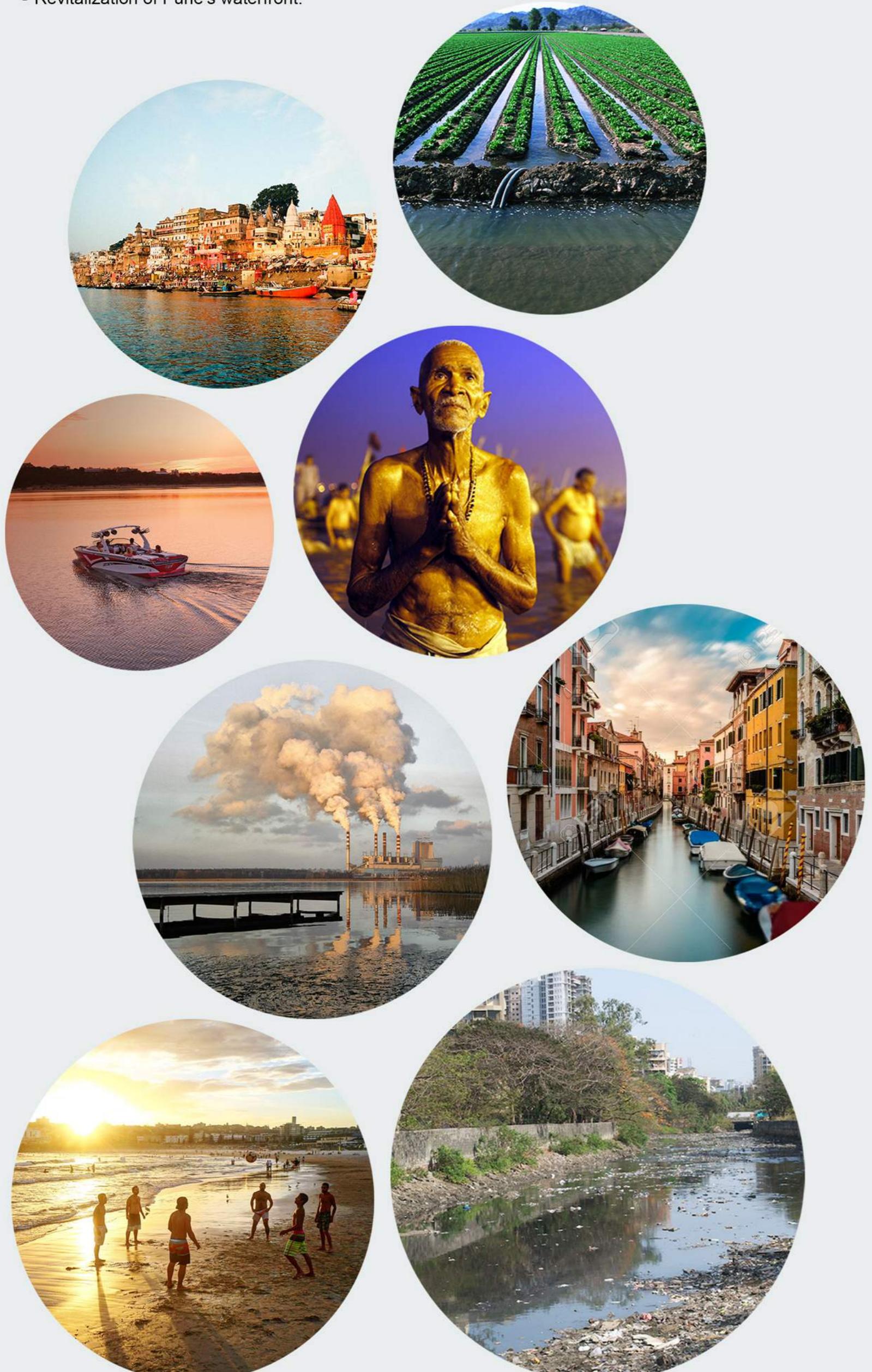


# URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?

## NEED FOR WATERFRONT DEVELOPMENT

- Water, an essential element for human settlements.
- Water and agricultural, economical, trade-transport, leisure, entertainment, socio cultural and spiritual needs.
- Built form along waterfronts and character of societies.
- Water shaping the development of society.
- Exploitation of water's edge due to industrialization.
- Water front becoming the neglected backyard of the city.
- Perception of water's edge as entertainment and leisure sites.
- Need of waterfront redevelopment.
- Revitalization of Pune's waterfront.



Pune City and its Regional civic authorities, influenced by the Global waterfront redevelopment examples, have envisioned revitalization of its Rivers and network of streams that are interspersed through the Urban agglomeration. Aftermath of recent inundations and loss to property and life, this has been taken up as high priority intervention. In view of this, the Designers have been invited to prepare a Vision document for four identified watercourses as its pilot project, viz.

