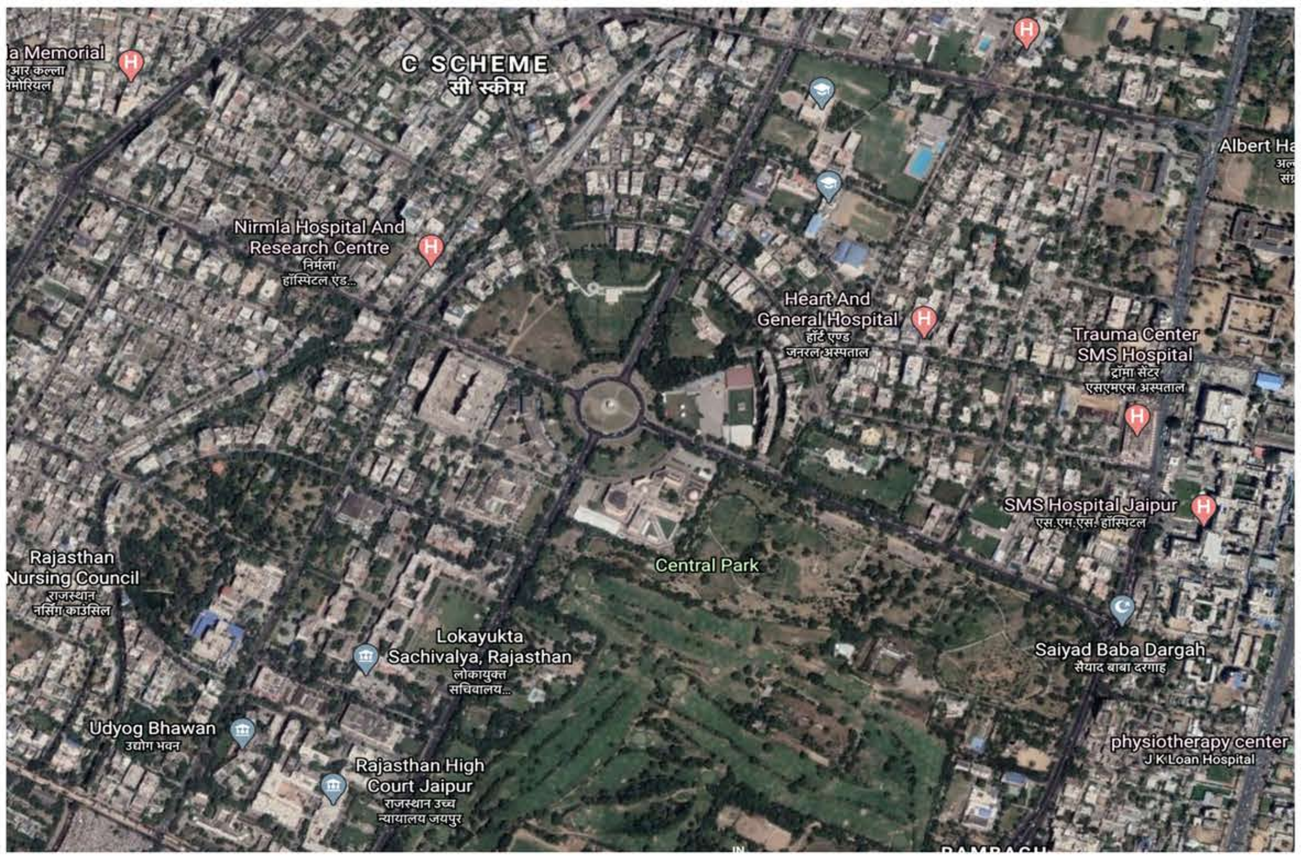
LOCATION

- Royal ensign is a sky bungalow.
- It is a luxury gated apartment project.
- Area : 2400 sq ft
- Location : Statue Circle, C Scheme,Jaipur.

ABOUT

- 3 BHK Private terrace apartment
- Builder and developer – Surjaram Meel, Jagdish Sahu, P. D. Goyal
- Architect: Ajoy Chaudhari
- Structure Designer : B. Chaudhari
- Number of Blocks : 1
- Number of Floors : Stilt +5 floors
- Proposed number of flats : 55



PRIMARY ROADS SECONDARY ROADS TERTIARY ROADS

STATUE CIRCLE

BIRLA PLANETARIUM

LOKAYUKT SACHIVALAYT

INCOME TAX OFFICE

GENERAL HEART HOSPITAL

HIGH COURT BUILDING

BUS STOP: 2.5 KM AWAY

RAILWAY: 3.4 KM AWAY

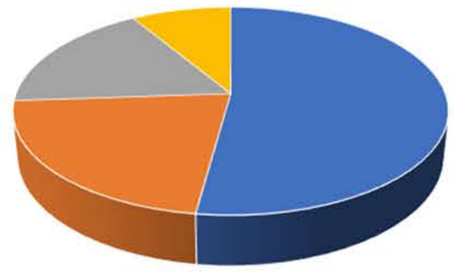
AIRPORT: 11 KM AWAY

CONTEXT

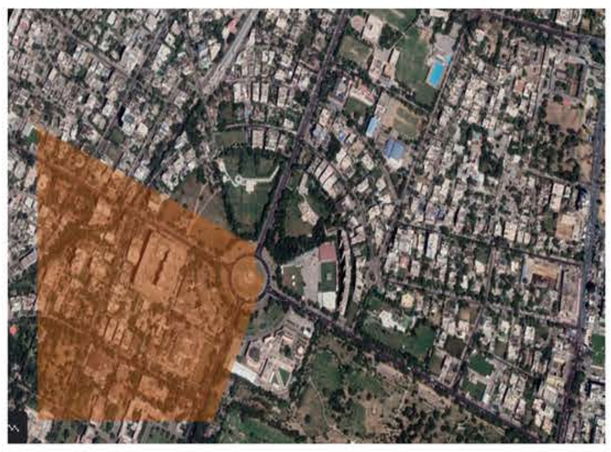
- It is situated in a prime area and shares neighborhood with Vidhan Sabha Building, High Court, State Secretariat, Income Tax Department, etc.
- From Statue Circle right opposite the new land-mark of pink city, which handful of calling their home Royal Ensign.
- As royal ensign is located very near to the gover-nment buildings this area have more open space as compare to other spaces of Jaipur to show the significance of the area.
- Most of the open spaces are converted into the gardens.
- The bifurcation of types of buildings around is as follows:

CLIMATE

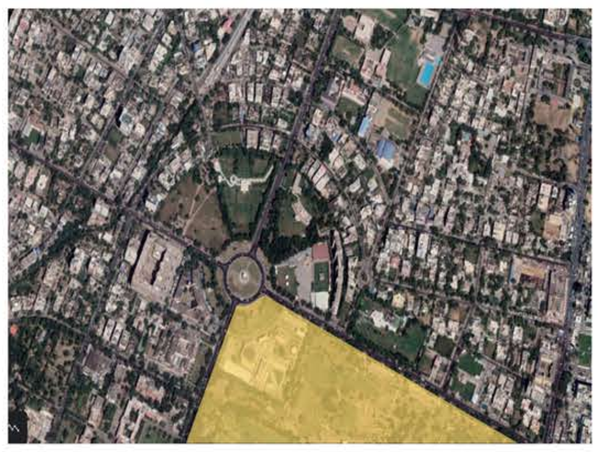
- Latitude : 26.82
- Longitude : 75.8
- Elevation: 431m
- Jaipur climate is divided into summer, post monsoon, monsoon and winter, Extending till month march.
- The winter temperature of Jaipur varies from 10°C to 27°C.
- January is the longest month of season with an average rainfall of 90%.
- the monsoon of Jaipur remains quite humid.



