
GROUND COVERAGE 33.33% OF (OF 'E')	= 50221.07 SqM. (G) (OVER AND ABOVE 133 SUBJECT TO AUGMENTATION OF SERVICES AND PAYMENT OF LEVY)
FAR 167%	= 251607 SqM. (F)
HEIGHT	= 33.0 Mt.
BASEMENT	= EQUAL TO GROUND COVERAGE UNDER THE CURTILARGE OF BUILDING AND OF THE LAND WITHIN THE ENVLOP AREA (FREE) FROM FAR FOR PARKING & SERVICES
DENSITY (4.8 PERSON PER D.UNIT)	= 175/DU's/HEC (DENSITY ABOVE 140DUS/H.A. SUBJECT TO AVAILABILITY OF SERVICES)
MAX . PROPOSED HEIGHT FOR HOSPITAL ZONE	= 25 Mt.
MAX . PROPOSED HEIGHT FOR RESIDENTIAL ZONE	= 24 Mt.

TABLE-1B
EXISTING PARKING DETAILS AS PER LAYOUT PLAN SANCTION ON 25-09-2013

S.N.	ZONES	PARKING REQUIRED	PARKING PROVIDED ON SURFACE @ 23 SQM/ECS	PARKING PROVIDED IN BASEMENT @ 32 SQM/ECS	TOTAL ECS PROVIDED
1.	INSTITUTIONAL ZONE (HOSPITAL)	@ 0.67 / 100 SqM FOR 188065.92Sq.M =1260 ECS	450 ECS	28750/32 =898 ECS	=1348 ECS
2.	RESIDENTIAL ZONE	@ 1.33 / 100 SqM FOR 74058.73 Sq.M = 985 ECS	895 ECS	=ON STILTED @20 SQM / ECS 2010/20 =99 ECS	=988 ECS

TABLE-II
AREA STATEMENT OF PROPOSED HOSPITAL BUILDINGS (PH-I)

S.N.	DESCRIPTION	COVD. AREAS (SQM) GR.FL.	1ST FL.	2ND FL.	3RD FL.	TOTAL F.A.R
P1.	DIAGNOSTIC BLOCK (EXCLUDING LIFT LOBBY)	1832.98	1498.00	1123.79		4454.95
P2.	PSYCHIARITY BLOCK	1249.73	1202.36	1202.36		3654.45
P3.	ACADEMIC BLOCK	1337.57	1299.08	1227.00		3863.65
P4	NEUROLOGY BLOCK	802.37	788.27	788.27		2378.91
P5.	CONNECTING CORRIDOR & LOBBY FOR DIAGN. BLOCK	1005.83	500.68			1506.61
	TOTAL	6228.56	5288.59	4341.42		15858.57 sqm

TABLE-X
SUMMARY (DETAIL OF COVERED AREAS/ AREA STATEMENT) AS PROPOSED NOW

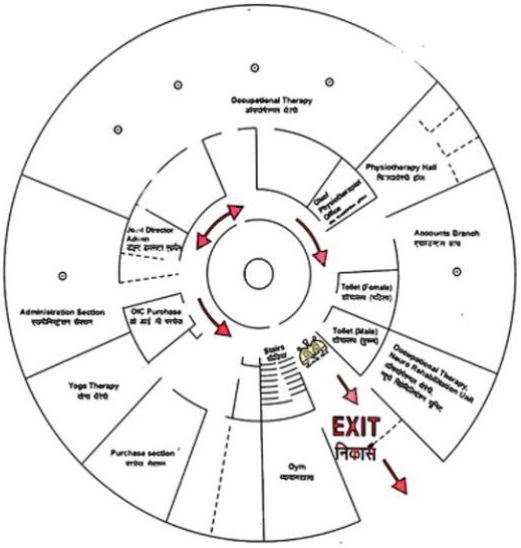
S.N.	DESCRIPTION	HOSPITAL ZONE (in Sq.M.) BASEMENT	GR.COV.	F.A.R.	RESIDENTIAL ZONE (in Sq.M.) BASEMENT	GR.COV.	F.A.R.
1.	SANCTIONED AREAS AS PER LAYOUT PLAN SANCTION ON 25-09-2013 (TABLE 1A) (101)	30250.00	59674.61 19.8% OF (B)	188065.92 62.44% OF (B)	--	22151.61Sqm. 14.70% OF (E)	74058.73 Sqm. 49.16% OF (E)
2.	AREAS PROPOSED TO BE OMITTED/DEDUCTED (TABLES VII AND VIII) (102)	-8000.00	-8000 -1.99% OF (B)	-24000.00 -7.96% OF (B)		-594.00 Sqm. -0.39% OF (E)	-2376.00 Sqm. -1.57% OF (E)
2.	PROPOSED NEW HOSPITAL BUILDING BLOCKS (TABLE IX) (103)	--	(J4) 5934.62 1.97% OF (B)	(K4) 9952.2 3.30% OF (B)	--	--	--
4.	ACHIEVED COVERED AREAS (EXISTING + PROPOSED)	24250.00	(101-102+103) 59609.23 19.76% OF (B)	(101-102+103) 174018.12 57.75% OF (B)	--	(101-102) 21557.61Sqm. 14.38% OF (E)	(101-102) 71682.73 Sqm. 47.57% OF (E)
5.	PERMISSIBLE COVERED AREAS AS PER NOTIFICATION VIDE S.O. NO. 2893(E) DATED 23.09.2013						
	CONSOLIDATED GROUND COVERAGE	40% OF PLOT AREA =40% OF 451989.63 Sq.M.=180795.85SQ.M.					
	CONSOLIDATED F.A.R.	375 OF PLOT AREA (PLOTS ON 45 M. ROAD ROW)=1706211.11 SQ.M.					
	PERMISSIBLE RESIDENTIAL F.A.R.	25% OF PERMISSIBLE F.A.R.=426552.778125 SQ.M.					
6.	PROPOSED CONSOLIDATED AREA DETAILS						
	PROPOSED CONSOLIDATED GROUND COVERAGE	59609.23+21557.61=81166.84 SQ.M. =17.96% OF PLOT AREA					
	PROPOSED CONSOLIDATED F.A.R.	174018.12+71682.73=245700.85 SQ.M.= 54.36% OF PLOT AREA					
	PROPOSED RESIDENTIAL F.A.R.	71682.73 SQ.M. =4.2% OF PERMISSIBLE F.A.R.					

TABLE-III
AREA STATEMENT OF PROPOSED FUTURE HOSPITAL BUILDINGS (PH,II&III) (b)

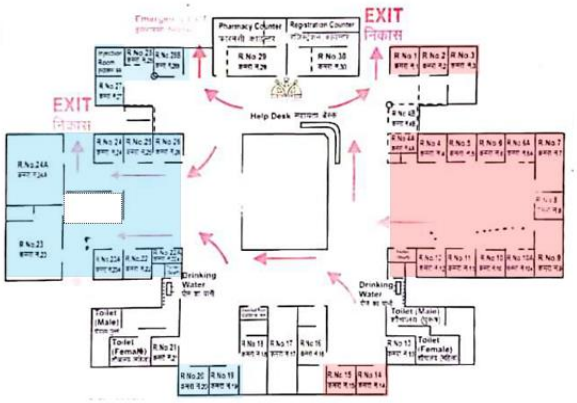
S.N.	DESCRIPTION	COVD. AREAS (SQM) BASEMENT	GR. FL.(1)	1ST FL.(2)	2ND FL.(3)	3RD FL.(4)	4TH FL.(5)	5TH FL.(6)	TERRACE	T.F.A.R(1-6)	MAX. HT.
F1.	TRAINING BLOCK	8250.00	8250.00	5500.00	5500.00	4500.00	4500.00	4500.00		30750.00	25.0 Mt.
F2.	BASIC SCIENCE & RESEARCH BLOCK	5500.00	5500.00	4250.00	4250.00	3250.00	3250.00	3250.00		23750.00	25.0 Mt.
F3.	HUMAN BEHAVIOUR RESEARCH BLOCK	4800.00	4800.00	3800.00	3800.00	2750.00	2750.00	2750.00		20250.00	25.0 Mt.
F4	AUDITORIUM	--	6250.00	4500.00	4500.00	4500.00	--	--		19750.00	15.0 Mt.
F5.	YOGA & AYURVEDA RESEARCH BLOCK	8200.00	8200.00	4825.50	4825.50	4825.50	4825.50	4825.50		30327.00	25.0 Mt.
F6.	DARC BLOCK	6000.00	6000.00	4500	4500	4500	4500			24000.00	21.40 Mt.
F7.	SERVICE BLOCK	1500.00	1500.00	900.00	900.00	900.00		--		4200.00	11.40 Mt.
F8.	E.S.S		900.00							900.00	6.0 Mt.
F9.	DIRECTORS OFFICE		500.00	390.00	390.00					1280.00	11.40 Mt.
F10.	GARBAGE BIN + INSINERATOR		50.00							50.00	4.0 Mt.
	TOTAL	30250.00	37950.00	28465.50	28465.50	25225.50	19825.50	15325.50		131257 sqm	
	BASEMENT COV. AREA CONSIDERED FOR PARKING(SERVICE BLOCK EXCLUDED)	28750.00	(J2)							(K2)	

Table 1

4.1.6 PLANS



ADMIN BLOCK



OPD+ DIAGNOSTIC BLOCK

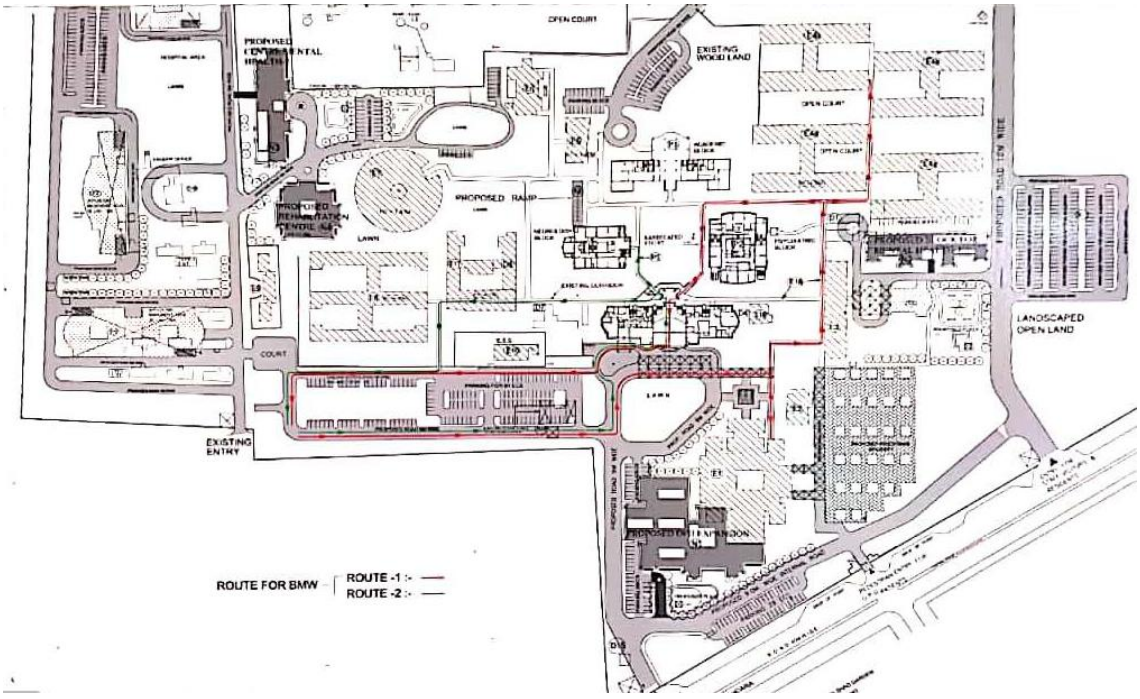


Figure 9:Plan

BIOMEDICAL WASTE DIPOSAL WASTE ROUTE PLAN

4.1.7 SERVICES

i. Air Conditioning Plant

i. The AC Plant room is spread in a span of 526Sq.M.
ii. The Chiller Plant and the conduiting were placed along which supplied cold air to the whole campus.
iii. This is the main unit for supply of air from which other units of chiller plants are distributed and are placed subsequently in other blocks.