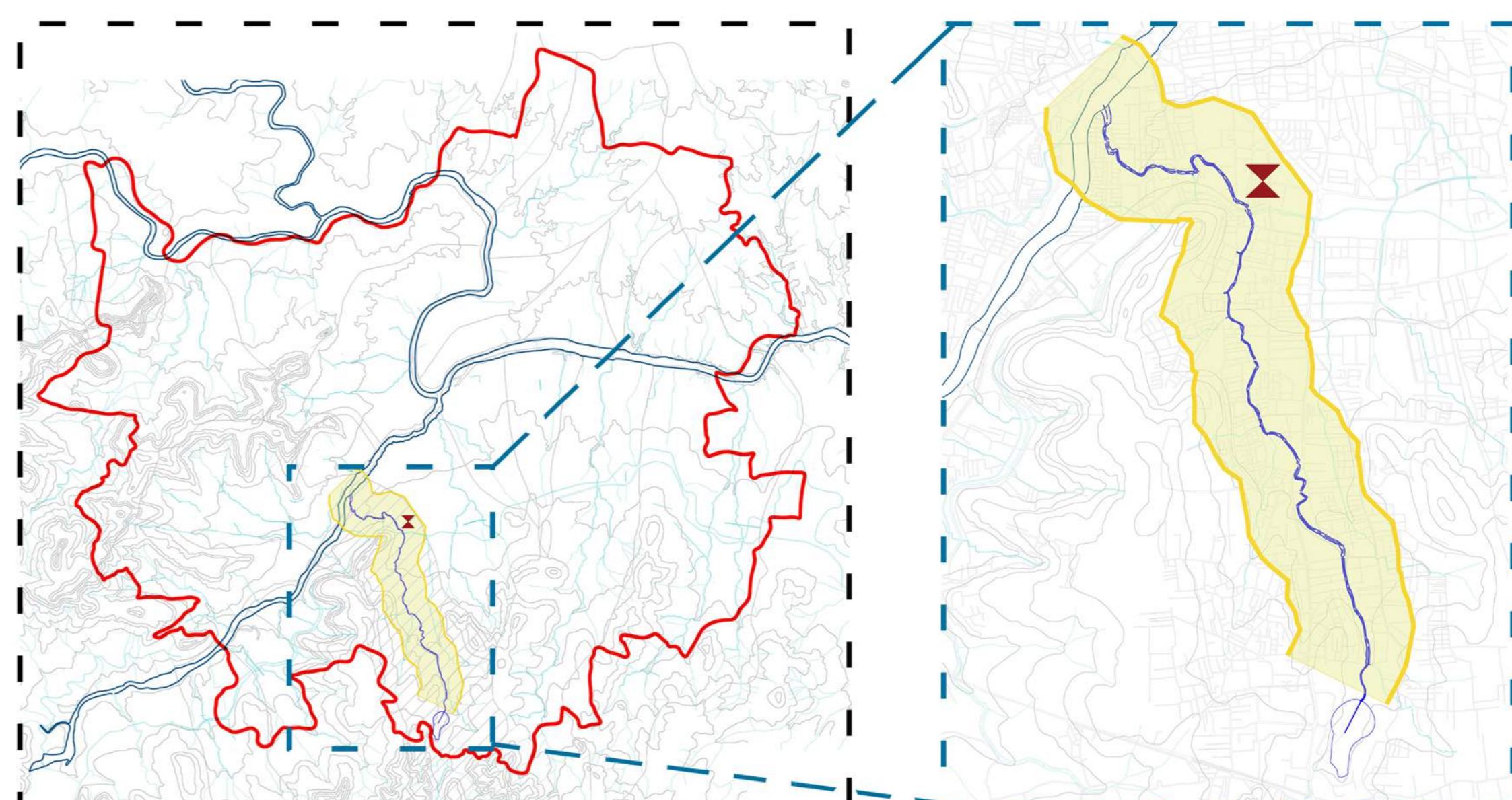
- Ambil Odha and its branches, from its point of origin to confluence with River Mutha.
- Nakzari and its branches, from its point of origin to confluence with River Mutha.
- Bhairava Nala and its branches, from its point of origin to confluence with River Mutha.
- Mutha Right bank canal from National Highway bypass on Sinhagadh Road to Sarasbaug.

## OBJECTIVES

- The Ecological and Environmental aspects of Watercourse shall be revitalized in order to provide a Sustainable Development of the City.
- The Network of Watercourses shall be regenerated to foster pedestrian linkages with other parts of the city thus integrating to the transport oriented other development networks, including National Waterways proposals, if any, applicable in near future.
- Creation of vibrant, accessible and safe public space of relaxation, entertainment and social interaction, through local community assets and contribute in building cultural associations.
- The blight and areas with neglect on Private / Public lands shall be identified for intervention, restored and redeveloped with appropriate public functions to boost economic growth of the City.

## AMBIL ODHA

### LOCATION



Ambil Odha is located to the south of Pune City.

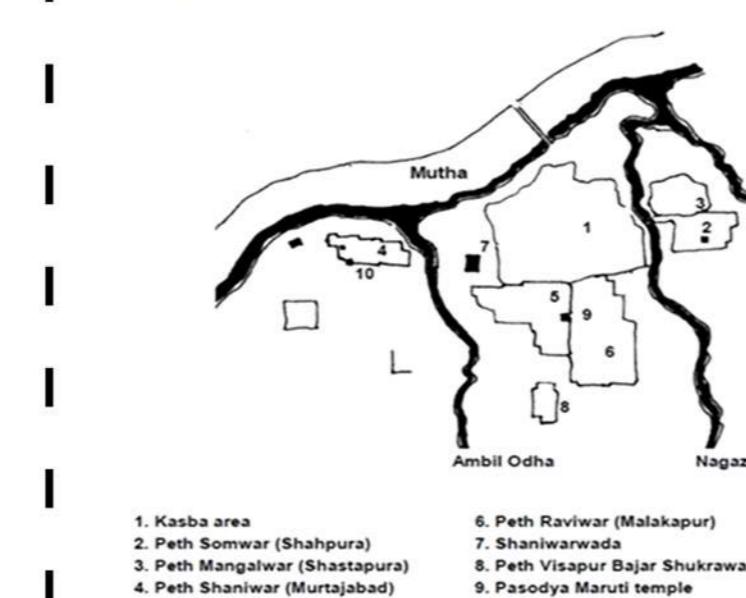
The rivulet originates at an elevation of 1100 m above mean sea level to join the Muthariver.

The water from the upper catchment areas gets accumulated in a reservoir known as Katraj Lake from where the rivulet flows.

The documentary evidence reveals that the rivulet was diverted during the Peshwa era in 17th century. The need for such construction was to meet the water demand of the areas near Pune city.