RESIDENTIAL AREA

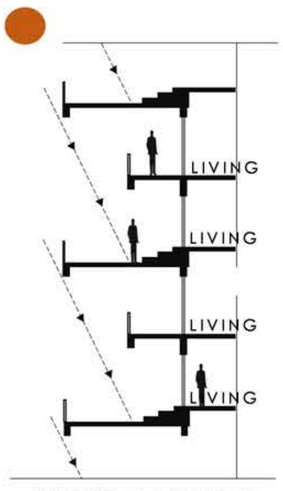


INSTITUTIONAL AREA



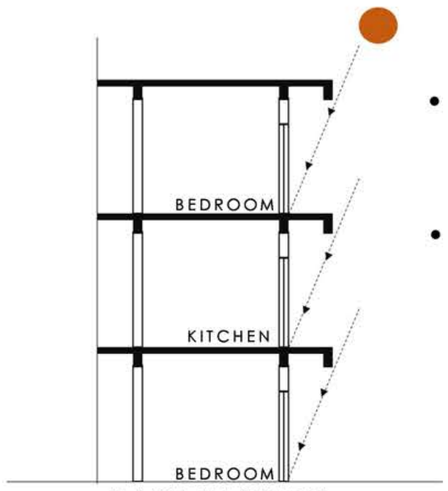
RECREATIONAL AREA

GREEN SPACES AROUND



WEST FACADE

- Projected lobby protect main area of house from heating.
- Most of the day time house entry will shaded.
- Creepers stops the harsh sunrise from the west direction.



EAST FACADE

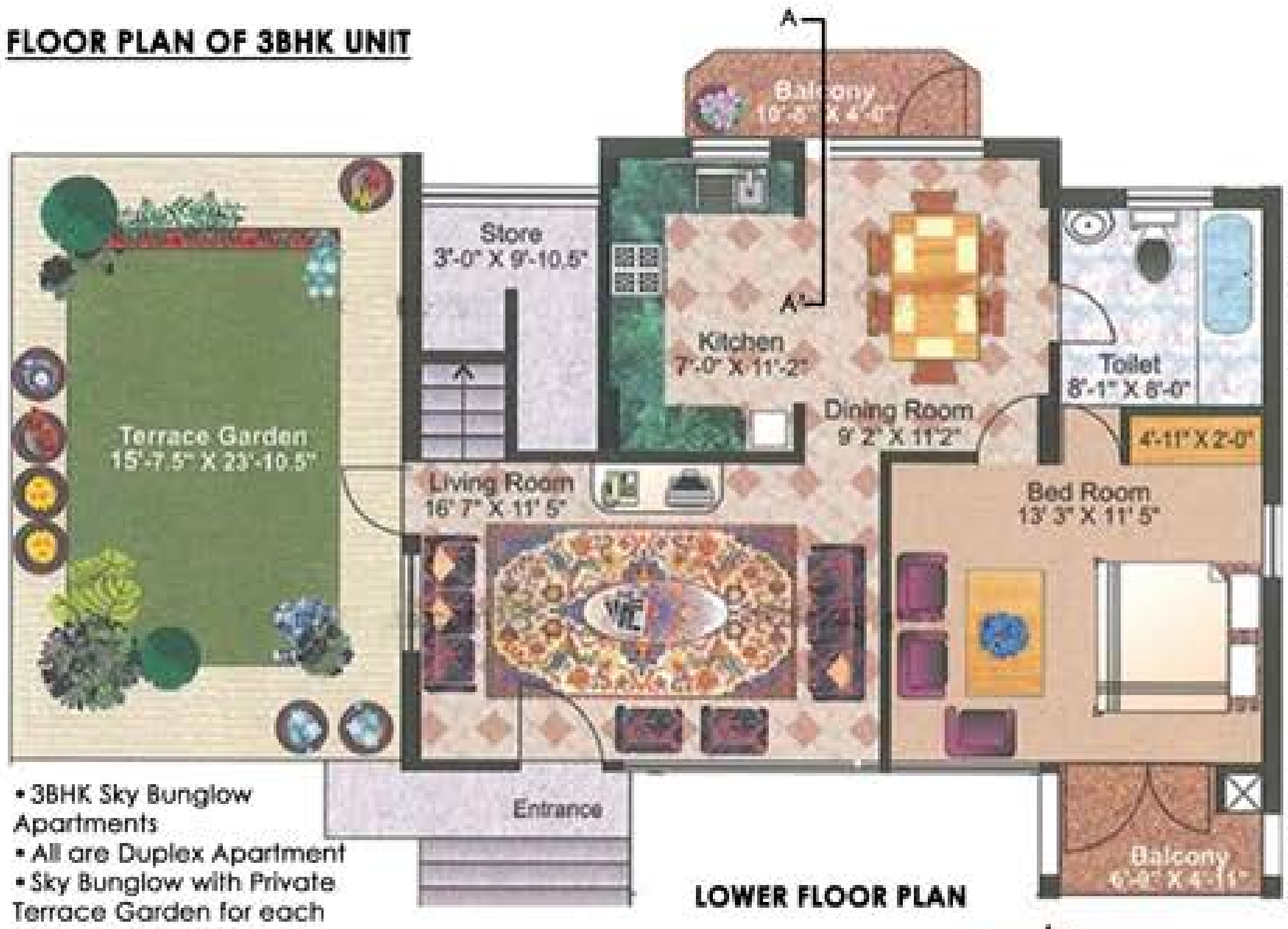
- Balcony provided in such way that no chhajjas required.
- All the service area provided on the east side of building.
- Not one single wall of primary areas is facing east/west directions, which keeps all rooms cool.

LOCATION AND BUILDING DESIGN

Royal Ensign

- Radial axis forming the geometry of building.
- Axis creates a sense of connectivity to the main focus point which is Statue Circle.
- The block built is in a shape of arc with it's centre as Statue Circle.
- Radiality is followed around the Statue circle and buildings are designed considering the Circle as it's centre point.
- All other important buildings built in C-Scheme area follows radial pattern.

FLOOR PLAN OF 3BHK UNIT

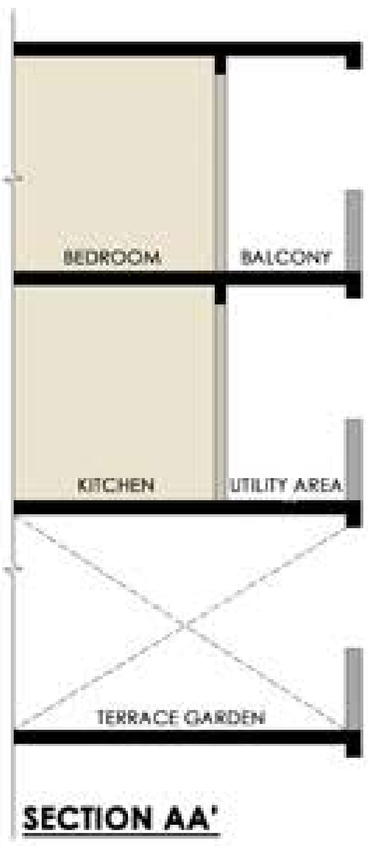


- Living Room
- Kitchen
- Dining Room
- Store
- 3 Bedrooms with attached toilet
- Puja Room

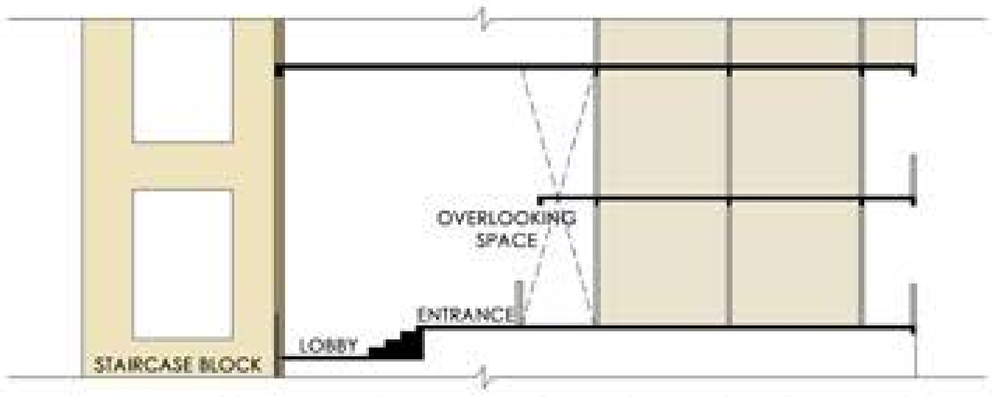
- 3BHK Sky Bunglow Apartments
- All are Duplex Apartment
- Sky Bunglow with Private Terrace Garden for each Apartment