Figure 10

ii. Fire Escape Route

i. The FIRE ESCAPE ROUTE is easily located inside the building.
ii. The width of the steps is 1.5M.
iii. Tread and Riser are observed 300 MM & 150 MM respectively.
iv. Open from the remaining three sides to keep the fire safety intact and smooth flow of people.

iii. Electrical Services:

A 11/433 KV/630 KVA Transformer was installed at the campus..

iv. Parking:

PARKING INSTITUTIONAL: 1348 ECS

RESIDENTIAL: 948 ECS

HOSPITAL BLOCK: 217 ECS

4.1.8 Architectural Features

i. Framed Structure:
The architect has used a framed structure system for the design. It has a high seismic load carrying capacity

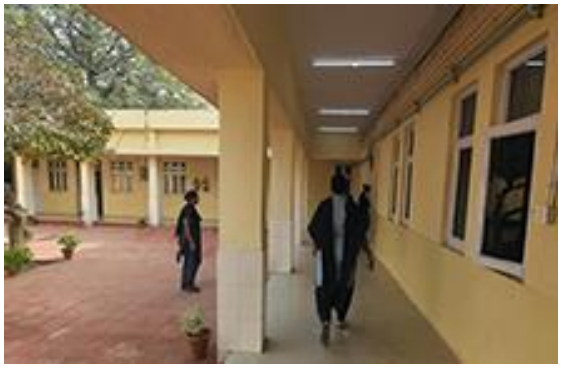


Figure 11

ii. Flooring:

- ✓ The exterior was finishes with inter-locking Pavers.
- ✓ The interiors had marble flooring.
- ✓ Wooden Flooring and clay tiles were also observed wherever required.

Figure 13

Figure 12

iii. Cladding:

The building blocks are externally cladded with brick tiles giving the building a raw texture and completely making a blend of nature and the building.

iv. Sustainability:

- ✓ The Architect has completely kept in mind the sustainable aspects of the building blocks to the power consumption inside the building and also make the use of environmental friendly techniques for same.

- ✓ The use of Solar Panels has been Maximized within the project to minimize electricity consumption provided by the government and use natural means.

- ✓ There was a use of ventilators and windows to the maximum extent wherever needed and could be used. Each room had an access to natural ventilation and lighting. Along with this, courtyard planning was done to maximize the effects. Cavity Glass was used on the South and west Facing Windows

4.2 Duke Wellness Center

4.2.1 About

The Center weaves health and wellness together into everyday life, with Student Health, Nutrition, Counseling and Psychological Services, Wellness and Case Management programs together under one roof. This innovative new facility both answers the needs of clinical care and expands the role of wellness in ensuring healthy students.

Figure 15

Figure 14

Strategically situated between athletics, student services and residential complexes, the building comprises Duke historic forest's and a primary campus circulation path.

Duke University's innovative new Student Wellness Center — "The Well" — is designed to meet the highest standards of clinical care while expanding the role of wellness in students' lives.

Strategically situated within Duke's Campus Center, between athletics, student services and the university's historic grounds, the facility consolidates all student health and wellness departments into one location. In addition to Student Health, Counseling and Psychological Services, the building includes a pharmacy, dental office, physical therapy, and multipurpose spaces. This diverse array of programs allows the entire campus community to meet, find balance, and focus on wellness.

4.2.2 Location

Figure 16:location

The wellness center is located in The U.S. in North Carolina (Dublin)

4.2.3 SITE PLAN

SITE AREA: 16187 SQ. M
COVERED AREA 71,900 SQ. M
PERMISSIBLE G.C. 30%
G.C. ACHIEVED : 22.5%

SITE PLAN

Figure 17SIte plan

Project Details:

Project: Duke University Student Wellness Center, 2017
Location: Durham, North Carolina, USA
Client: Duke University
Architect: Duda|Paine Architects, Durham, NC
Principal-in-Charge: Jeffrey Paine, AIA, Principal-In-Charge
Design Principal: Turan Duda, FAIA
Project Architect: Scott Baltimore, AIA
Project Manager: Dane Thompson, AIA
Project Team: Brian Payne, AIA, Lindsey Trogdon, AIA; Allison Lowe (Interior Design)
Civil/Structural Engineer: Stewart, Inc.
MEP/FP Engineer: Newcomb & Boyd
Landscape Architect: Stewart, Inc.
Lighting Designer: Cline Bettridge Bernstein Lighting Design
Interior Designer: Duda|Paine Architects
Contractor: d. a. Everett Construction Group & Gilbane Building Company
Construction Manager: Donovan Everett; Daniel Ahles

4.2.4 CONCEPTUALIZATION & DESIGN PHILOSOPHY

i. The design's open, three-story Entry Pavilion lobby infuses the building with natural light. A monumental entry stair follows a translucent wall up through the space to emphasize the intersection of prevention, intervention and social interaction.

ii. To integrate an authentic sense of nature and minimize the project's environmental impact, oak harvested from the site and locally milled was used extensively for interior surfaces and seating.

iii. A contemplative garden reinforces connections between the environment and personal wellness. These abundant and unique features make the Duke Student Wellness Center the embodiment of the University's commitment to integrating wellness into daily life.

iv. Careful detailing of the connections between the lobby's forest of laminated wood columns and the layering of space creates a sense of lightness and a play of shadows. The use of wood throughout provides the open volume of space with a warm, natural feeling that is also clean and contemporary. The design presents an enriching environment that invites students in and reflects the importance of wellness and health at the university

v. A garden reinforces connections between the environment and personal wellness. These abundant and unique features make the Duke Student Wellness Center the embodiment of the University's commitment to integrating wellness into daily life.

vi. The use of wood throughout provides the open volume of space with a warm, natural feeling that is also clean and contemporary.

Figure 18

Figure 19

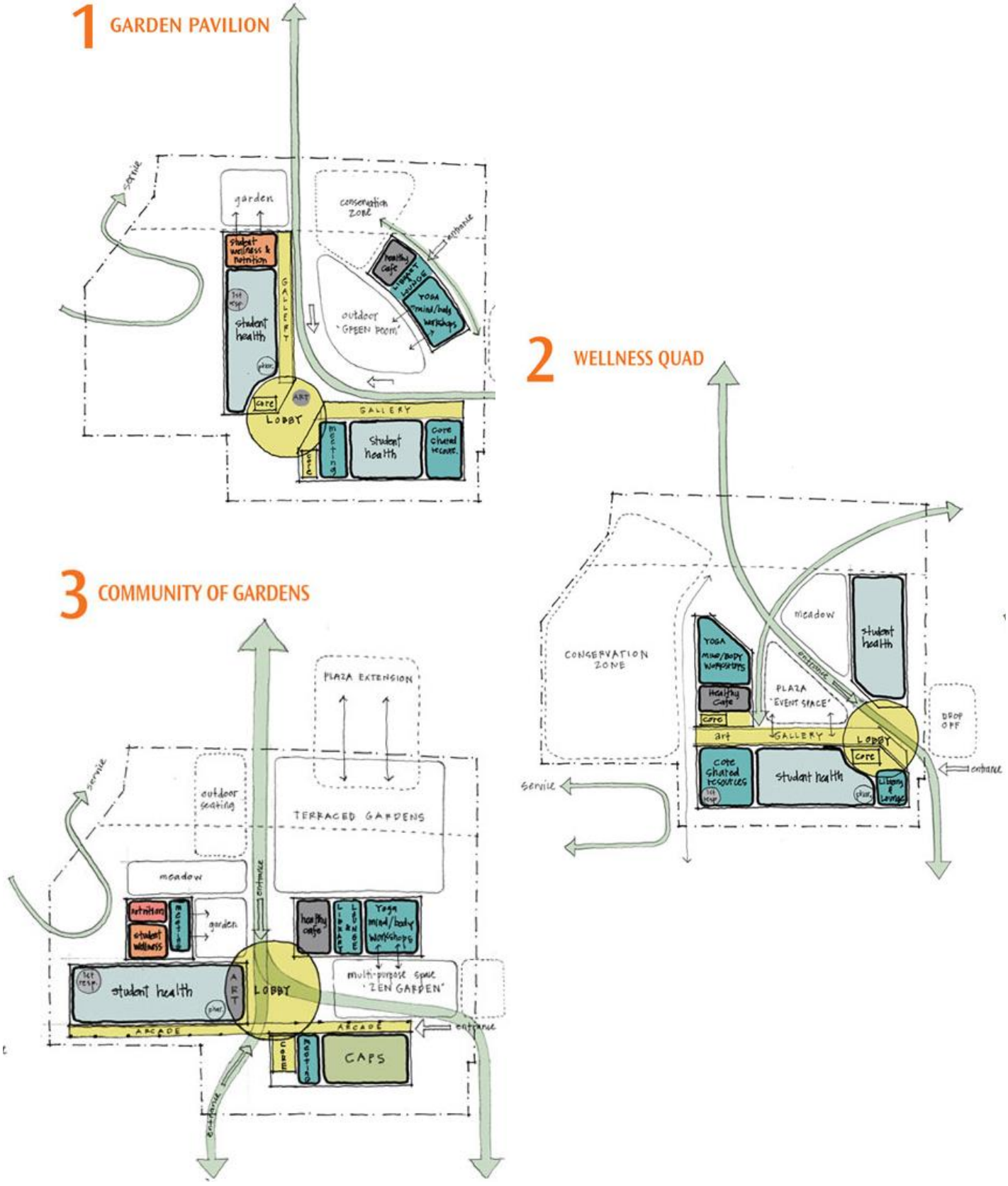


Figure 20Concept Plan

4.2.5 MATERIALS

i. The design’s transparent two-story entry brings natural light into the building and allows for views of the outdoors.
ii. To minimize the project’s environmental impact, oak harvested from the site was used extensively for interior surfaces and exterior seating.
iii. Between Design Development and Construction Documents phases, a preconstruction "Site Impact Study" reduced the amount of surrounding forest impacted by the project.
iv. Also, during Construction Development Phase, a $6 million donation to the project allowed for the inclusion of the contemplative garden, which enhanced the project's focus on wellness and wellbeing.
v. With a construction phase redesign of the lobby's wood wall, site timbers became available for use as veneers for millwork and desks, adding warmth to interior spaces.