### HISTORY

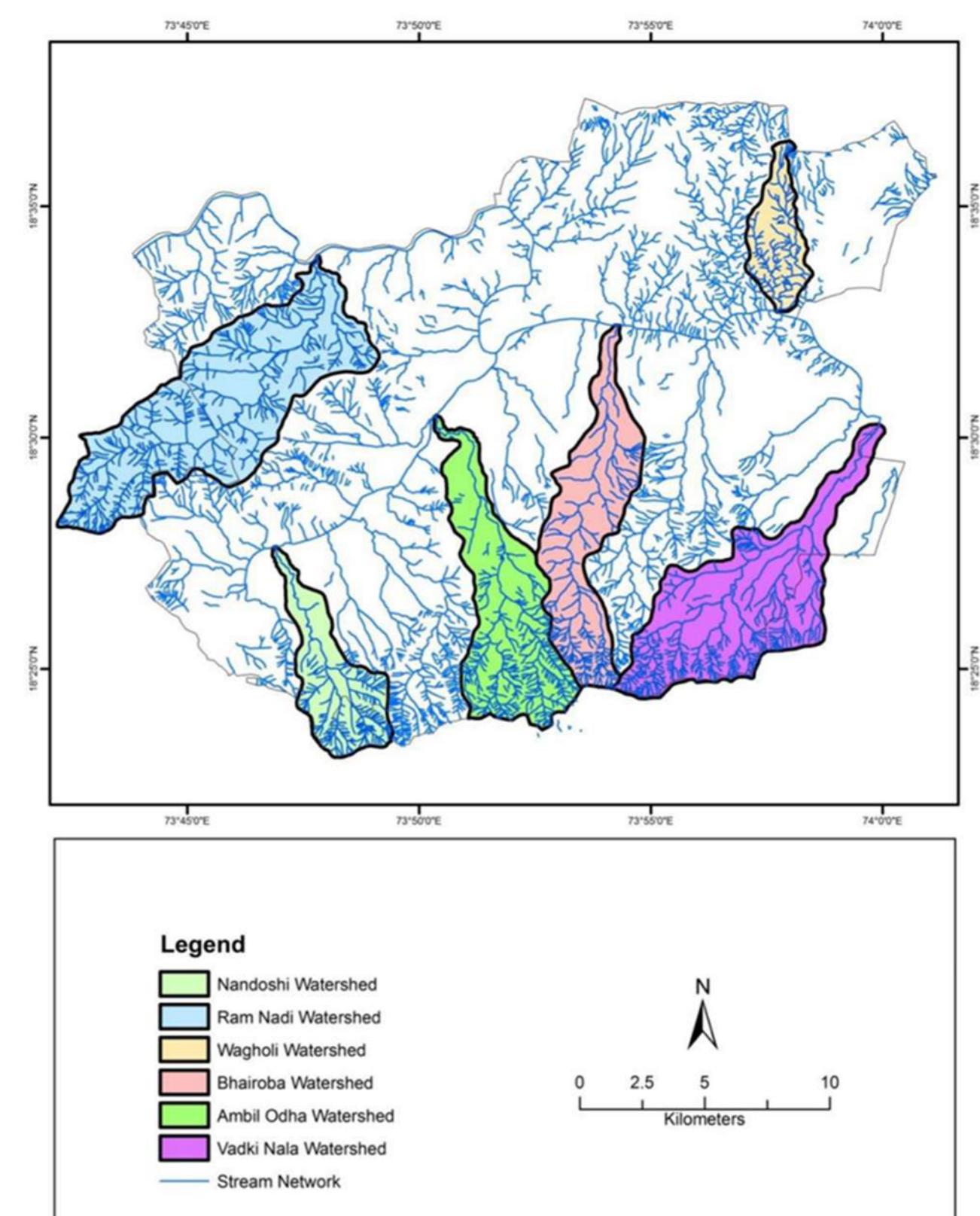
Pune in A.D. 1740



Pune in A.D. 1761



Shahar Pune in A.D. 1805



The Ambil Odha was dammed at Katraj in 1755, creating two lakes.

The reservoir created by the damming of ambil is the katraj lake which is located 10 km south of Pune city, built by Nanasaheb Peshwa.

The course of ambil odha was changed around the same time and a temple was built at Sarasbaug, which was a marshy area along side of the odha course.

The historic water supply system comprises huge ducts and underground tunnels originating from katraj lake to Shaniwar Wada.

An Earthen duct channelizes water to Pune city from the walls of katraj lake. The duct majors 2'6" in breadth and 6' to 7' in height.

Between katraj to Shaniwar Wada there are about 125 openings. This 8km long duct opens out into several wells and water tanks, some of these, such as Kala haud and Nana haud.

But the PMC has forbidden the use of it, as the water is no longer portable and could be hazardous in 1970s.

Details of the underground water system is also mentioned in the book 'Punyacha puni puravtha' published in 1914.

### FLOODS 2019



25th September 2019

Areas affected were:

- Satara Road
- Sahakar Nagar
- Katraj

Affected people were living in rehabilitation camps provided by PMC, the people were shifted to civic building in Hadapsar, special provisions were made for infrastructure of the road

The plan after flood was to build 5kms long retaining wall adjacent to the nala

Two months after the flash flood there was a havoc in areas such as

- Katraj to Lake town
- Lake town to KK market
- Padmavati Pumping station Aranyeshwar
- Neelayam Bridge
- Dandekar Bridge



## INTRODUCTION

## LITERATURE REVIEW

### HUMAN SETTLEMENT

Human settlement, a community where people live

Settlement Geography relates to the study of human use of land, water and resource, patterns of population density and the growth of settlement. It is an essential part of urban planning and urban design.

### TYPES OF SETTLEMENTS

Dispersed settlements: had no central point.

Linear settlements: clustered along rivers, creeks and streams.

Nuclear settlements: occurred along cross-roads, at river mouths, adjacent to bays and near centers of industry.

### HUMAN SETTLEMENT AND WATER

#### Imageability

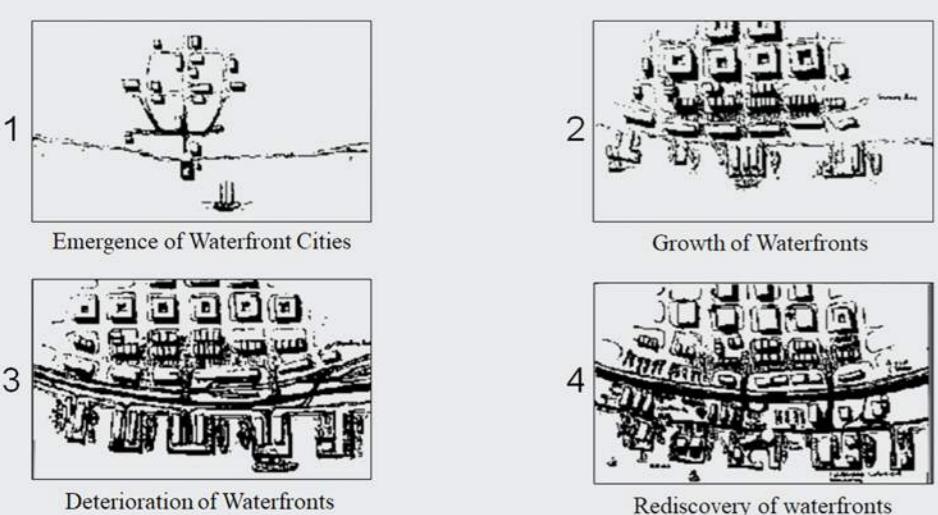
Urban waterfronts form an inseparable part of most public spaces and together they complete the overall image of the city.