LOWER FLOOR PLAN

Area: 2400 sq ft
Unit type: 3BHK
Building type: HIG
No. of floors: 5
No. of units/floor: 11



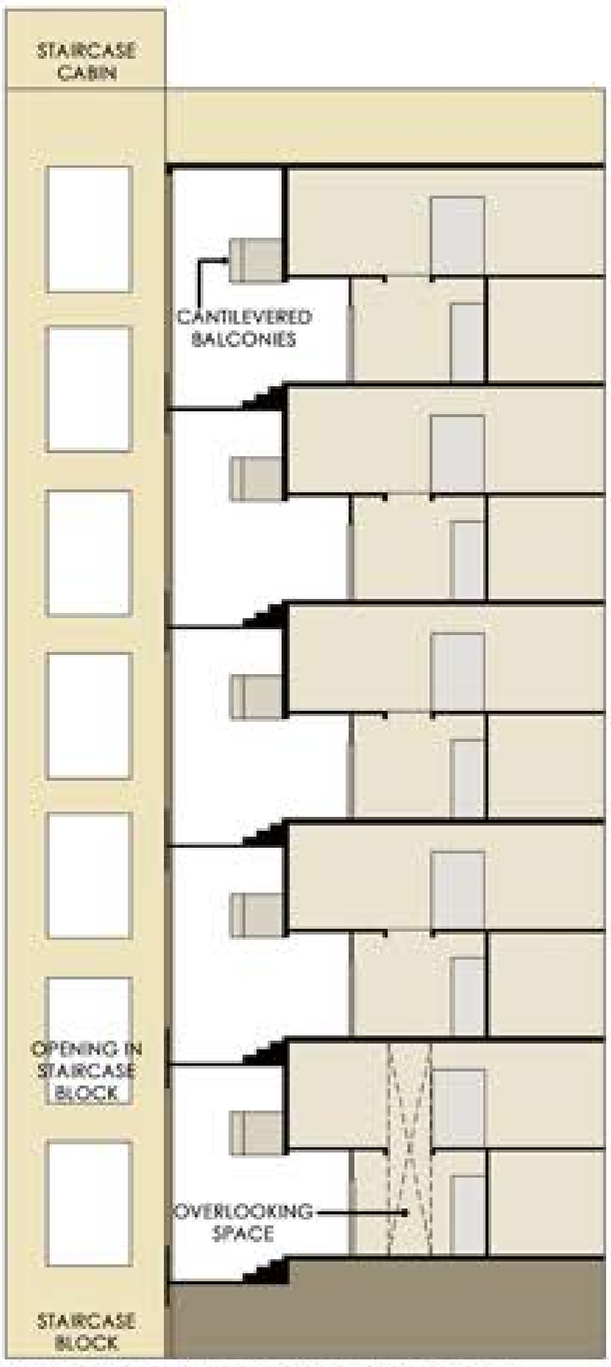
SECTION AA'



- The concept of 'Sky Bunglow' was really appreciable.
- Even the unit at topmost floor have their individual open spaces which opens up to green space.
- Flat roofs work well in hot and dry climate.
- Raise the surrounding temperature using creepers, plants, terrace garden to make the inside micro climate comfortable.
- Projected lobbies protects main areas of house from heating.
- Creepers stop the harsh sun rays from West direction.

- Generally, apartments are designed with four sided open spaces while in Royal Ensign, one finds six sided open spaces.
- Overlooking spaces, standing balconies are designed adding more liveliness to the space.
- Not one single wall of main areas are facing towards West and East directions, which keeps all room cool.
- All the services are provided on the East side of the building.
- Overlooking spaces provided to continue the pattern of solid void reflected in the whole building.

UPPER FLOOR PLAN



SECTION OF 3BHK UNIT THROUGH CORRIDOR & STAIRCASE BLOCK

BUILDING ELEMENTS

FRONT FACADE
To produce stack ventilation, even when wind speed is low, double height is provided

STAIRCASE
- One staircase block serves two units.
- All staircase blocks are placed facing south-west to reduce the direct sunlight.
- All blocks are connected to long linear space.
- There are in total 6 staircase blocks.

CORRIDOR
One long corridor which serves to all the 11 units on each floor is provided on south-west to create buffer space to reduce heat gain

CREEPERS
As Jaipur comes under dry region, for maintaining humidity level, creepers are planted on each floor adding beauty to the front facade

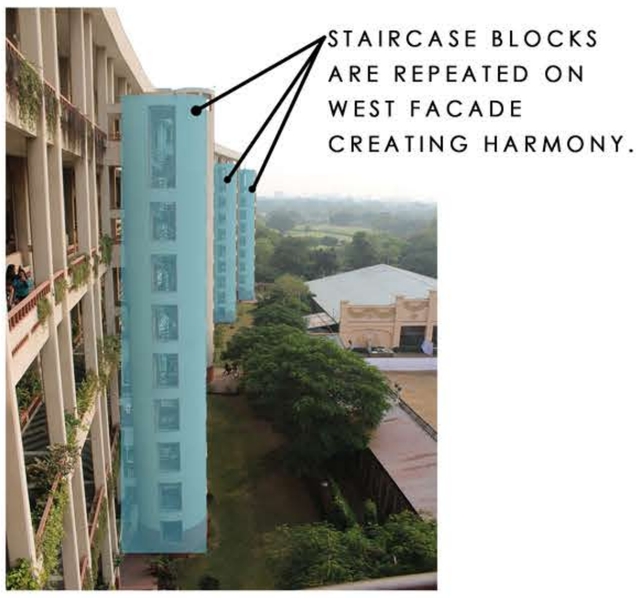
TERRACE GARDENS
- Every unit has terrace garden and overlooking spaces that helps to break the continuity.
- This provides overlooking spaces and helps in building solid-void relationship.

BUILDING TYPOLOGY & UNIT DESIGN

Royal Ensign

INFRASTRUCTURAL AMENITIES

- 100% POWER BACKUP
- FIRE SAFETY
- HI-TECH SECURITY
- WASTE DISPOSAL
- EARTHQUAKE RESISTANT
- JOGGING TRACK
- RAINWATER HARVESTING
- GARDEN
- MARBLE FLOORING
- MEETING HALL



INFRASTRUCTURAL DETAILS

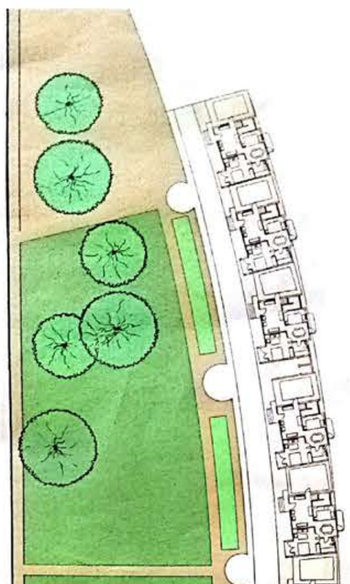
STAIRCASES:

- There were 6 staircases,
- Each provided between two apartment units.
- Out of these 6 staircases, 2 of them led to the terrace.

LIFTS:

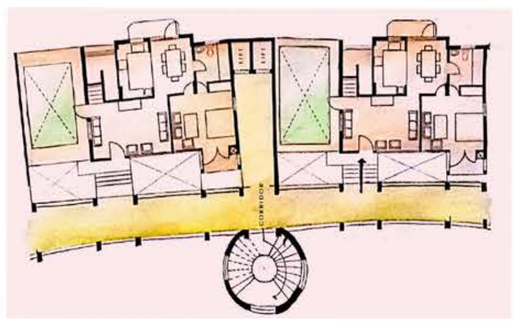
- 2 types of lifts were provided.
- Service Lift: Located at the end of the building having capacity upto 1 tonne.
- Passenger's Lift: Located in front of the staircases having capacity of 6-8 persons.