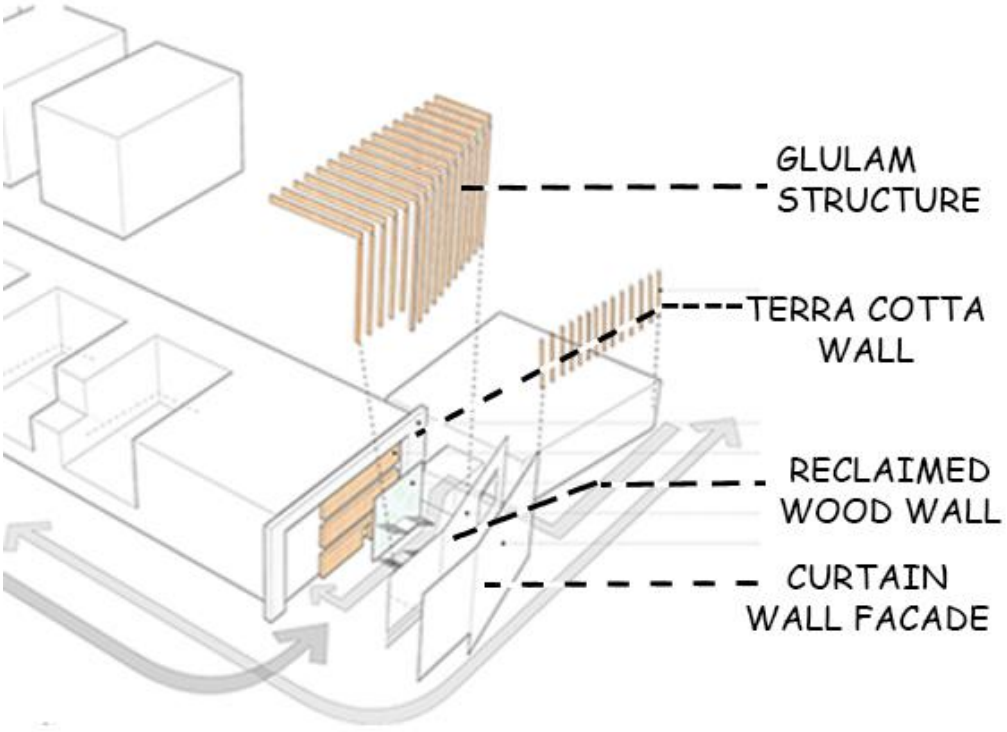


Figure 21:Material

vi. While the primary building structure is comprised of steel frame and concrete floors, the Entry Pavilion brings materials from the outdoors in including a slate and loose fill river rock floor congruous with exterior courtyard flooring and rough texture bark wood.
vii. It is further highlighted by structural glulam timbers and vertical wood louvers and fritted glass for solar shading and obscurity to the spaces beyond.

viii. A wood roof deck/ceiling is visible above and highlighted by wide acoustic ceiling 'clouds' that float between the beams and hold lighting and the sprinkler systems.

ix. The exterior façade of the body of the building is articulated in three tower elements made of curtainwall glass and a terra cotta rain screen system in two gray colors that contextually relate to the palette of historical stone on campus.

4.2. CASE STUDIES

Figure 22:Elevation

4.2.7 ARCHITECTURAL FEATURES

i. Energy conservation

The new facility will meet Duke University's sustainable design goal of LEED Silver certification, yet faced challenges because the building had to tie into existing campus systems, which limited strategies available for energy-conservation. Instead, the building's design, form and construction focused on energy-conservation through the extensive use of natural daylighting, deep south facing overhangs, exterior solar shading elements, integrated ceramic frit in windows, continuous insulation and high R-value wall assemblies as well as other features.

ii. Built-Unbuilt

A garden reinforces connections to nature and extends to campus pathways.

A monumental entry stair follows a translucent wall up through the lobby to celebrate the intersection of care, prevention and social interaction in achieving wellness.

Public and private functions are layered—the entry is open, but presents circulation options for students seeking care, privacy, socializing or wellness programs.

Figure 23Built Unbuilt

iii. Entrance

The design's transparent two-story entry brings natural light into the building and allows for views of the outdoors.

To minimize the project's environmental impact, oak harvested from the site was used extensively for interior surfaces and exterior seating.

4.3 Antara- Holistic Wellness Center, Dehradun

4.3.1 About

ANTARA is an incredibly impressive and idyllic wellness retreat located a short drive from Dehradun in India's northern state of Uttarakhand.

Figure 24

Retreat itineraries explore each aspect of well-being: physical, mental, emotional and spiritual through the practice of Ayurveda, Sowa rigpa (Tibetan healing), Yoga, Natural therapies, Spa, Fitness and Aqua.

By bringing together a variety of therapies, the retreat provides many paths to start one's journey towards greater personal well-being.

Each retreat is bespoke, curated to meet individual needs, goals, body types and preferences, starting with a consultation on arrival and continuing well after you return home.

4.3.2 Location

Antara is Located in Dehradun

4.3.3 About The Site & Site Approach

Location: Dehradun , Uttrakhand
Year: 2017
Area: 13.4 acre
Architects: Perkins Eastman
Client: Antara Max Group

ANTARA is well connected by Road, Rail and Airport.

The ISBT bus terminal is just 16.4 KM from the wellness retreat.

The nearest Railway Stations to ANTARA is Dehradun Railway Station which is 11.7 km.

Jolly Grant Airport (Dehradun) is 37.8 km.

4.3.4 Site Plan

Ground Coverage permissible: 30%

Ground Coverage Achieved: 27.4%

LEGENDS

1. ADMIN BLOCK
2. WELLNESS CENTER
3. RESORT TYPE 1
4. RESORT TYPE 2
5. RESORT TYPE 3

4.3.5 Design Philosophy

i. Antara Dehradun has been designed to align itself with the physical, spiritual and emotional needs of its patients.

ii. Master plan has been designed so as to allow residents barrier-free access within the community.

iii. The landscape design emphasises the importance of living a lifestyle integrated with nature. The aspects of safety, security and ease of use are integrated into the landscape treatments.

iv. The landscape includes spaces such as a yoga pavilion, creative activity zones, terrace gardens, focal plazas, organic / herbal gardens, orchard walks, etc.

v. The landscape design has various in-built sustainability considerations taken into account, such as rain water harvesting, minimal grading changes and native planting zones.

vi. Vehicle and pedestrian traffic has been segregated to allow residents safe movement inside the community.Protection of existing trees in development of master plan and residence.

Figure 25View :Antara

4.3.6 Plans

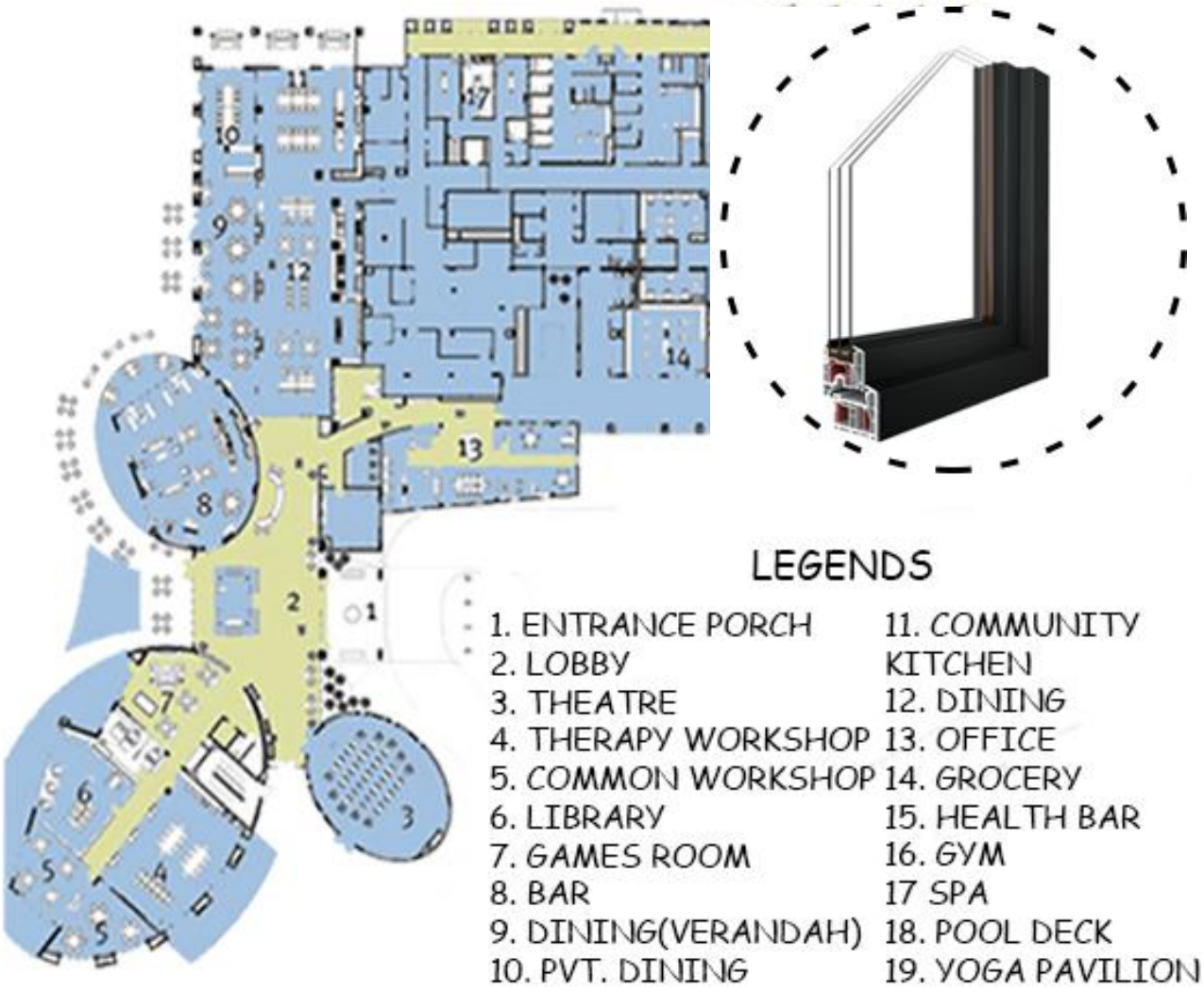


Figure 26Plan:Antara

4.3.7Architectural Feature

i. Energy Efficiency:

VRF HVAC systems allowing temperature settings in different rooms as per comfort and to promote high energy savings.

Double glazed windows and doors for reducing energy consumption and climate control.

Controls like electrical outlets, light switches, door locks, thermostats and alarm panels installed.

ii. Structure System:

R.C.C framed Structure system is used and the planning is Typical.

iii. Flooring:

Tiles with gold strips and wet static friction coefficient of over 0.6. Wooden flooring with various pattern all around.

Figure 27: Flooring

iv. Lighting And Ventilation

False ceiling with cove lights that allow ambient lighting as opposed to glaring wall lights.

Figure 29

Figure 28

Special care of ambient light levels in the
transitional areas so that eyes do not get stressed.
Large size windows allowing ample daylight and natural ventilation in each apartment.

v. Landscaping, built-unbuilt

Figure 30

A perfect blend of built with the nature makes it remarkable.

The landscape design emphasises the importance of living a lifestyle integrated with nature.

An 8m wide road is run on the periphery of the campus, and other areas are fitted with interlocking pavers.

Figure 31

The landscape includes spaces such as a yoga pavilion, creative activity zones, terrace gardens, focal plazas, organic / herbal gardens, orchard walks, etc.Protection of existing trees in development of master plan and residence designs.

vi. Circulation

Simple self directired circulation pattern, with name plates all around , making it easier to understand.
Areas for vehicular movement and pedestrians are segregated.

Figure 32

vii. Color Psychology

Only soothing colours has been used throughout the centre such as off - white. The whole place is colored in an off-white monotone.

4.3.8 BY THE ARCHITECT

Large panels of architectural glazing have been carefully left free in most spaces to get the outdoors into the interiors and enhance its serenity by maximizing the natural beauty of the location.