### HOW WATERFRONT SETTLEMENTS HAPPENED

Water was the only line in the impenetrable landscape  
It became a path for trading  
It also became a path for information over time  
It also provided other practical functions  
It thus became magnet for tribes to settle  
That is why the first settlement was also along the river

### HOW WATERFRONT PROGRESSED

Threat of floods  
Security and need for water for different functions  
Interesting buildings and crafts that needed water demanded the settlements to be closer to the water  
Urbanization and increasing demand of land



### BASIC FUNCTIONAL USE OF WATERFRONT AREAS

- Transport (road transport, rail transport, walking and cycling)
- Social (linked with public facilities)
- Function additional to housing and housing itself
- Recreation
- Industrial use

### TYPES OF USES

- Water-dependent uses: Water is must for these uses
- Water-related uses: Can survive without immediate access but need water.
- Water-independent uses: These uses can survive without waterfront sites

### EKISTICS: THE SCIENCE OF HUMAN SETTLEMENT

Ekistics deals with

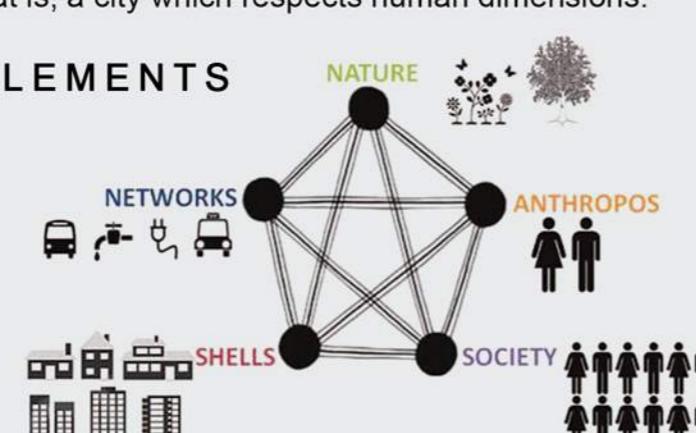
The principles man takes into account when building his settlements

The evolution of human settlements through history in terms of size and quality

The target of ekistics is to build the city of optimum size, that is, a city which respects human dimensions.

### FIVE ELEMENTS OF HUMAN SETTLEMENTS

- Nature
- Man
- Society
- Shells (that is, buildings)
- Networks



### FIVE PRINCIPLES RELATING TO SETTLEMENT FORMATION

- Maximization of potential contacts
- At a minimum of effort in terms of energy, time and cost
- Optimization of man's protective space if he is alone or with others
- Optimization of the quality of man's relationship with his environment
- Optimization in the synthesis of all principles

### WHAT IS URBAN DESIGN

Urban design in general is an intersection between urban planning and architecture in scale and content.  
Urban design has been regarded as an action which puts planning decisions at various scales.

### FIVE PRINCIPLES OF URBAN DESIGN

**Character:** it means a place with its own identity.

**Continuity and enclosure:** it can be defined as promoting the continuity of street frontages and enclosure of space.

**Quality of public realm:** public spaces and roots which are attractive, safe and working efficiently for all in society.

**Ease of movement:** promoting accessibility and local permeability. Priority to people and not to traffic.

**Legibility:** providing recognizable routes and landmarks to help people find their way around.

**Adaptability:** adaptability to changing social, economic conditions.

**Diversity:** promoting diversity and choice

### THEORIES

**Park movement:** revival of the relationship between man and nature.

**City beautiful movement:** Urban design as civic art, balance between urban elements to create a unified and cohesive unit.