BUILT VS OPEN AND GREEN SPACES



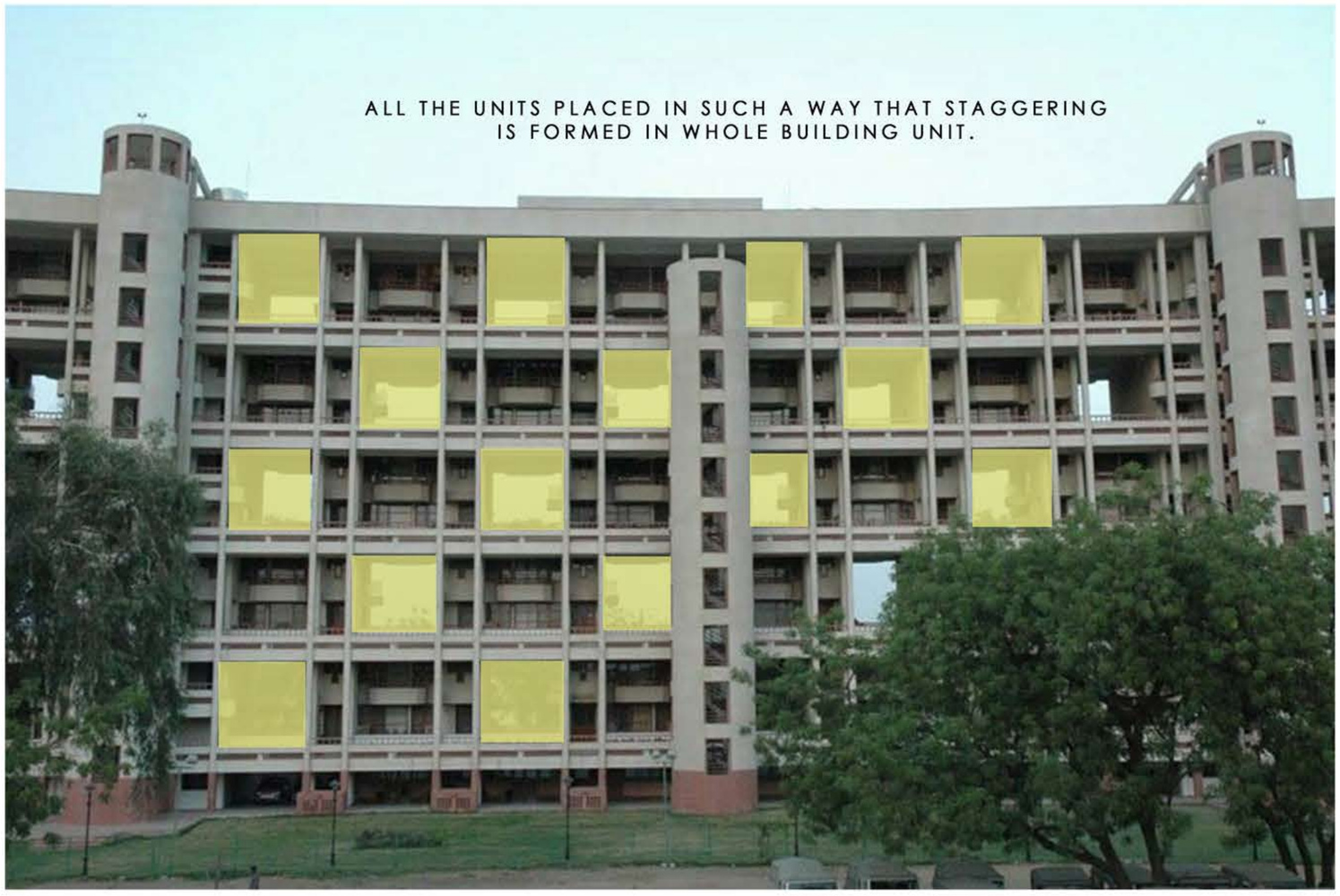
- The concept of Sky Bungalow was really appreciable; even the unit at topmost floor have thier individual open space i.e garden.
- The open spaces are well-maintained and easily accesible for public.
- Built spaces are well-designed in proportion to open area.
- the ratio of open and built spaces are well planned and all green spaces are well preserved.
- Raise the surrounding temperature using creepers, plants, terrace garden to make the inside micro-climate more comfortable.

GREEN SPACES AROUND



Staircase and Lifts were located opposite to each other connected with lobby.

FACADE DETAILS

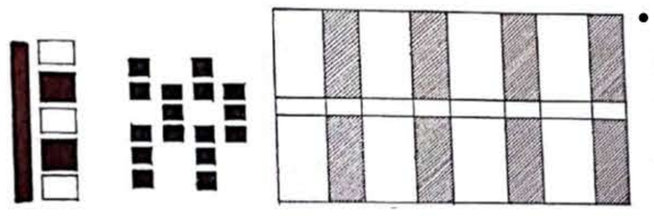


Spiral staircase given for vertical circulation.

Proper drainage system and underground tanks provided.

- Elevation was designed from the concept of solids and voids.
- Open terraces were provided between two apartments which played the role of voids.
- For aesthetics and elevations, a pattern of solids and voids was created in horizontal and vertical ways i.e. an open terrace was placed above an apartment and vice versa.
- To enhance the facade circular staircases were provided on the outer side.

- The facade is formal well-structured along with interesting visuals through repetitive patterns.



- Modules are repeated on facade to achieve symmetrical balance.

Entry to the building where exit is seperated which further leads to basement parking

The entry of each house was further given a plinth of 3-4 steps

There was provision of shops on ground floor which the residents can use for any commercial purpose

INFRASTRUCTURE AND AMENITIES

Royal Ensign

•Access create a sense of connectivity to the main <u>focus</u> point which is statue circle.

•Radial access forming the geometry of the building.

•Modules are repeated in facades to achieve <u>symmetrical balance</u>

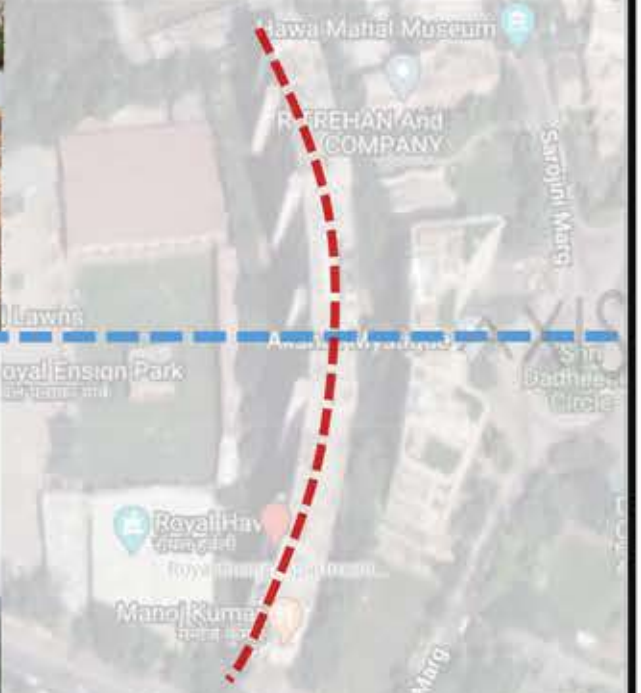
•It is formal well structured along with interesting visual through <u>repetitive</u> pattern

•To minimize the west heat a buffer zone is created to protect the unit by proving long corridor

•A long curvilinear corridor which is boring at times which sense restricted direction

•<u>Hierarchy</u> of spaces is formed to create a visual balance as well as heat barrier and to give sense of ownership and privacy

DESIGN PRINCIPLES



•Staircase blocks are repeated on west facade which depicts <u>harmonics repetition</u>

DESIGN AND SOCIAL ISSUE

•According to proposed layout of Royal ensign the construction of residential apartments phase2 was there in future expansion but due to some political issues the land is now to be used for commercial purpose.

•Duplex apartments have standing balcony. One that open into the open space on ground floor and the other facing main facade. The balcony that opens into the open space on gf. does not have enough width to stand and due to the pigeons issue the balcony was covered with net and hence the balcony become unused.