Interior has been populated with a timeless palette of materials, furniture, lighting and curated art to have a sense of peace-making.

4.4 Comparative Case study

Category	IBHAS , Delhi	Antara , Dehradun	Wellness centre ,Durham
1. Project Overview	Site Area : 111 Acres Architect : CP Kukreja Location : Near mansarover Metro Station ,Delhi	Site Area : 13.5 Acres Architect : Perkins Eastman Location : Malsi , Dehradun	Site Area : 1.4 Acres Architect : Duda Paine Architects Location : Durham , United States
2. Area Statement	Site Area [illegible] % Hospital [illegible] % Residential [illegible] MEDICATIONAL BLOCK [illegible] RESIDENTIAL BLOCK [illegible]	Site Area - 13.5 acres % Wellness centre : 33 % % Residential : 42% % circulation : 10 % % landscapping : 15 % Wellness centre is divided into 2 parts - East and west , while east has activities like spa , dining , bar , swimming etc	The Center weaves health and wellness together into everyday student life, with Student Health, Nutrition, Counseling and Psychological Services, Wellness and Case Management programs coming together under one roof. This innovative new facility both answers the needs of clinical care and expands the role of wellness in ensuring healthy students. Strategically situated between athletics, student services and residential complexes, the building abuts Duke historic forest's and a primary campus circulation path.
2. User Friendly	✔ 1. Steel Handrails run throughout the Site Area. 2. Ramps has been provided at all the necessary positions. 3. Width of pathway and interior corridors has been kept more than 2m at all positions.	✔ 1. Wooden Asthetic Handrail runs throught the site area. 2. Minimum level differences has been notices inspite of contoured site. 3. Width of pathway at all places has been kept more than 2 m .	✔ 1. Handrail runs throught the site area. 2. Minimum level differences has been notices inspite of contoured site. 3. Width of pathway at all places has been kept more than 2 m . 4. Ramps has been notices missing throughout the site.
3. Circulation	✔ Circular Self directed Pathway within the blocks.	✔ Linear Self directed Pathway within the blocks.	✔ Linear Self directed Pathway within the blocks.
3. Sustainability / Energy Efficiency	✔ The Architect has completely kept in mind the sustainable aspects of the building blocks to the power consumption inside the building and also make the use of environmental friendly techniques for same. The use of Solar Panels has been Maximized within the project to minimize the electricity consumption provided by the government and natural means. Rain Water Harvesting at all the blocks Sustainable Materials fo construction are used.	✔ VRF HVAC systems allowing temperature settings in different rooms as per comfort and to promote high energy savings. Double glazed windows and doors for reducing energy consumption and climate control.Controls like electrical outlets, light switches, door locks, thermostats and alarm panels installed at convenient heights. A perfect blend of built with the nature makes it remarkable. The landscape design emphasizes the importance of living a lifestyle integrated	The design's transparent two-story entry brings natural light into the building and allows for views of the outdoors. To minimize the project's environmental impact, oak harvested from the site was used extensively for interior surfaces and exterior seating.
3. Material	✘ The basic Brick - RCC Structure. Flooring : Marble ,Kota stone , Pavers Elevation : Brick cladding	✔ Prominent use of stone masonary , glass , wood. Tiles with gold strips and wet static friction coefficient of over 0.6. Wooden flooring with various pattern all around.	✔ Oak wod harvested from the site has been used along with ceramic tiles.
4. Interior	✘ Colour : Off white colour walls with dull coloured tiles not favourable for mental health are found. Lighting : Philips white light not favourable	✔ Only soothing colours has been used throughout the centre such as off - white. Ambient soothing lighting is used throughout.	✔ A contemplative garden reinforces connections to nature and extends to campus pathways. A monumental entry stair follows a translucent wall up through the lobby to celebrate the intersection of care, prevention and social interaction in achieving wellness. Public and private functions are layered—the entry is open, but presents circulation options for students seeking care, privacy, socializing or wellness programs.
5. Natural Ventilation	✔ There was a use of ventilators and windows to the maximum extent wherever needed and could be. used. Each room had an access to natural ventilation and lighting. Along with this, courtyard planning was done to maximize the effects. Cavity Glass was used on the South and west Facing Windows	✔ The Wellness centre is well ventilated with large windows and openings.	✔ The Wellness centre is well ventilated with large windows and openings wherever necessary.
6. Services	✔ A 11/433 KV/630 KVA TRANSFORMER WAS INSTALLED FOR THE CAMPUS. MAX VOLTAGE : 440 V Fire Escape Staircase easily locatable. Parking : 2500 ECS AC Plant : 526 sq m , with chillers	✔ A TRANSFORMER WAS INSTALLED FOR THE CAMPUS. MAX VOLTAGE : 440 V Fire Escape Staircase easily locatable, but the building floors of wellness centre onl on ground floor. Parking : 100 ECS AC Plant Waste Management Plant available	

Chapter-5 Design Area Programming

5.1 ADMIN BLOCK

ADMIN BLOCK				
	RECEPTION	1	10	10
	WAITING AREA	1	30	30
	DIRECTOR	1	20	20
	ADMINISTRATIVE OFFICER	1	15	15
	CHIEF MEDICAL OFFICER	1	15	15
	PHARMACY	1	10	10
	STAFF OFFICE	1	60	60
	STORE	1	10	10
	MEETING ROOM/CONFERENCE ROOM	1	40	40
	TOILETS	4	12.5	50
	COMMON / LOCKER ROOM	2	25	50
	STAFF TRAINING AREA	2	50	100
	JANITOR	1	10	10
	AUDITORIUM	1	200	200
	STAFF DINING	1	40	40
TOTAL AREA				660
	CIRCULATION	20%		792

5.2 OPD / DIAGNOSTIC BLOCK

OPD/ DIAGNOSIS BLOCK				
NATUROPATHY & AYURVEDA				
	CONSULTATION ROOM	6	20	120
	WAITING AREA	1	40	40
HOMEOPATHY				
	CONSULTATION ROOM	4	20	80
	WAITING AREA	1	40	40
	ECG ROOM	1	12	12
UNANI				
	CONSULTATION ROOM	3	15	45
	WAITING AREA	1	20	20
SIDDHA				
	CONSULTATION ROOM	2	15	30
	WAITING AREA	1	10	10
LAB				
	MICROBIOLOGY LAB	2	70	140

	PATHOLOGY LAB	1	90	90
SAMPLE COLLECTION		1	12	12
PSYCHOLOGY				
	CONSULTATION ROOM	1	12	12
	WAITING AREA	1	20	20
WARDS				0
	HIGH RISK WARD(M+F)	10	20	200
	I.P.D(M+F)	20	20	400
	LOW RISK WARD(4-BED) (M+F)	6	36	216
	MESS+KITCHEN	1	120	120
THERAPY/ACTIVITY AREA				
	ART + CRAFT THERAPY	1	60	60
	COGNITIVE ACTIVITY	1	60	60
	MUSIC THERAPY	1	60	60
	COMMON ROOM	1	80	80
	PHYSIOTHERAPY	1	25	25
	MASSAGE ROOM	2	12	24
JANITOR		1	10	10
STORE		1	20	20
TOTAL AREA				1946
	CIRCULATION	20%		2335.2

5.3 THERAPY BLOCK

THERAPY/ TREATMENT ROOMS				
NATUROPATHY				
	HYDROTHERAPY			
	SAUNA	2	15	30
	Steam	2	12	24
	Hip Bath	2	5	10
	Hand & Foot Bath	2	5	10
	Spinal Bath	2	5	10
	Immersion Bath	1	10	10
	Whirlpool Bath	1	10	10
	changing room			
	MUD THERAPY	2	20	40
	MASSAGE ROOM	2	12	24
	CHROMOTHERAPY	1	20	20
	ACUPRESSURE	1	20	20
	ENEMA ROOM	3	6	18
	PHYSIOTHERAPY	1	25	25
	CHANGING ROOMS	6	2	12
AYURVEDA				

	PANCHKARMA			
	Abhyankar (Massage)	1	12	12
	Sweden (Sweat Therapy)	1	12	12
	Shidehara (Pouring of warm oil)	1	12	12
	Udhulana (Herbal dusting of body)	1	12	12
	FOOT REFLEXOLOGY	1	15	15
CHANGING ROOMS		6	2	12
UNANI				
	THERAPY ROOMS	4	15	60
	CHANGING ROOMS	4	2	8
SIDDHA				
	THERAPY ROOMS	1	15	15
	CHANGING ROOMS	2	2	4
OCCUPATIONAL THERAPY		1	80	80
STORE		1	10	10
TOILETS		1	22	22
NURSING STATION				
	TOTAL AREA			537
TOTAL AREA (Male + Female)				1074
	CIRCULATION 20%			1288.8

5.4 YOGA / MEDITATION

YOGA/ MEDITATION				
	ENTRANCE	2	10	20
	*	10	2	20
	YOGA STUDIO	1	300	300
	MENTOR'S ROOM	1	15	15
	ASSISTANT'S ROOM	1	10	10
	STORE	1	15	15
	WASHROOMS	2	16	32
TOTAL AREA				412
	CIRCULATION 20%			494.4

5.5 DIET FACILITY

DIET FACILITY				
	KITCHEN	1	60	60
	LOADING/UNLOADING AREA	1		0
	STORE	1	20	20
	PANTRY	1	20	20
	CHEF CUTTLERY	1		0
	RESTAURANT	1	140	140
	TOILET	2	16	32
TOTAL AREA				272
	CIRCULATION 20%			326.4

5.6 GUEST ACCOMODATION

GUEST ACCOMODATION				
	COTTAGE (1 Room+ Pantry+ Washroom+ Store)	10	150	1500
	COTTAGE (2 Room+ Pantry+ Washroom+ Store)	6	280	1680
	4 BED DORMETRY / ZOSTEL	6	40	240
	TOTAL AREA			3420
	CIRCULATION 20%			4104

5.7 STAFF ACOMODATION

STAFF ACCOMODATION				
	SINGLE ROOM	15	15	225
	DOUBLE SHARING	10	20	200
	4-BED DORMITORY	4	40	160
	GYM	1	100	100
	COMMON ROOM	1	80	80
	DINING ROOM	1	150	150
	TOTAL AREA			915
	CIRCULATION 20%			1098

5.8 RECREATIONAL AREA

RECREATIONAL				
	LOUNGE	1	100	100
	INDOOR GAMES	1	300	300
	LIBRARY	1	80	80
	MUSIC ROOM	1	30	30
	STORE	1	10	10
	TOILETS	2	18	36
	GYM	1	150	150
	ART ROOM	1	30	30
	TOTAL AREA			736
	CIRCULATION			883.2

5.9 SERVICE

SERVICES				
	GENERATOR ROOM	1	10	10
	ELECTRICAL ROOM	1	10	10
	SURVILLANCE ROOM	1	10	10
	PUMP ROOM	2	10	20
	INCILLATOR	1	5	5

	SEWAGE TREATMENT PLANT	1	45	45
	LAUNDRY	1	60	60

Chapter-6 CONCEPT AND ZONING

TRANQUILITY

There are 7 chakras in human body that perform the funcioning and are responsible for over-all working of the cognitive organs in the body.

Just like the **7 chakras** the building blocks are divided and each block is given a specific function.

ADMIN BLOCK

The head Chakra or the **CROWN Chakra** relates to admin block.
This is the first block and the major block for taking the responsibilities and the **guidance of all the other blocks**, just like the brain for all the other body parts.