**Behaviourism:** priority to pedestrians, their needs and characteristics

**Garden city and new town movements:** self-contained, self sufficient communities surrounded by greenbelts

**Modernism:** modern character or quality of thought, expression, or technique.

**Brutalism:** Massive, monolithic

**Symbolism and semiology:** Historical continuity of sign, uniqueness

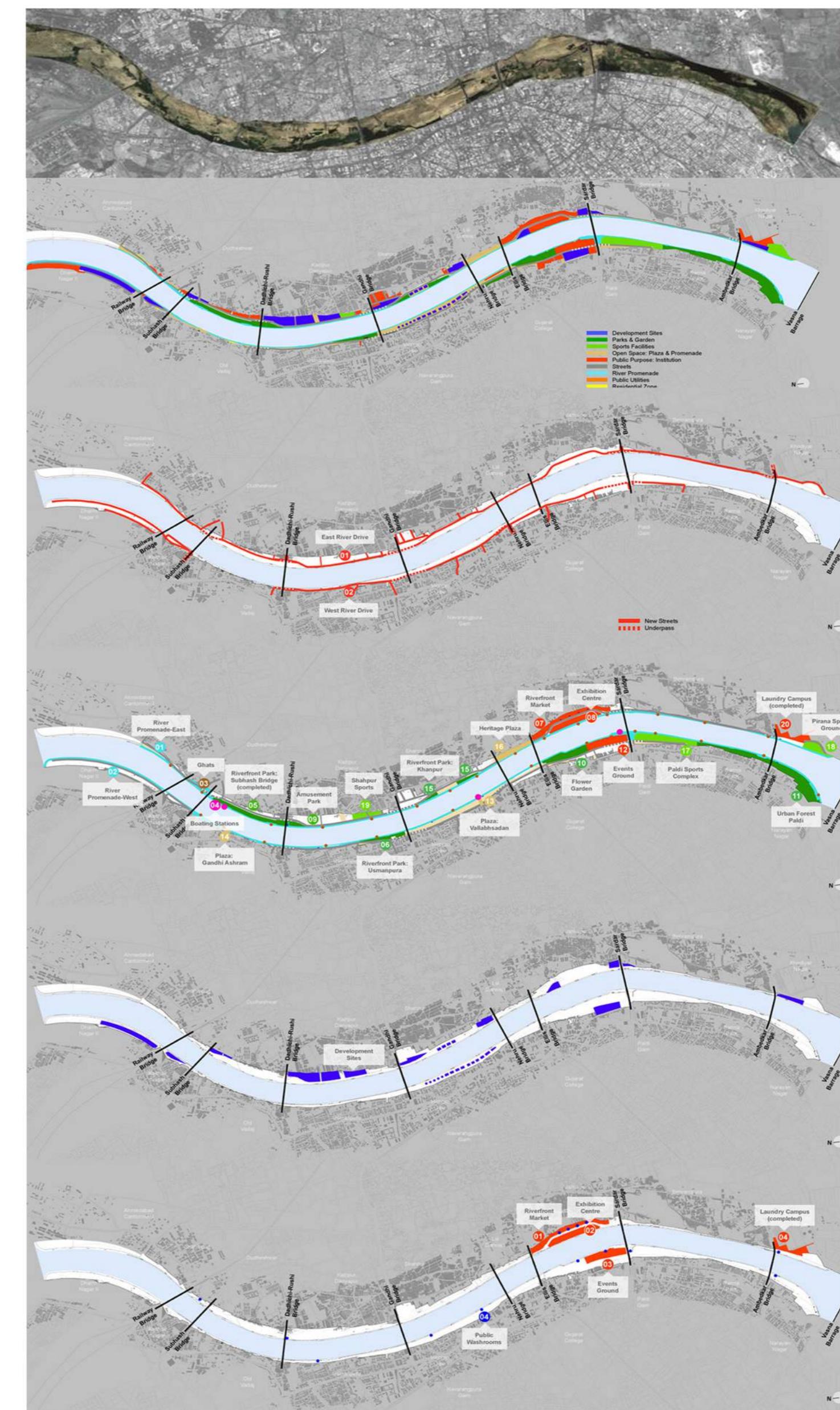
## SABARMATI RIVERFRONT DEVELOPMENT



### OBJECTIVES

- Make the riverfront accessible to the public
- Stop the flow of sewage, keep the river clean and pollution-free
- Provide permanent housing for riverbed slum dwellers
- Reduce risk of erosion and flooding in flood prone neighbourhoods
- Create riverfront parks, promenades and Ghats to enjoy the water
- Provide Ahmedabad with new cultural, trade and social amenities
- Revitalize riverfront neighbourhoods, rejuvenate Ahmedabad
- Generate resources to pay for all of the foregoing
- Create a memorable identity for Ahmedabad

The Riverfront project presents a great opportunity to create a public edge to the river on the eastern and western sides of Ahmedabad. By channeling the river to a constant width of 263m, riverbed land has been reclaimed to create 11.25 km of public riverfront on both the banks. The total land reclamation is 204.91 hectares. The main considerations in allocating land uses for the reclaimed portions were: existing land uses along the river; extent, location and configuration of reclaimed land available; potential for development; the structural road network and form of the city; bridges proposed in the Ahmedabad Development Plan, and the possibility of providing adequate infrastructure



### LAND USE

The main considerations in allocating land uses for the reclaimed portions were: existing land uses along the river; extent, location and configuration of reclaimed land available; potential for development; the structural road network and form of the city; bridges proposed in the Ahmedabad Development Plan, and the possibility of providing adequate infrastructure.

### STREET NETWORK

To better access the riverfront and facilities built along it, a number of streets leading up to the river are to be strengthened and some new streets will be developed. Most of the proposed streets are under construction. The new streets are designed with wide footpaths and designated cycle tracks to improve and encourage pedestrian access to the river.

### RECREATION

The project aims to create a thriving, people-centric network of parks, waterside promenades, markets, cultural and recreational facilities in the heart of Ahmedabad, making the city's riverfront a public asset.

### DEVELOPMENT SITES

The project aims to be self-financing – to achieve its goals without relying on any funding from the government. A small portion of the reclaimed land will be sold for commercial development, to generate sufficient enough resources to pay for developing the riverfront and managing it. The private developments that will be built on the riverfront shall be carefully controlled by volumetric regulations to ensure that the built environment along the riverfront is harmonious and has a memorable skyline.

### AMENITIES

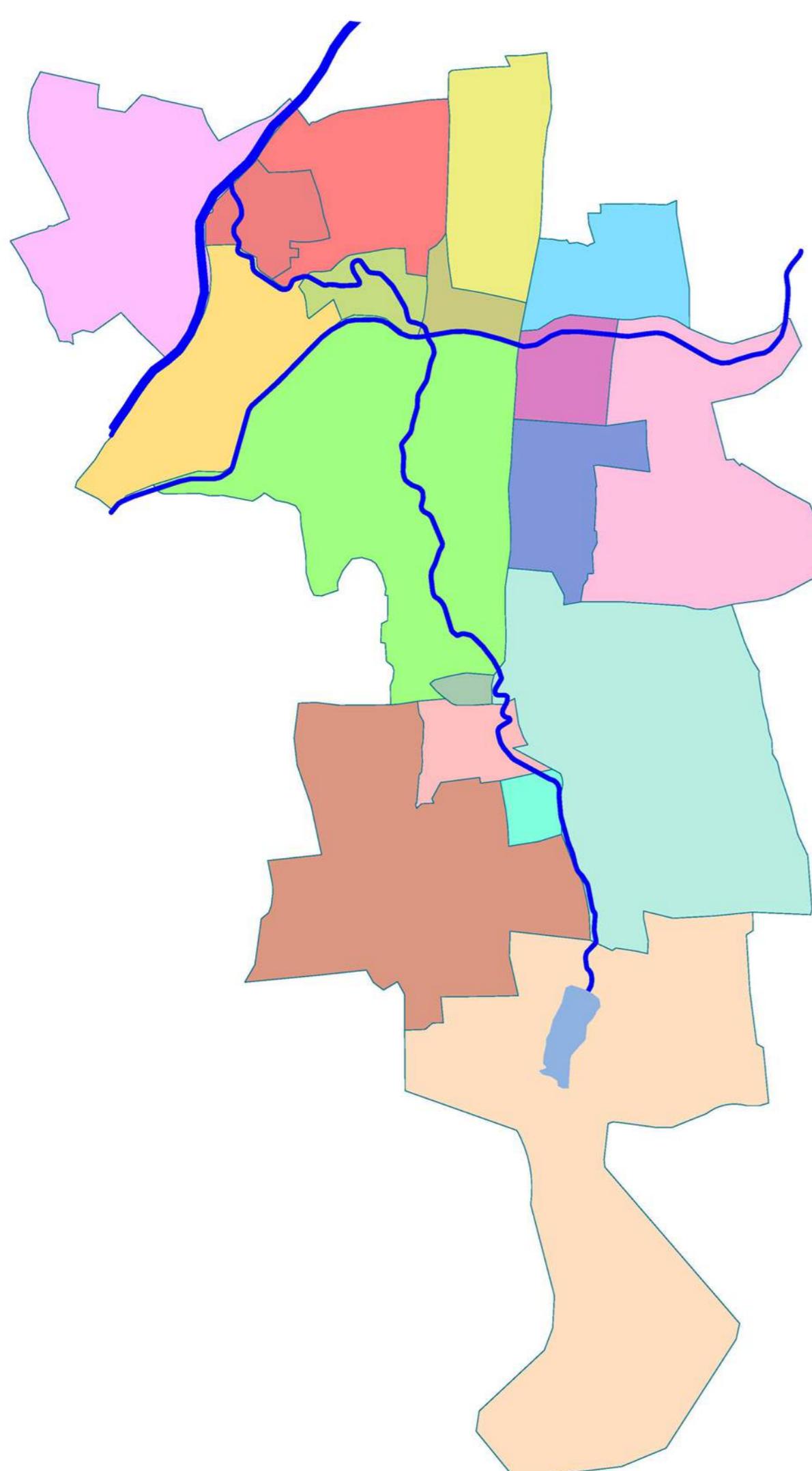
To provide new and improved amenities for the city and to include sections with particular needs, provision of markets and vending areas to include street vendors, laundry facilities for the washing community, trade and fair facilities for the business community have been made in the project. The project replaces a largely private riverfront with an expansive public realm with a network of parks, waterside promenades, markets, cultural institutions, recreational facilities and commercial developments for the city's five million residents.