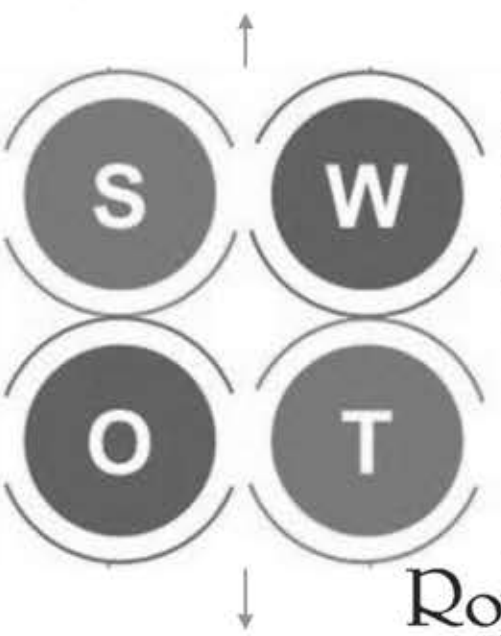
•On Ground floor there is provision for a small meeting hall but there is no proper bifurcation of spaces for communal and social activities.

•There was an intermediate landing made between two double height floors which could make an overlooking platform but currently it is used as a neglected/negative space where servants litter and hang clothes.

ANALYSIS

- Prime Location
- . Traditional living system, Inserted in an urban concept.
- Views from the site
- Privacy
- Well educated and friendly society.

- Sustainable awareness
- It can be an architectural landmark.



- Orientation
- No space for cultural activities.
- Linear planning
- It was not feasible for disable and senior citizen.

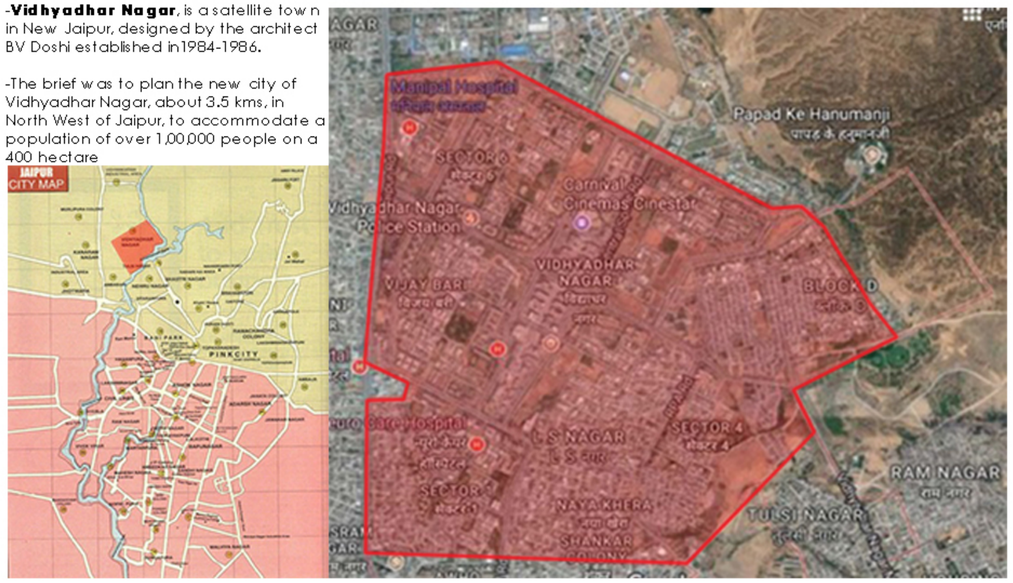
- More usage of artificial energies.
- high maintenance

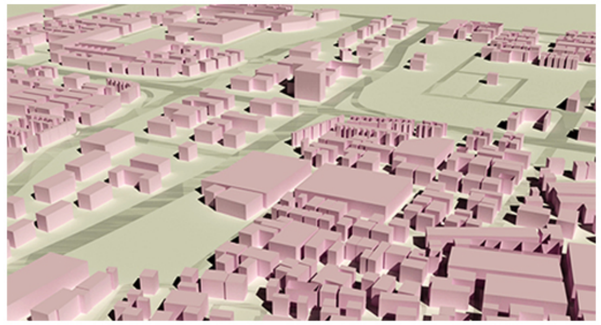
Royal Ensign

INTRODUCTION

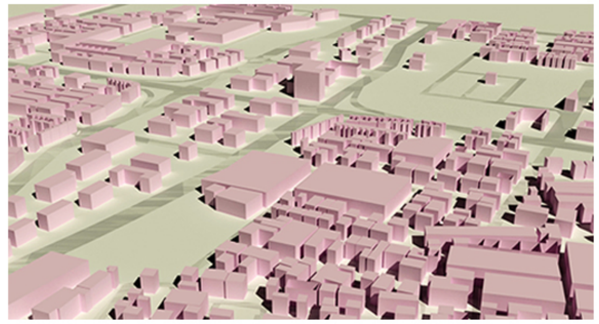
-**Vidhyadhar Nagar**, is a satellite town in New Jaipur, designed by the architect BV Doshi established in1984-1986.

-The brief was to plan the new city of Vidhyadhar Nagar, about 3.5 kms, in North West of Jaipur, to accommodate a population of over 1,00,000 people on a 400 hectare



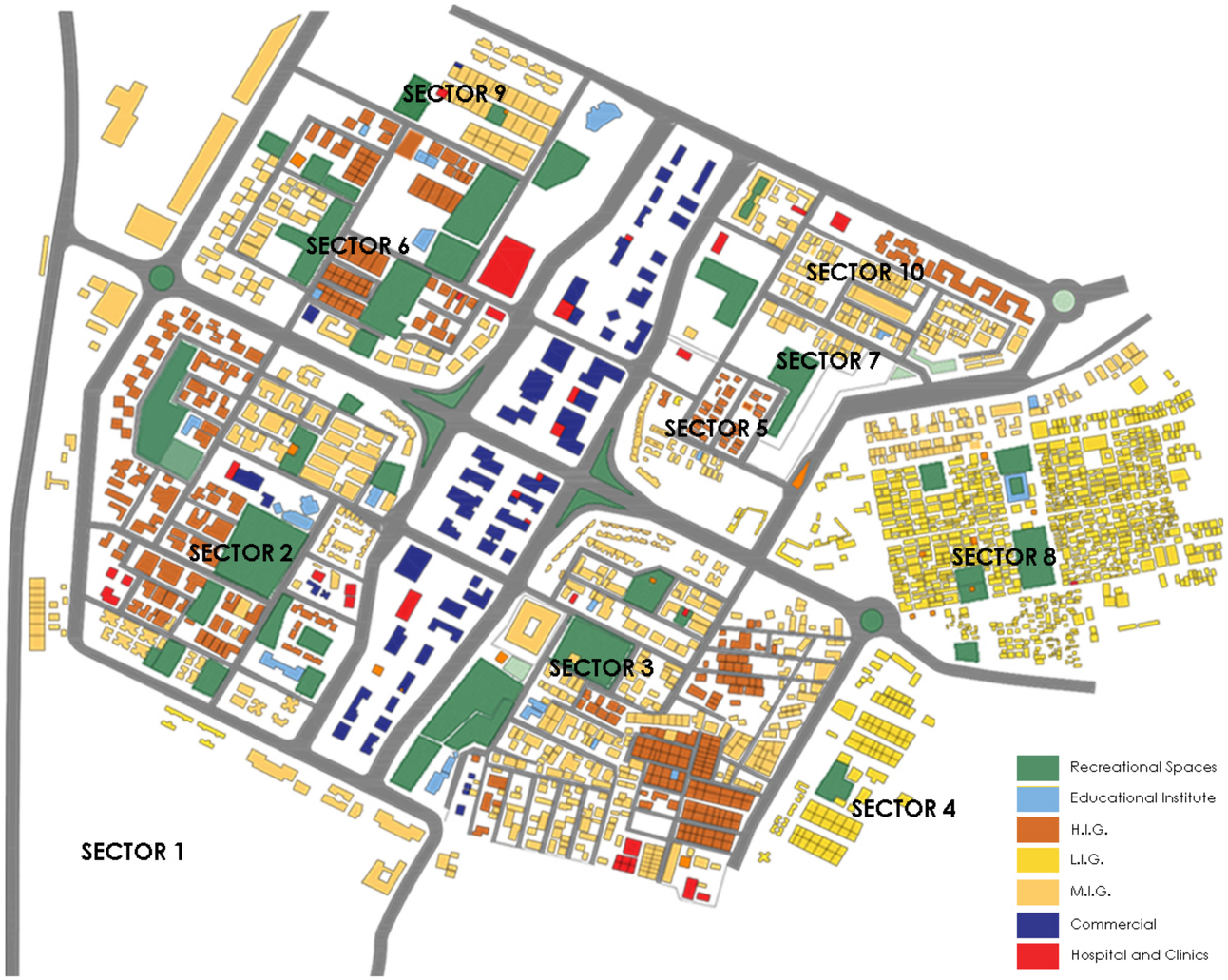


It was decided to orient the arterial structure to ensure environmental control through passive means. A correct oreintation greatly assists in achieving optimal thermal and optical conditions.