DIAGNOSTIC+ OPD BLOCK

The **THROAT Chakra** relates to diagnostic and OPD block.
The throat chakra is responsible for the **speech and intellectual** level of the person, as the diagnostic block, the quality of treatment will define and will be responsible for the growth of the institution.

DIET FACILITY BLOCK

The **SOLAR PLEXIS (STOMACH CHAKRA)** relates to diet facility block.
A healthy diet is important for the overall functions of the body and this diet facility block includes diet councelling facilities integrated with a restaurant, which compliments the design.

HOSPITALITY

The **ROOT CHAKRA** relates to hospitality block.
The hospitality of the place is the root cause of people to visit the place and the services along.
The resort cottages and dormetaries are a part of this block.

THERAPY BLOCK

The **THIRD EYE CHAKRA** relates to Therapeautic Block.
This is the block which inculcates activities such as **spiritual awakening,** and help in whole soul development of the person.

RECREATIONAL BLOCK

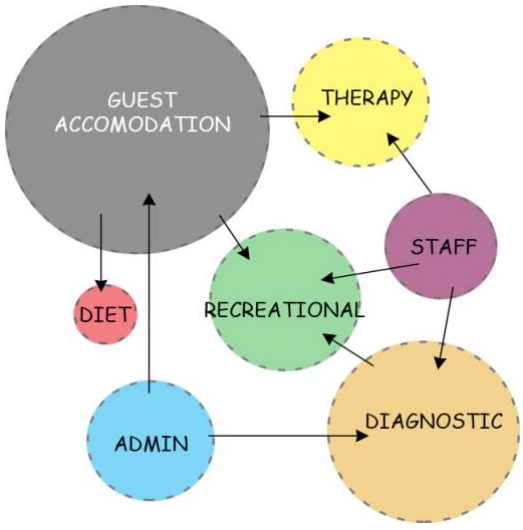
The heart Chakra relates to **Recreational block.**
This is the block which will be located at the middle portion and will act as a junction of interaction for patients with mental illness(when they are ready) and common people.
This is the block which majorly focuses on the taboos of the society.

STAFF HOSTEL

Sacral Chakra (nevil) represents the staff hostel.

This block is the place of stay for the staff and provides an equally important role in the design.

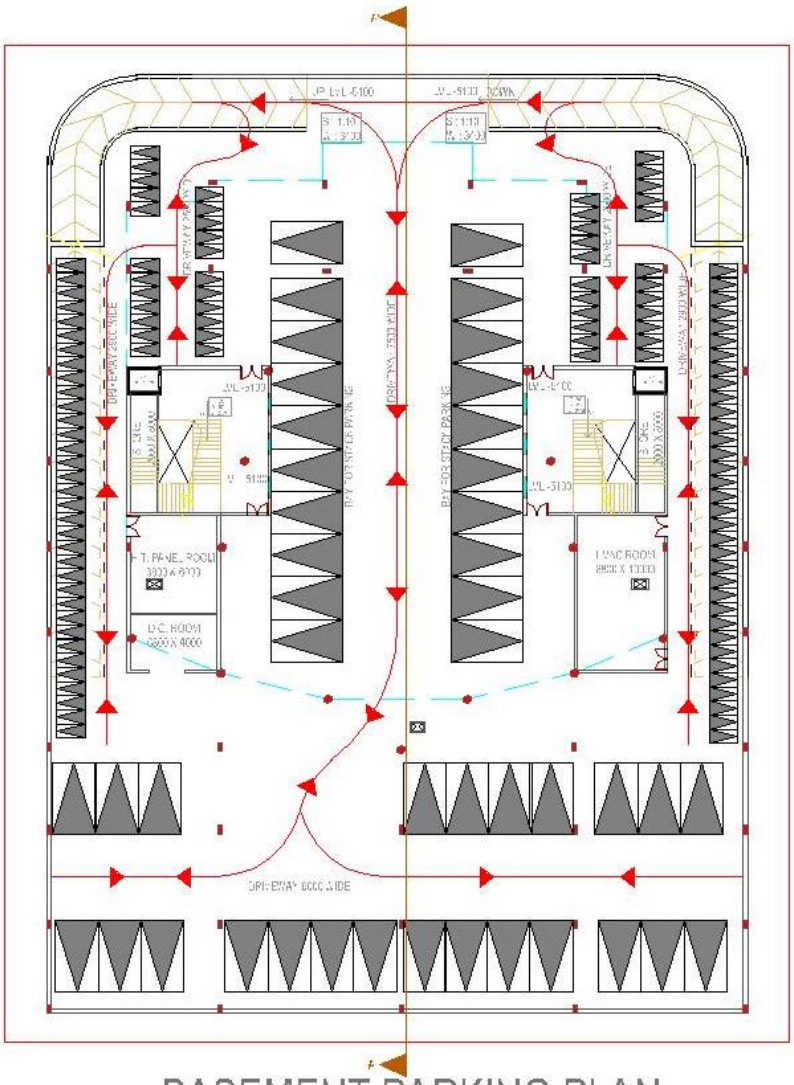
ZONING



CHAPTER 7: PLANS

7.1 SITE PLAN

SITE PLAN



BASEMENT PARKING PLAN

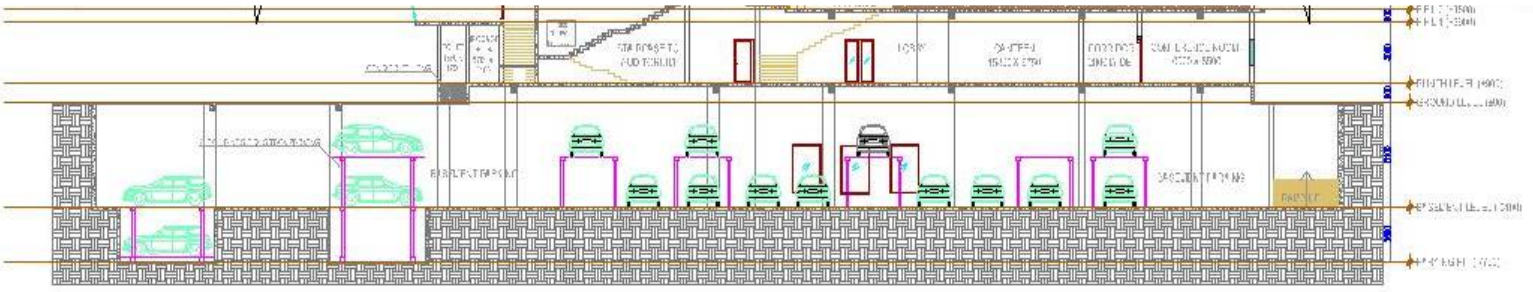
SITE AREA: 30,477 SQ. M
G.C PERMISSIBLE: 30%
= 9143.1 SQ.M
MIN. AREA TO COVER: 20%