## CASE STUDY

URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?





Erandwane	Dattawadi
Sadashiv Peth	Shukravar Peth
PMC colony	Dadawadi
Swargate	Mukund Nagar
Gultekdi	Maharshi Nagar
Parvati Paytha	Sahakar Nagar
Bibawewadi	Dhankawadi
Balaji Nagar	Yashwantarao chavan Nagar
Katraj	

Erandwane is known for being the location of Film and Television Institute of India. It is the location for some of the most famous schools, colleges, shopping malls, restaurants, cinema halls, and hospitals in the south of Pune.

Sadashiv Peth was founded by Madhavrao Peshwa and is named after Sadashivrao Peshwa. Renowned educational institutions like Bhave School, New English School, Renuka Swaroop School, Jnana Prabodhini Prashala, SPM English School are located here. Sadashiv peth has many famous temples.

Shukravar Peth is an area of Pune in Maharashtra State, India. It was the first local peth created and named by the BAJIRAO Peshwa 1 because people used to reside in that area from his era.

Swargate is one of the busiest areas in Pune. The Swargate connects Pune to various areas like Hadapsar, Fursungi, Dhankawadi, Bibwewadi, etc. The areas under Swargate include Guru Nanak Nagar, Mukund Nagar, and Municipal Colony. The old city of Pune ends here.