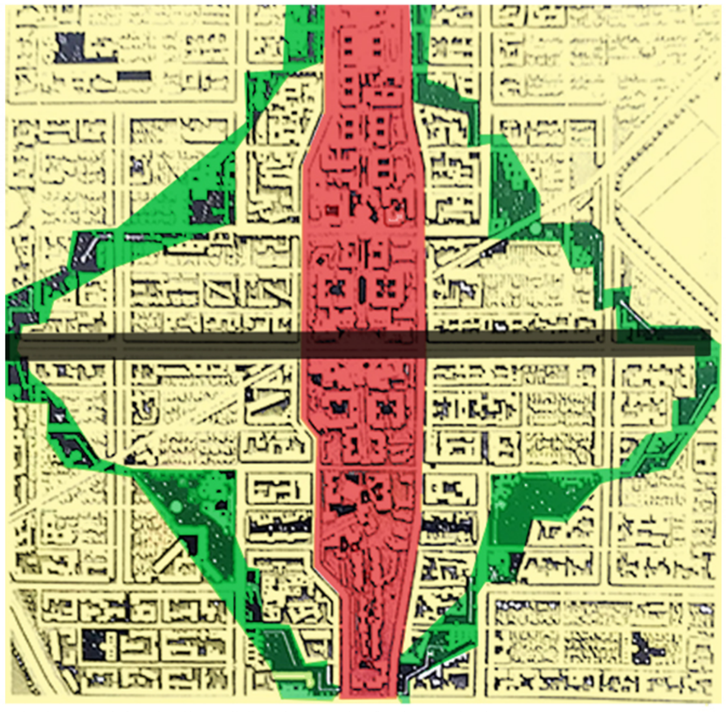
Street oreintation were made to satisfy criteria such as flushing by wind,avoidance of direct sun at office going hours. it was found thatthe principal oreintation with respect to these criteria worked out to be 15 to 30 north - south orientation worked better to reduce radiation on the street. therefore, the activity spine being predicted asa predestrain mall, was orientated NE - SW, as a compromise between these two diametrically opposed orientation.

KEY PLAN

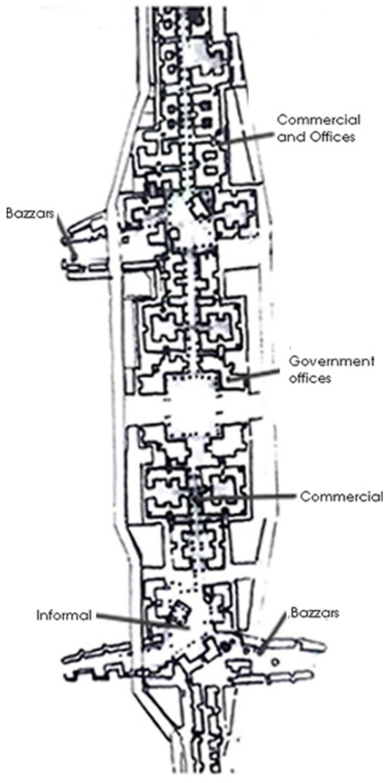


SECTOR DIVISION AND LAND-USE MAP

ORIENTATION



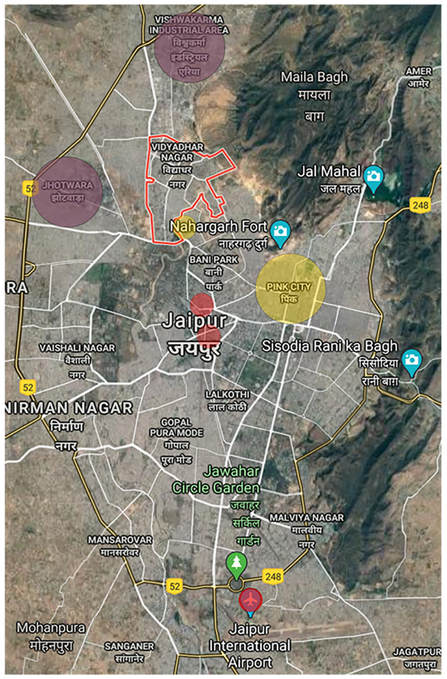
- The two roads framing the activity spine are visualized as service lanes, with the backs of building of activity spine opening onto them.
- The facades of the buildinggs overlooking the activity spine are articulated to interract with open spaces through element such as archades at street level and terraces of upper levels as observed in old Jaipur.
- This linear activity spine is envisaged to acquire the character of a typical Indian Bazaar with a lot of life and vitally occuring by virtue of diverse activities contained, a built form interractive with the pedestrian open spaces and a climatically controlled environment.
- At the north east end of spine the hills are seen as a strong visual focus.



ZONING

vidhyadhar nagar, jaipur
DESIGN STUDIO, SEM VIII

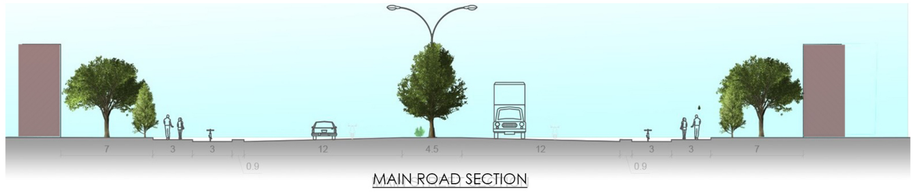
LINKAGES



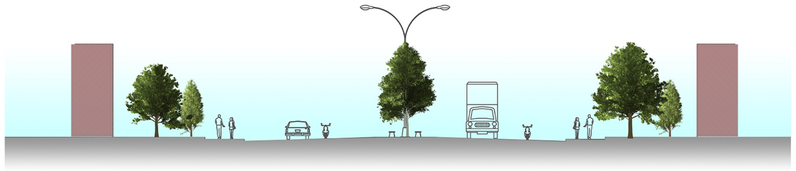
Connectivity of Vidhyadhar nagar to old city and to its catchment areas.

- RESIDENTIAL
- INDUSTRIAL
- TRANSPORT

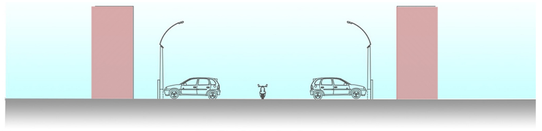
Plan and Sections showing the hirarchy of roads in Vidhyadhar nagar.



MAIN ROAD SECTION

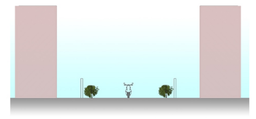


SECONDARY ROAD SECTION



TERTIARY ROAD SECTION

- PRIMARY ROAD (CENTRAL SPINE)
- SECONDARY ROAD
- TERTIARY ROAD
- SOCIETY ROAD



SOCIETY ROAD SECTION

Showing wi-fi & electrical pols.

Public toilet at street junction.

Electrical sub-station on street.