G.C ACHIEVED: 6894 SQ. M
=22.6%

BUILT UP ACHIEVED: 16,104 SQ. M

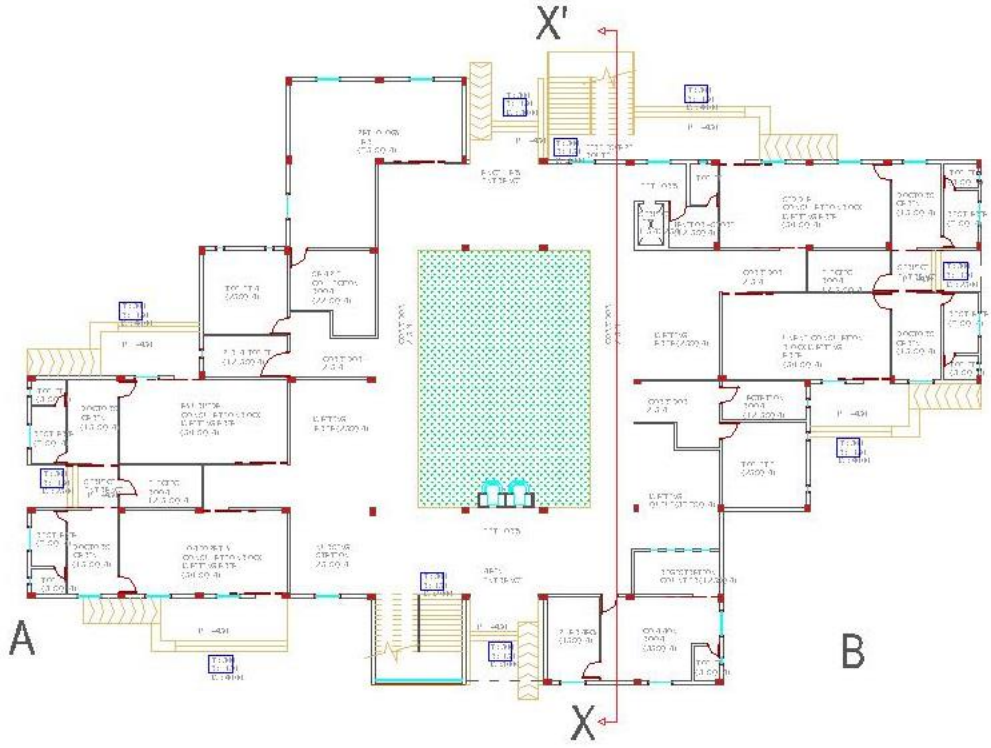
E.C.S - 1.2 / 100SQ. M
= 182 CARS

ON SITE PARKING: 88 CARS
BASEMENT PARKING: 94 CARS

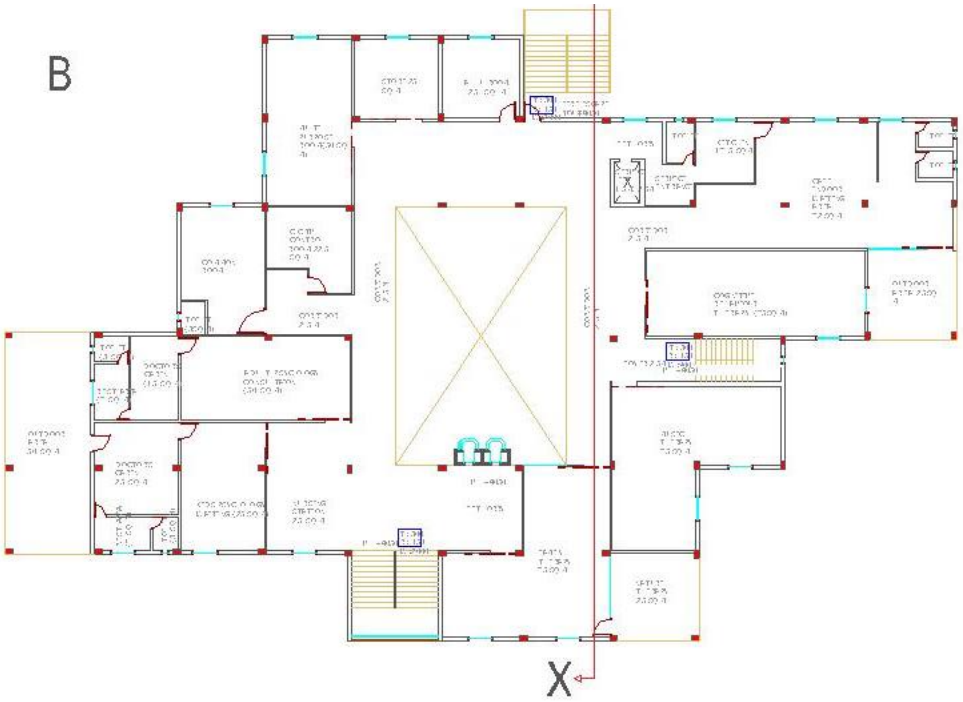


SITE SECTION

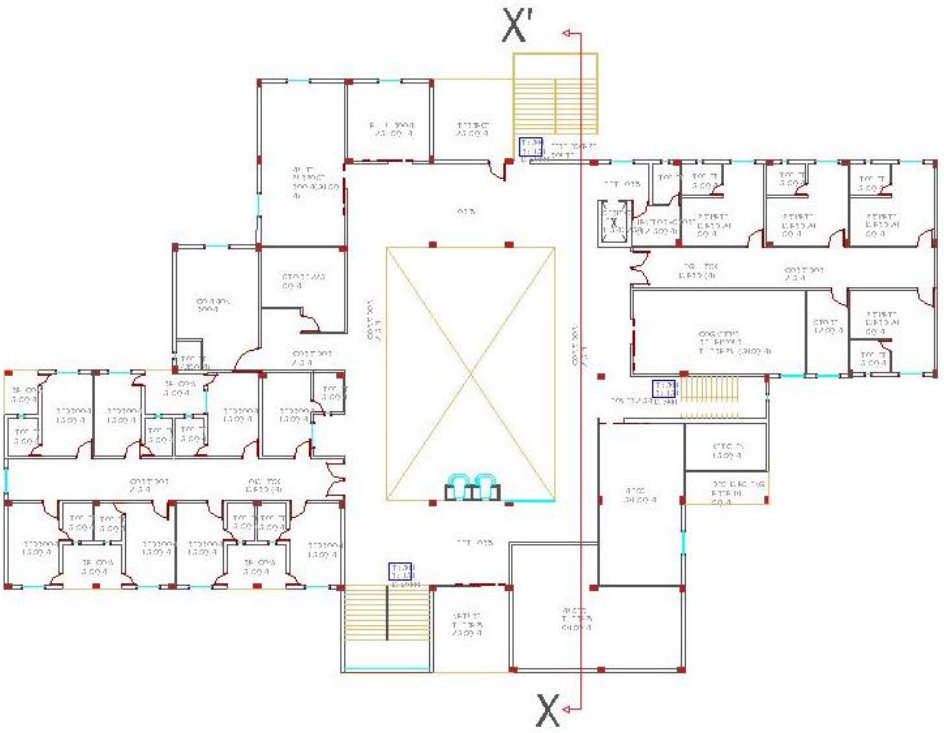
7.2 OPD+DIAGNOSTIC BLOCK



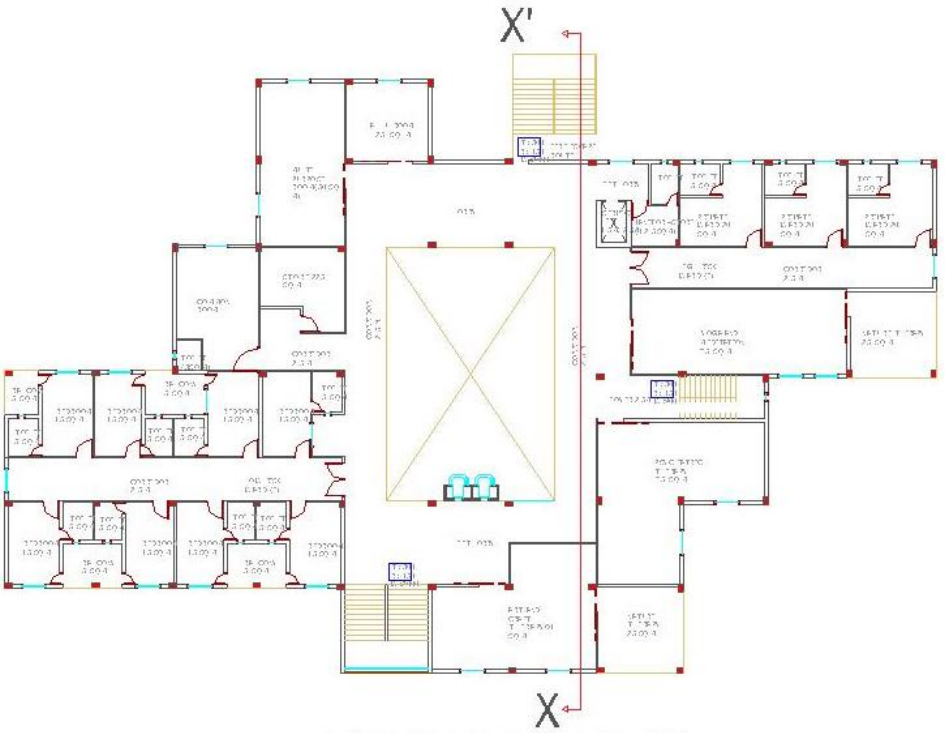
GROUND FLOOR PLAN



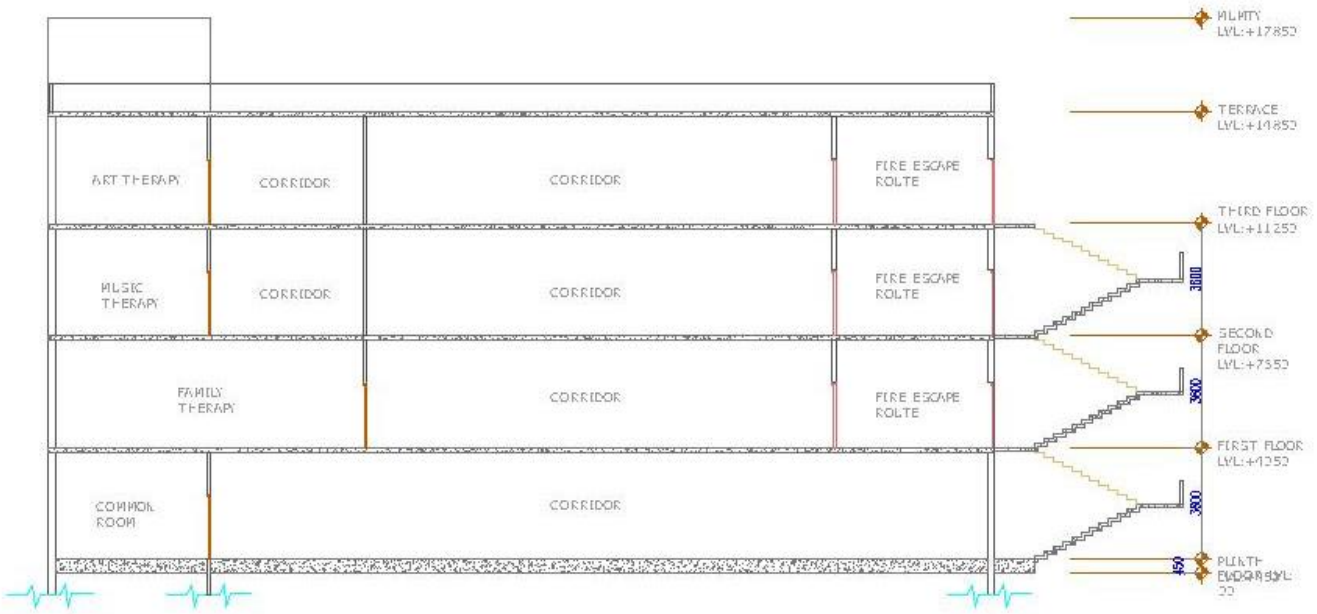
FIRST FLOOR PLAN



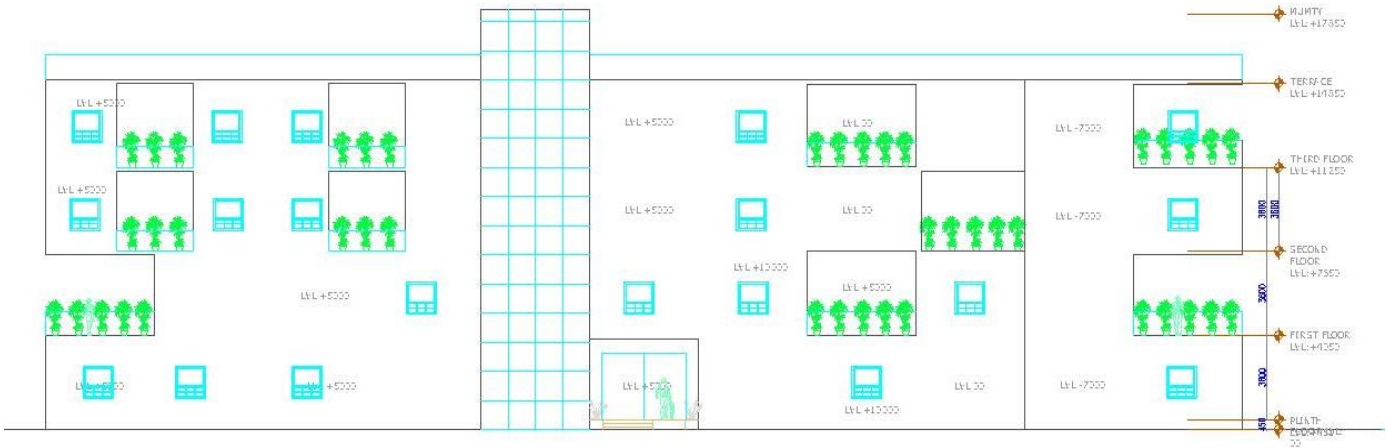
SECOND FLOOR PLAN



THIRD FLOOR PLAN

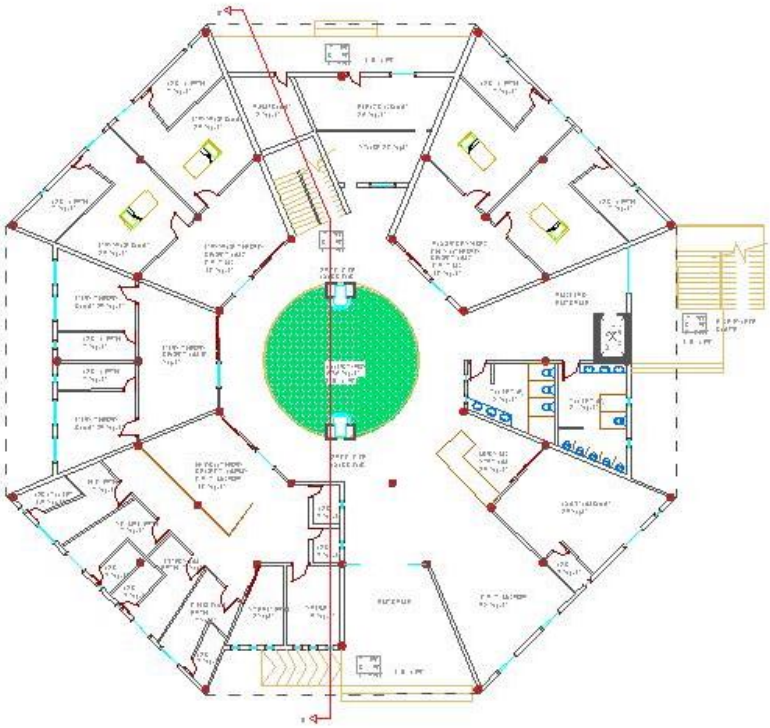


SECTION XX'