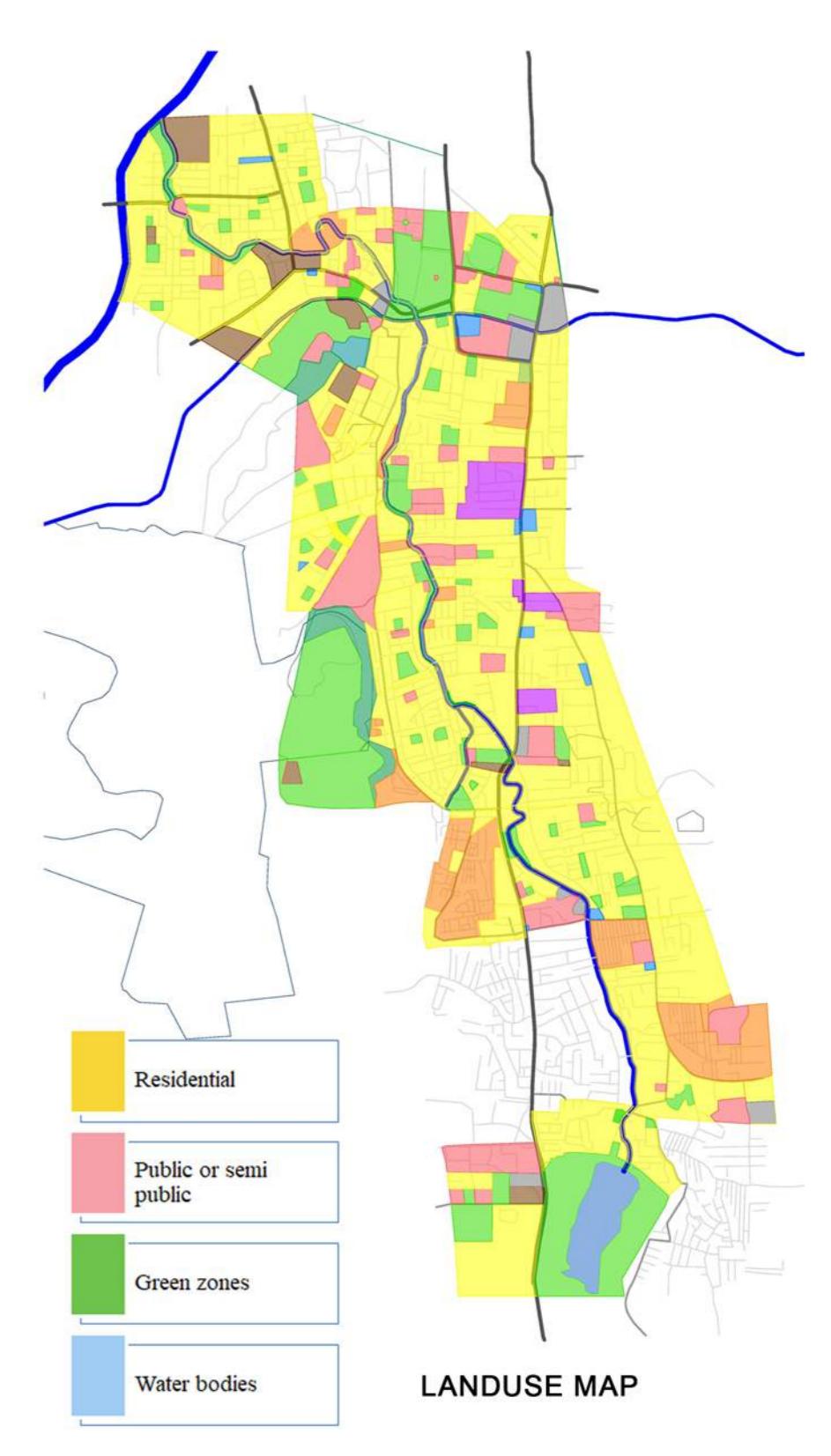
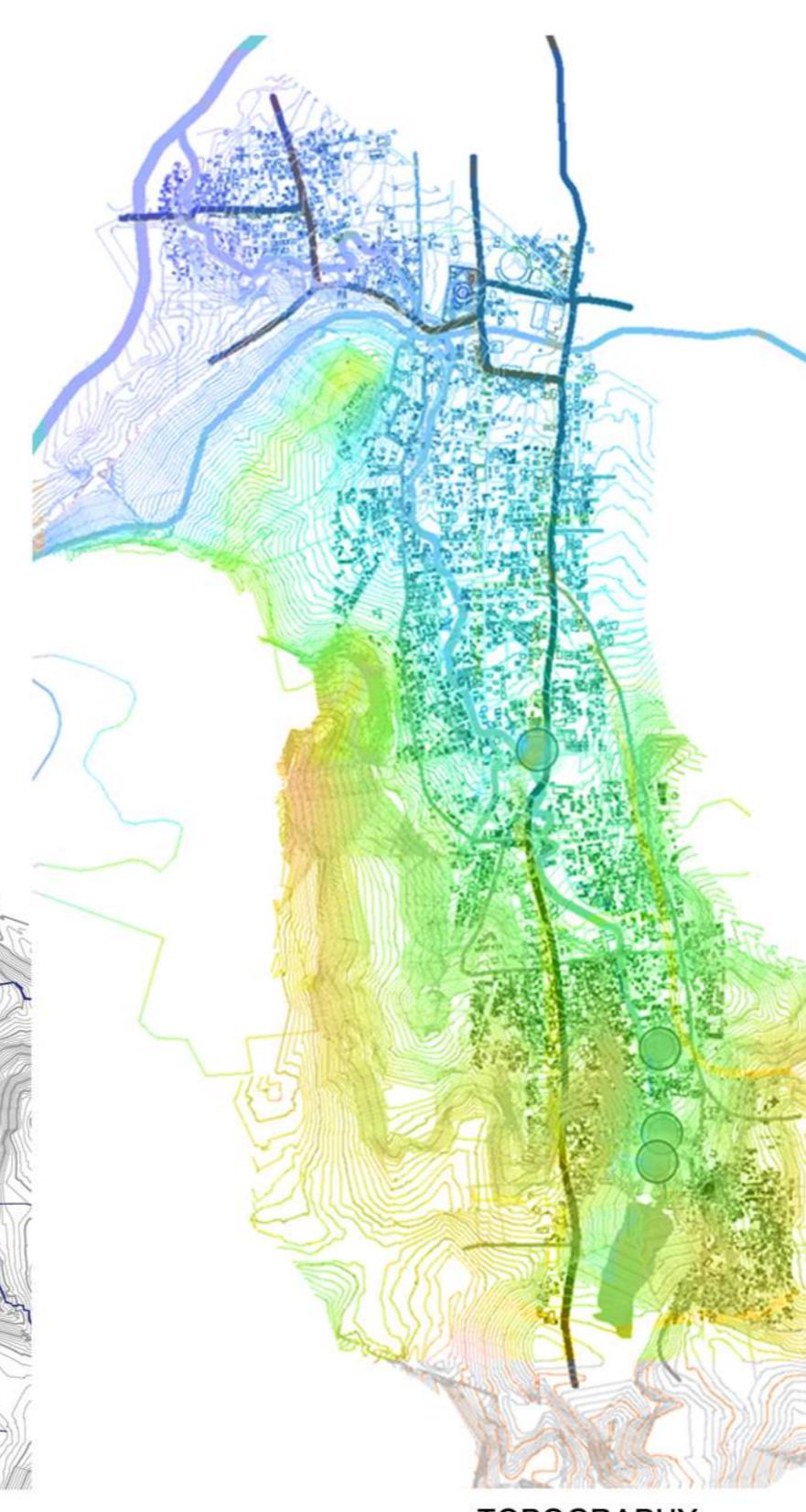
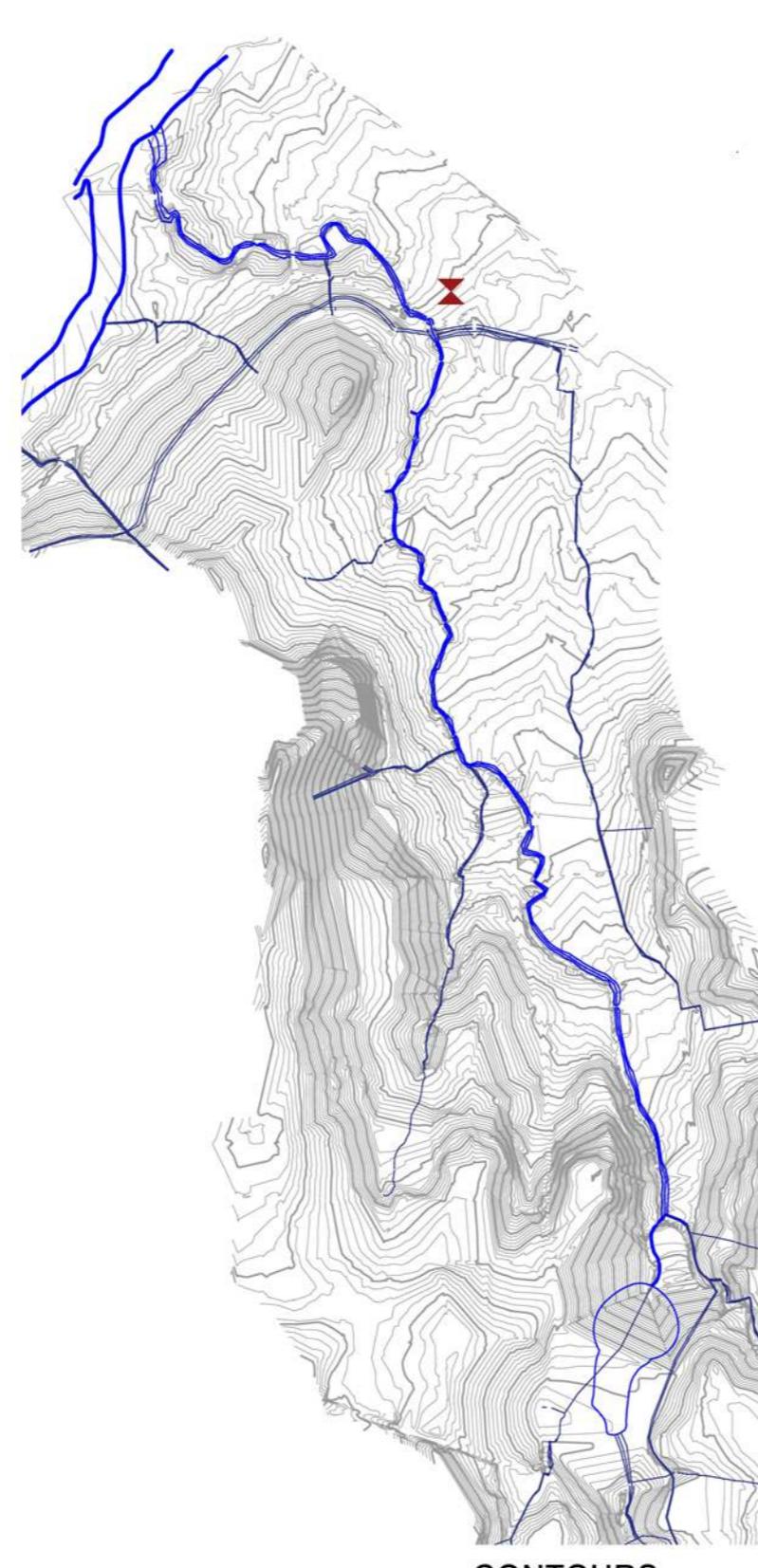
Parvati Hill is a hillock in Pune, India. The hillock rises to 2,100 feet (640 m) above sea level. Atop the hillock is the Parvati Temple, one of the most scenic locations in Pune. The temple is the oldest heritage structure in Pune and was built during the rule of the Peshwa dynasty.