Hatched portion showing the activities at street junction.

Ground floor commercial shops.

Vendors at street junction.

Shops at street junction.

Railing dividing the pathway and softscape.

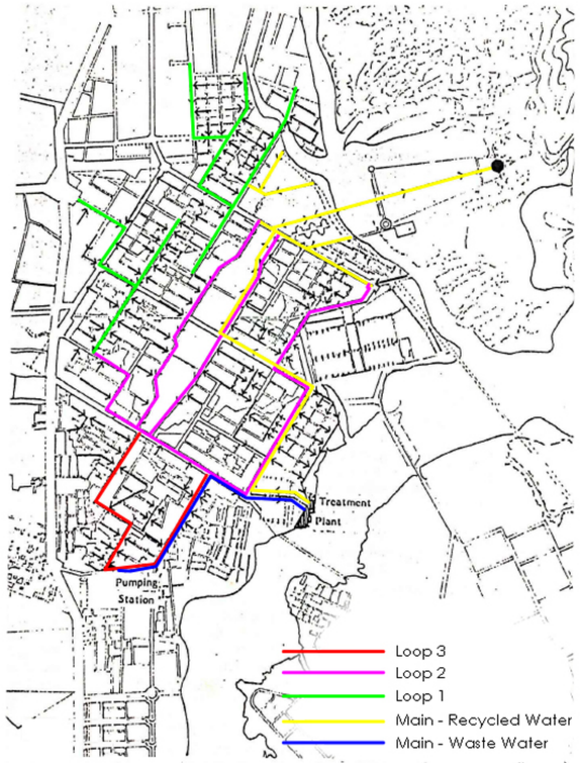
Below images are showing hirarchy of roads.

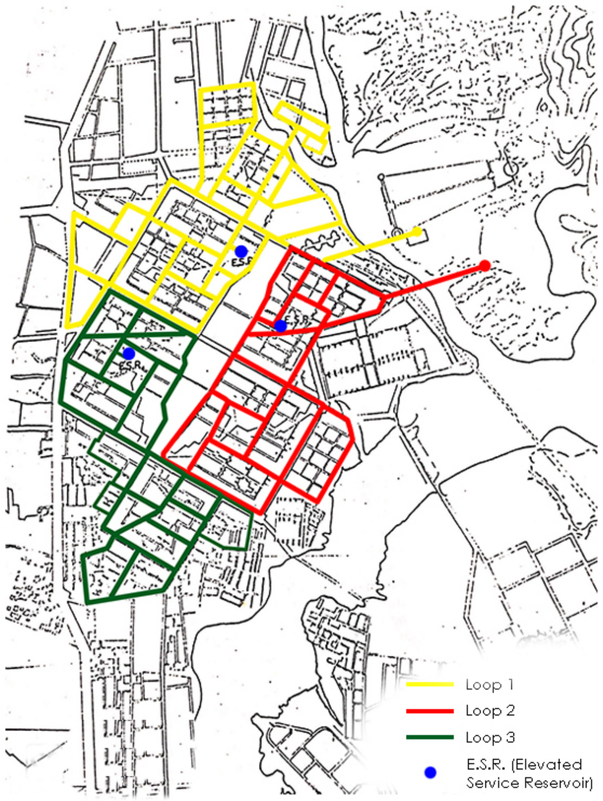
- Vidhyadhar nagar site is located to the north-west of the walled city of Jaipur across the Amanisha Nallah.
- The site is separated from the Amba Bari residential scheme and from the Vishwakarma industrial area.
- The entry was proposed from the Sikar road and the proposed northern by-pass.
- The land-use distribution of Jaipur city indicates that there are three distinct employment zones of the city, viz; the walled city, the Jhotwara and Vishwakarma industrial areas.
- Vidhyadhar nagar to Jaipur International Airport is towards south-east around 19km
- Jaipur Railway Station and metro station is around 6km from the site.
- Efficiently planned the commercial activities linearly along one or two major roads and intersperse them with institutional areas like government offices, educational complexes and health facilities.
- The Sikar road is a major link from the north-west sector to the walled city and the southern parts of the city.

vidhyadhar nagar, jaipur
DESIGN STUDIO, SEM VIII

INFRASTRUCTURE AND SERVICES AND DESIGN ELEMENTS

BUILT UP v/s OPEN





● Context of vidhyadharnagar, and indeed Jaipur, water is the most precious commodity. In this semi-arid region, water shortage is experienced in the critical monthsof summer. The water generated as a by-product of waste treatment is discharged into the nallah.

As the sewage from Vidhyadharnagar has to be treated on site, water recycling represents only asmal additional cost. This cost is justified in view of the enormous benefits from recycled water.

● All the water used bymore than 1,00,000 inhabitants of Vidhyadharnagar was to be collected at the sewage plant and treated to green the range and also green the city itself.

● Recycled water can be used for various purposed which would give rise to employment, ecological upgradation and ground water recharge.

● An estimate showed the daily availability of 6.5M litres of water for recycling.

WASTE WATER DRAINAGE

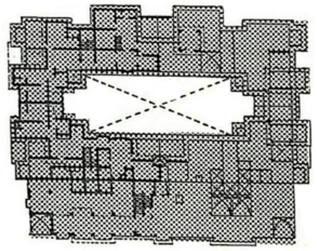
● The water demand is estimated to be 100 lit/capita/day,Base on this total water supply demand will be 10,000 cum. per day for the population of 1,00,000.

● The total area for water supply will be divided into three sectors each with an equal population. The water will be pumped to three elevated service resevoirs (E.S.R.), suitably located, one in each sector.This E.S.R.s will be connected independently to the water supply pipe networks.

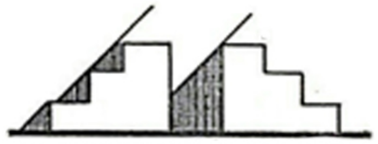
WATER SUPPLY

It is strongly recommended that underground cables are adopted during development. The experince in the past has shown that while underground system is more expensive initially, the lower running and maintainance cost make it viable over a longer duration. The spin off benefits of aesthetics and flexibility are also there.

ELECTRICITY

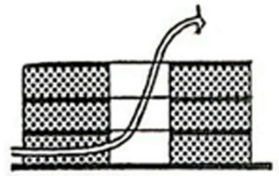


Doshi decided to orient the planned geometry so asto accomodate the prevailing winds and cut down on western exposure to afternoon sun



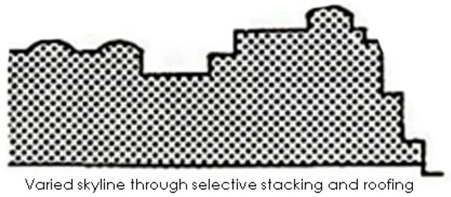
Terraces for outdoor activities, mutual shading through stacking

Rainwater harvesting through rooftops.



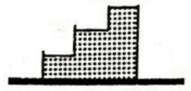
Inner court for micro-climate.

CLIMATE AND ENVIRONMENT



Varied skyline through selective stacking and roofing elements

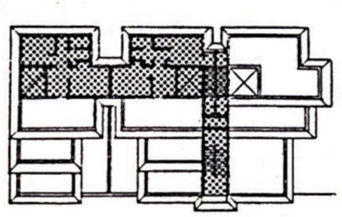
Image through standerdised facade elements
Amphesized horizontality through horizontal bends.

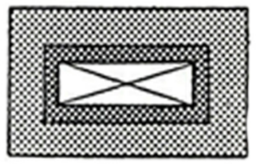


Terraced profile for human scale

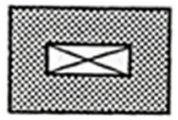
Llarge individual terraces for activity spill over .

BUILTFORM





Women activity areas around inner court while living spaces along outer periphery.



Internalised clustered courts for neighbouring interaction.

DESIGN ELEMENTS

● Most easily available local material stone be used for building. Stone is alsosuitable in hot arid climate.

● New tecnology can also beused to work out building modules. Stone flooring and weather sheds can be replaced by precast concrete planks. While windows and screens can be manufactured from terazzo or ferrocement.