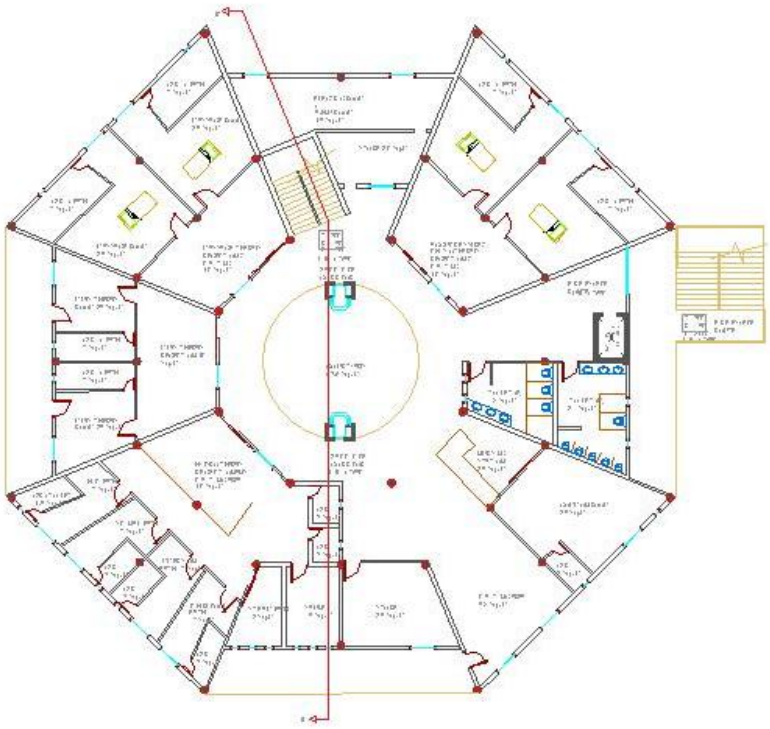


ELEVATION AB

7.3 THERAPY BLOCK

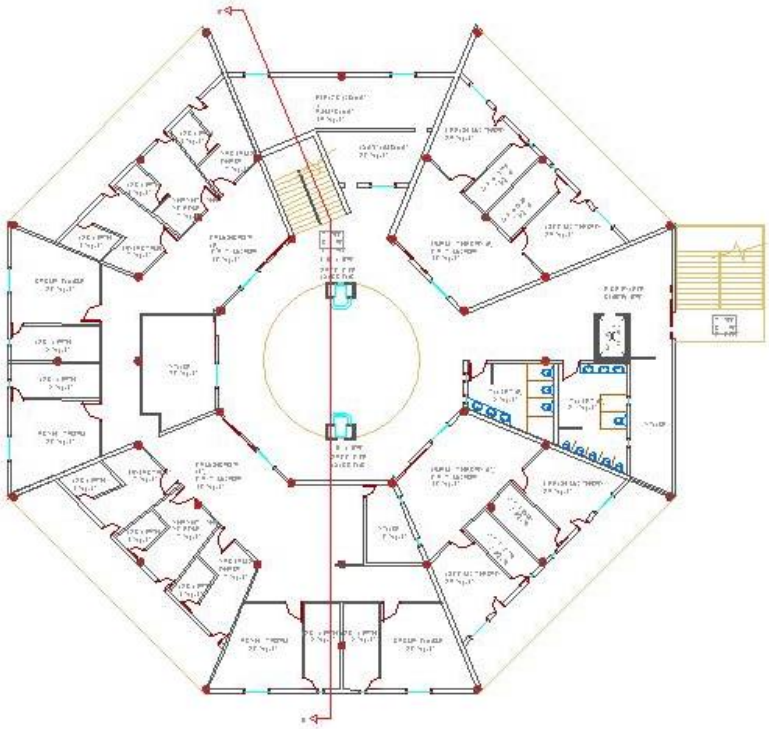


GROUND FLOOR PLAN



SECOND FLOOR PLAN

7.3 THERAPY BLOCK



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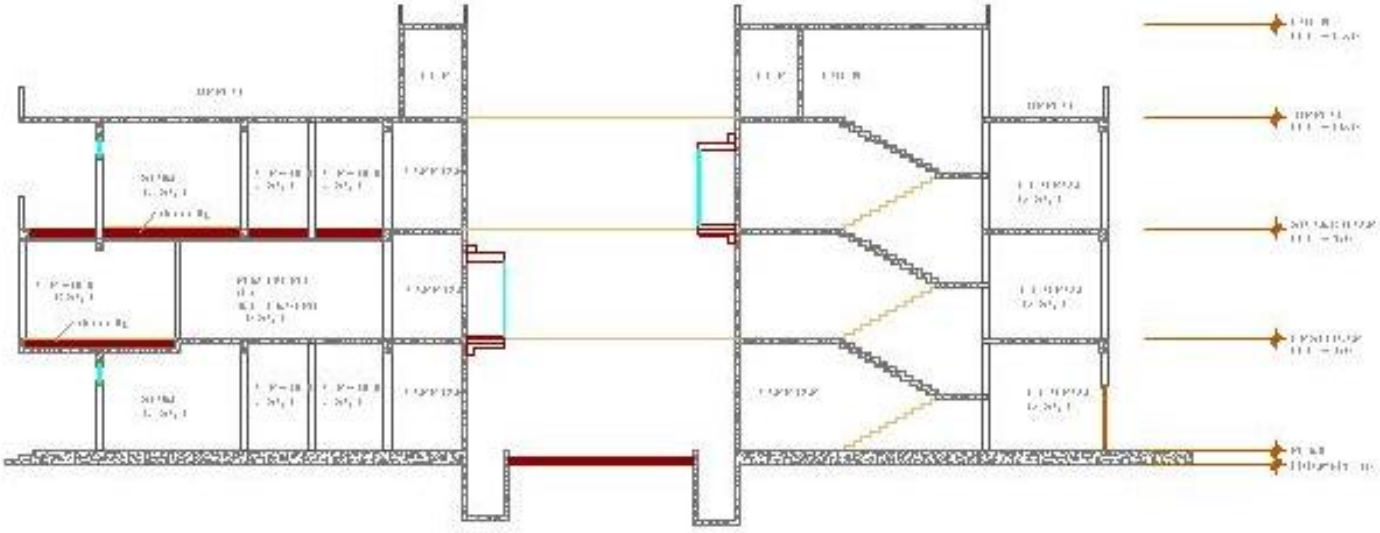
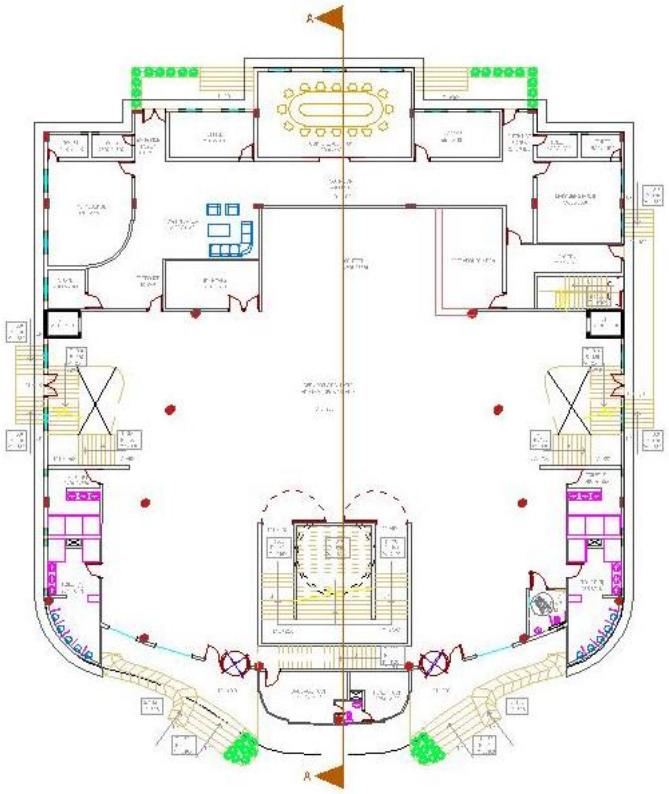


SECTION

7.4 AUDITORIUM BLOCK



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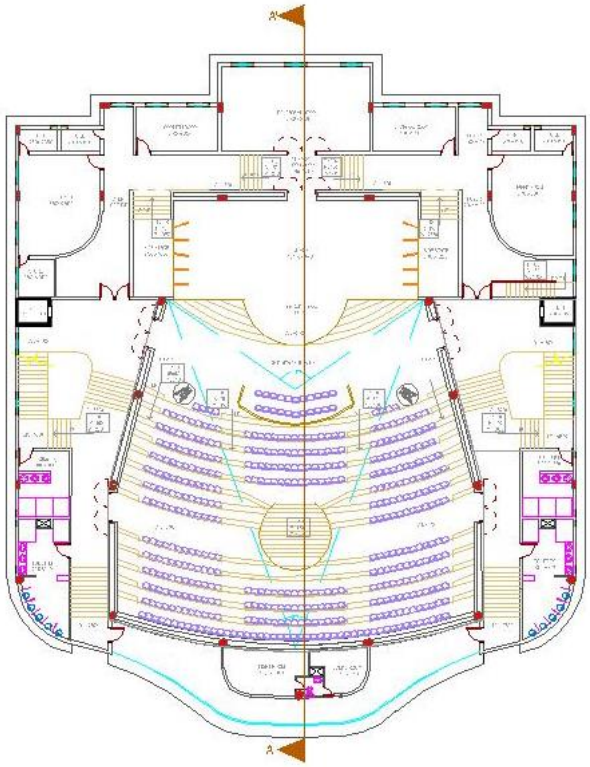

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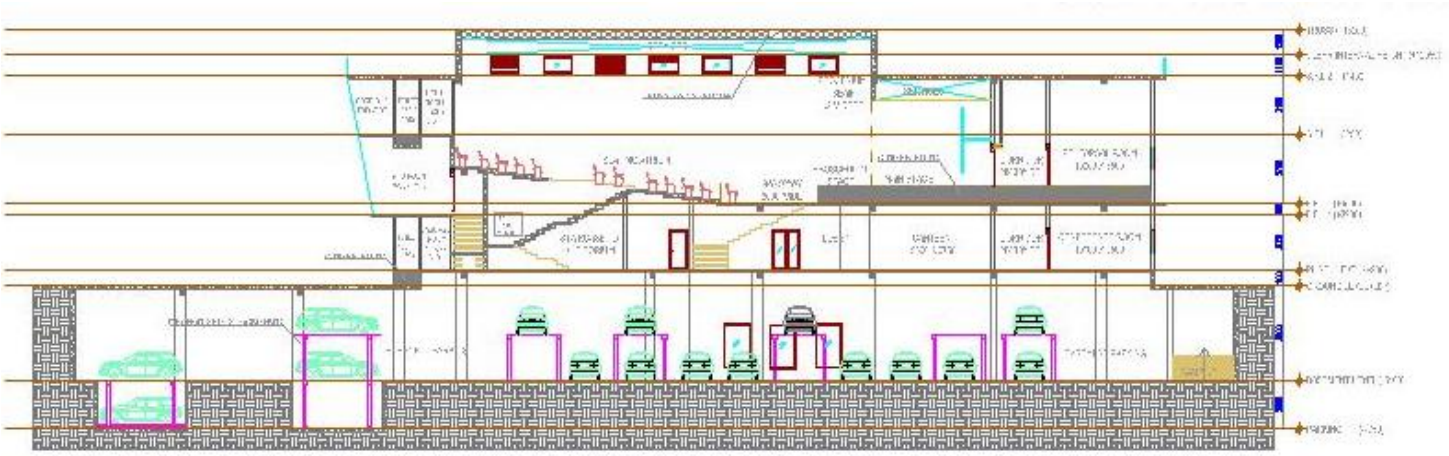
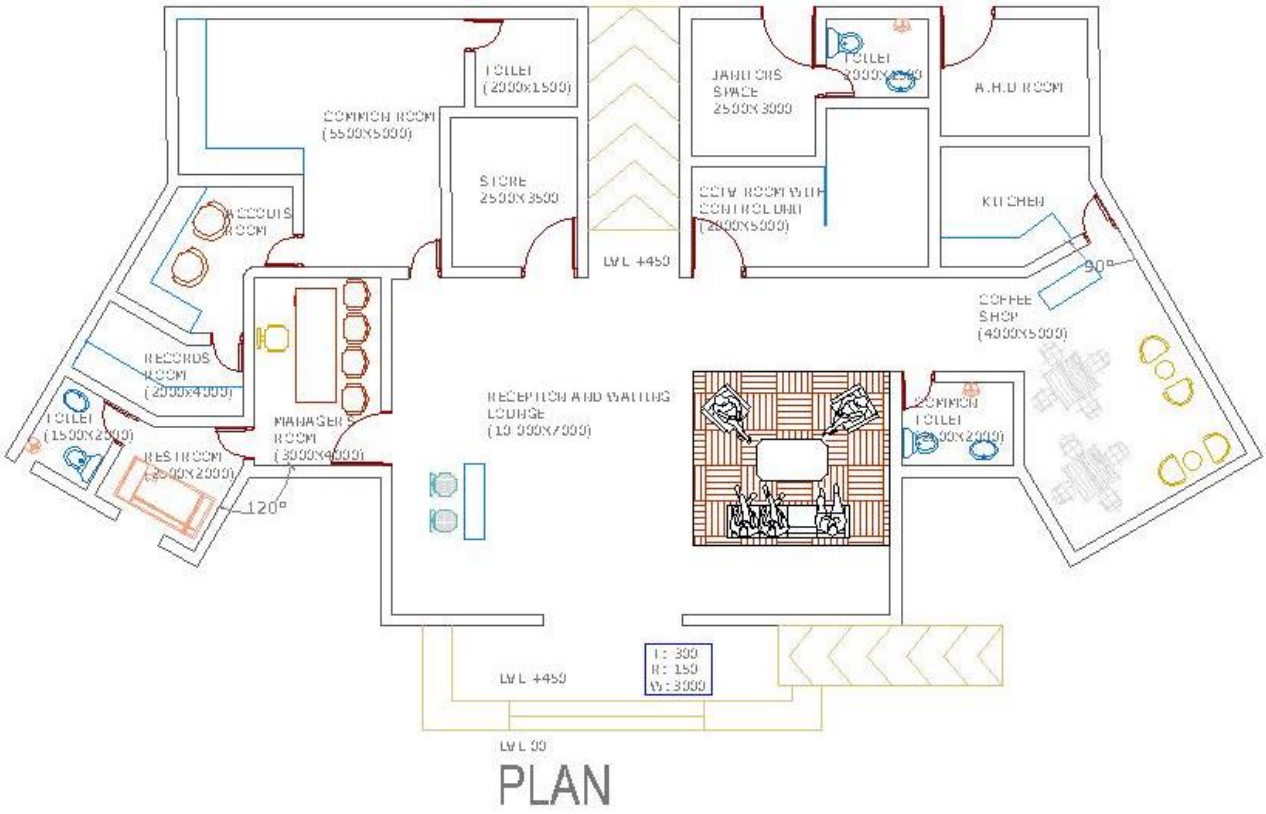


SECTION

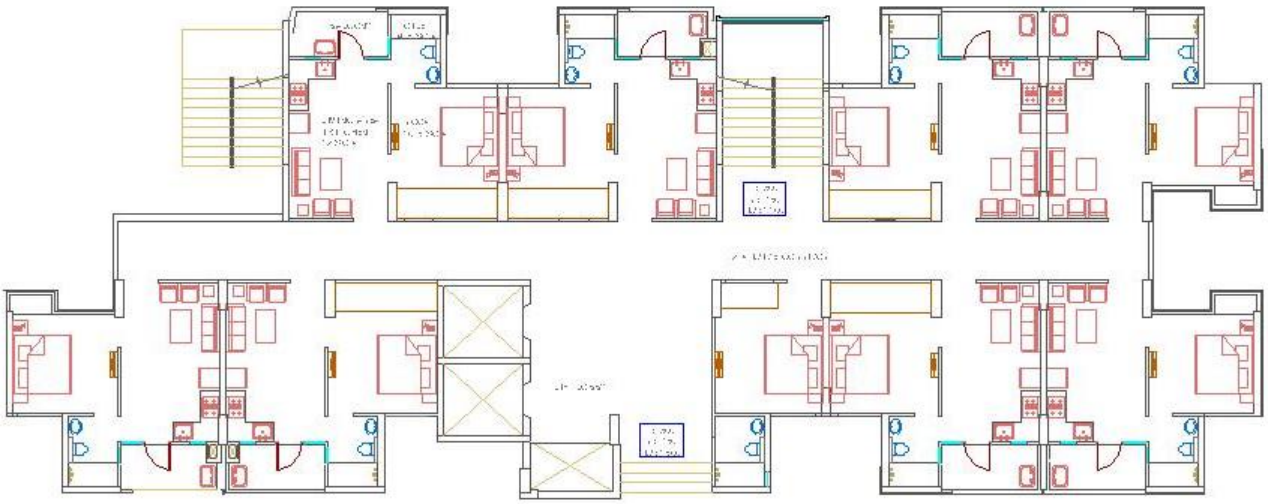
7.5 ADMIN BLOCK



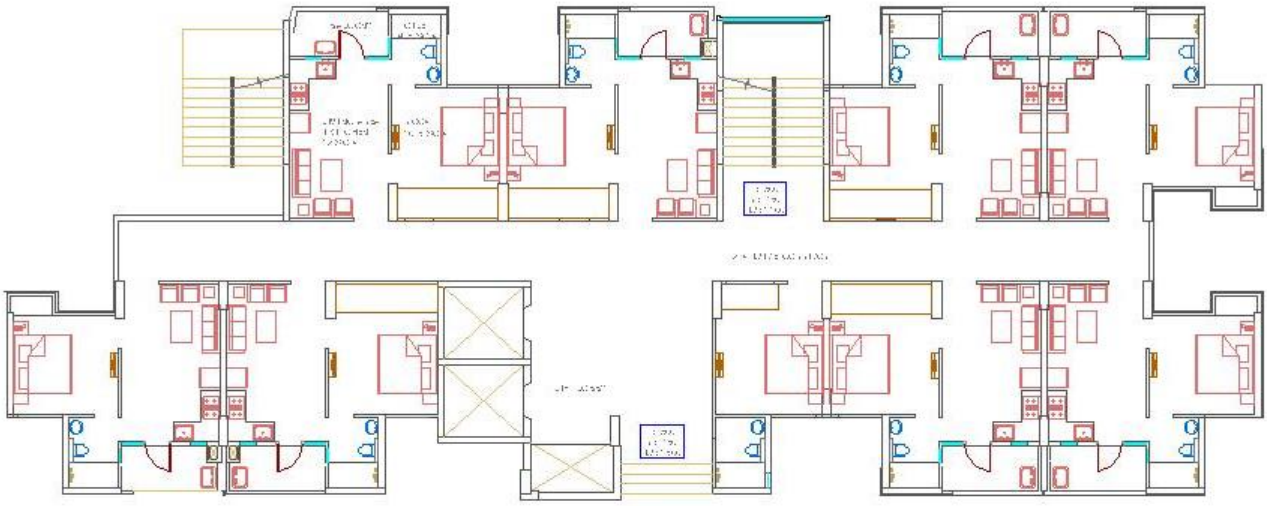
PLAN

ELEVATION

7.6 STAFF BLOCK

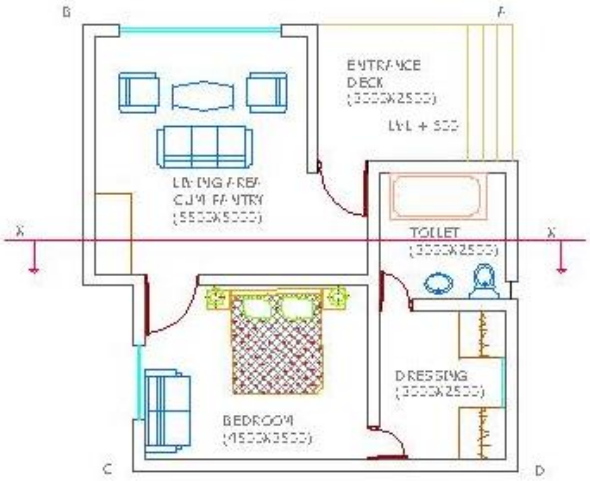


GROUND FLOOR PLAN

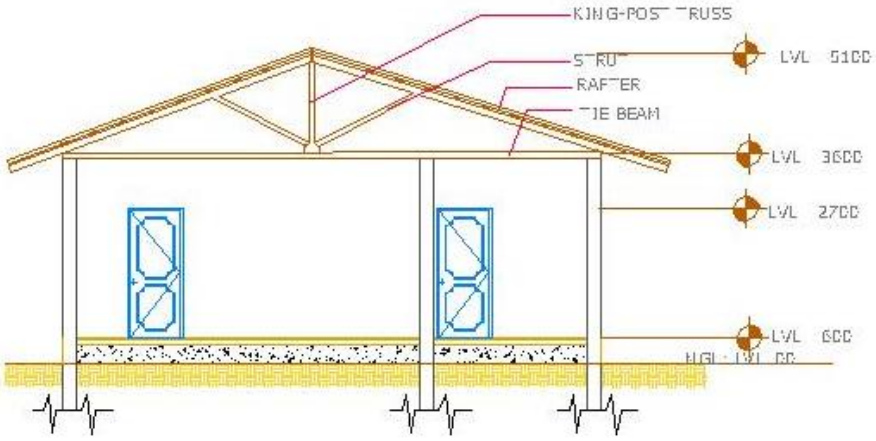


FIRST FLOOR PLAN

7.7 COTTAGE



PLAN



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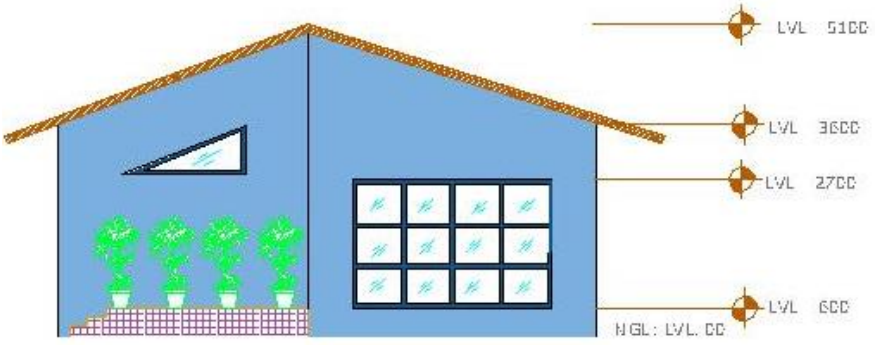

ELEVATION

CHAPTER 8: List of references

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