MATERIALS USED

vidhyadhar nagar, jaipur
DESIGN STUDIO, SEM VIII

CASE STUDY & ANALYSIS

NIRMAN PARISAR, VIDHYADHARNAGAR

- IT IS A RESIDENTIAL QUATER FOR CPWD (COMMON PUBLIC WORKS DEPARTMENT) IN SECTOR 5,7 OF VIDHYADHARNAGAR.
- THE COLONY CONSISTS OF AN ADMINISTRATION OFFICE,HOUSING UNITS AND COMMON PLOTS.
- ALL MAJOR LANDMARKS AND AMENITIES ARE IN NEARBY PROXIMITY WITHIN THE SECTOR.

SITE ENTRY

STREET VIEW

PLAY OF TERRACES AT DIFF. LEVELS

ELEVATION FROM ROAD SIDE

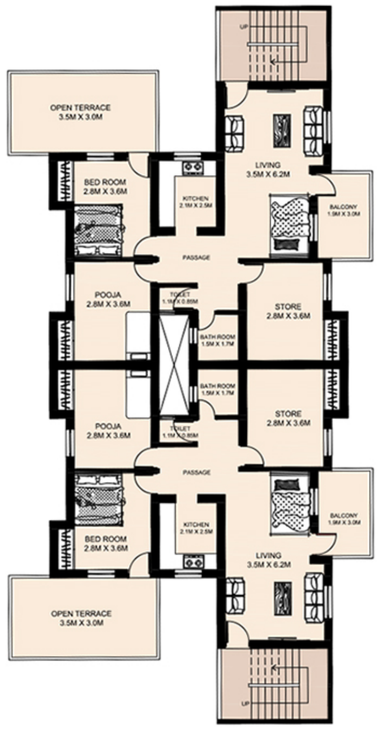
ZONING OF COLONY

- NIRMAN PARISAR IS A GOVERNMENT COLONY OF CENTRAL PUBLIC WORKS DEPARTMENT.
- IN THIS COLONY, THERE ARE 4 TYPES OF UNITS THAT IS 1BHK, 2BHK, 3BHK, 4BHK.
- THE DIVISION OF ALLOTMENT OF HOUSES IS DONE AS PER THE POST OF OFFICERS.
- WITH THE INCREASE IN HIERARCHY OF POST THE AREA AND FACILITIES ALSO INCREASE.
- THERE ARE TWO COMMON GATHERING SPACES FOR VARIOUS OCCASSIONS.
- ONE OF THE COMMON GROUND HAS A WATER TREATMENT PLANT THAT FILTERS THE WATER COLLECTED FROM RAIN WATER WHICH IS LATER USED TO PROVIDE WATER TO PLANTS .
- ENTRY OF EACH BLOCK UNIT HAS AN O.T.S THAT FURTHER LEADS TO ENTRANCE OF INDIVIDUAL UNITS.
- EACH UNIT HAS A LANDSCAPE POCKET AT ENTRY.

COMM0N GATHERING SPACE

OPEN TERRACES AT INDIVIDUAL LEVEL

SERVICES



FIRST FLOOR PLAN

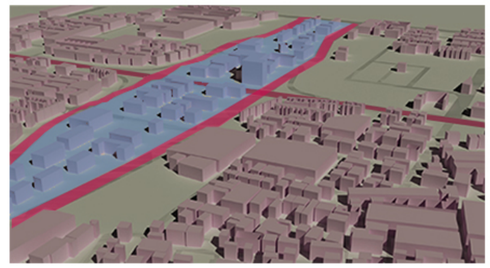
GARAGES (PARKING) FOR 3BHK UNIT

SEPARATE PARKING SPACE FOR 4BHK UNIT

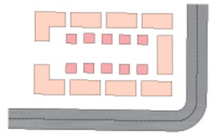
FOUR WHEELER PARKING ON ROAD

CIRCULATION

TRAFFIC NOICE BARRIER



MAIN CENTRAL SPINE | ACTIVITY SPINE | COMMERCIAL ZONE

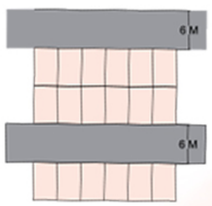


- ON THE PERIPHERY OF THE ROAD ARE FLATS OR APARTMENTS AND AS WE MOVE TOWARDS THE CORE OF THE SECTOR INDIVIDUAL DWELLING UNITS SUCH AS BUNGLOWS ARE FOUND

SECTOR 8:

- THIS SECTOR CONSISTS ROW HOUSES POSSESSED BY LOW INCOME GROUP WITH COMMERCIAL SHOPS AT GROUND FLOOR AND RESIDENTIAL ABOVE
- INTERNAL ROADS ARE 6M WIDE
- THEY HAVE PUBLIC GATHERING SPACE

- OFTEN THE SPACES AT GROUND GIVEN TO RENT WHICH GENERATES INCOME
- LARGELY MUSLIM COMMUNITY OCCUPY THE HOUSING IN SECTOR 8
- DUE TO LARGE NUMBER OF PEOPLE STAY IN A LIMITED AREA WHCH MAKES IT CONJUSTED
- DUE TO DENSE FABRIC IN SECTOR 8 LEADS TO CONGESTION IN THAT AREA



STRENGTH

- VIDHYADHARNAGAR IS DIVIDED INTO SECTORS
- ROAD PATTERN DESIGNED TO INFILTRATE TRAFFIC GRADUALLY (PRIMARY ROAD, SECONDARY ROAD AND TERTIARY ROAD)
- EAH AREA HAS ITS OWN CHARACTER AND QUALITY OF ENCLOSURE
- EASY TRANSPORTATION ACCESS AND PEDESTRIAN CONTACT
- RICH MIX OF LAND USE
- LAYERS OF TRANSITIONAL SPACES FROM PUBLIC TO PRIVATE SPACE
- PROTECTION OF ENVIRONMENT AND SAFEGUARDING THE HEALTH OF THE GENERAL PUBLIC BY PROVIDING A COMPLETE UNDERGROUND SEWERAGE SYSTEM
- PROPER DISTRIBUTION OF PUBLIC FACILITIES, HOSPITALS SCHOOLS, ETC.
- BUS STATIONS ARE FOUND WITHIN THE PROXIMITY OF 250 M
- TOWN PLANNING HAS SET POLICY THAT PROTECTS LOWER INCOME FAMILIES FROM BEING MARGINALISED TO THE OUTSKIRTS OF THE CITY WHERE THERE ARE FEWER WORK OPPORTUNITITES

WEAKNESS

- VIDHYADHARNAGAR HAS A PLANNED ROAD NETWORK BUT IT LACKS IN PROVIDING PROPER TRANSPORTATION NETWORK I.E LESSER BUS FREQUENCY
- INADEQUATE PARKING FOR COMMERCIAL SHOPS AS THE COMPLEX PTROVIDES PARKING FOR RESIDENTIAL UNITS ONLY
- LACK OF PROPER GARBAGE DISPOSAL IN PUBLIC PLACES
- LACK OF SIGNAGES ON ROADS

LACK OF PARKING SPACE

GARBAGE DISPOSAL NEXT TO ROAD

OPPORTUNITY

- IT SUPPLIES DETAILED GUIDELINES FOR PLANS, SECTIONS AND EVEN FACADES OF INDIVIDUAL STRUCTURES
- WATER USED BY INHABITANTS IS COLLECTED AT SEWAGE PLANT AND AFTER TREATMENT IS USED FOR GREEN BELT
- PLANNING INCLUDES STRONG RATIONAL HIERARCHY WHICH CONTINUES TO EVOLVE OVER THIS ARMATURE
- COMMERCIAL SHOPS ARE AT GROUND LEVEL HAVING DOUBLE HEIGHT WITH RESIDENTIAL ABOVE
- EVEN IN NEW CONSTRUCTION BUILDING TYPOLOGY, COLOUR AND CLADDING IS SAME AS OLD CITY WHICH HELPS TO RETAIN THE ESSENCE OF THE OLD CITY

THREAT

- WATER FROM INDUSTRIAL AREA OVERFLOW TOWARDS CITY