Dhankawadi was a small village that was subsumed into Pune in 1997. The area has been ongoing rapid building development since 2000. Part of Dhankawadi has been reserved for a bio-diversity park; however, the park remains in the proposal stage.

Katraj is famous for its Peshwa-era (18th century) lake that supplied water to the city during that period.<sup>[1][2]</sup> The village lies at the foot of the Katraj Ghat or mountain pass on the main National Highway 4 connecting Pune with places south of the city, such as Kolhapur and Bangalore. In recent decades area surrounding the lake and the village of Katraj became part of the City of Pune.

NEIGHBOURHOOD MAP

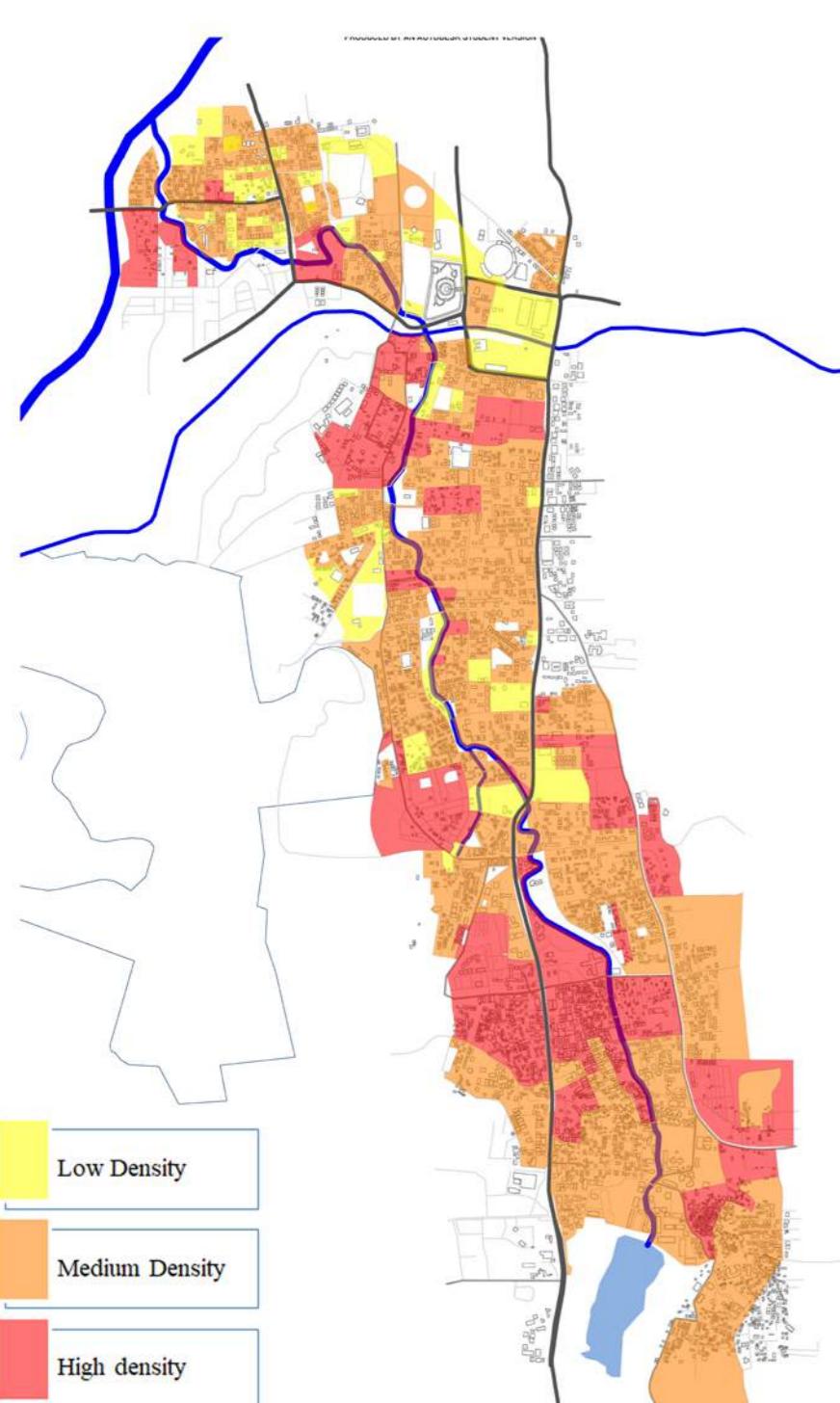
- Maximum stretch of Ambil odha has slum areas along its length.
- Very less open space
- Most of the high density area is encroached.
- High density areas were highly affected during 2019 floods
- Low density areas include, gardens, parks and vacant lands.



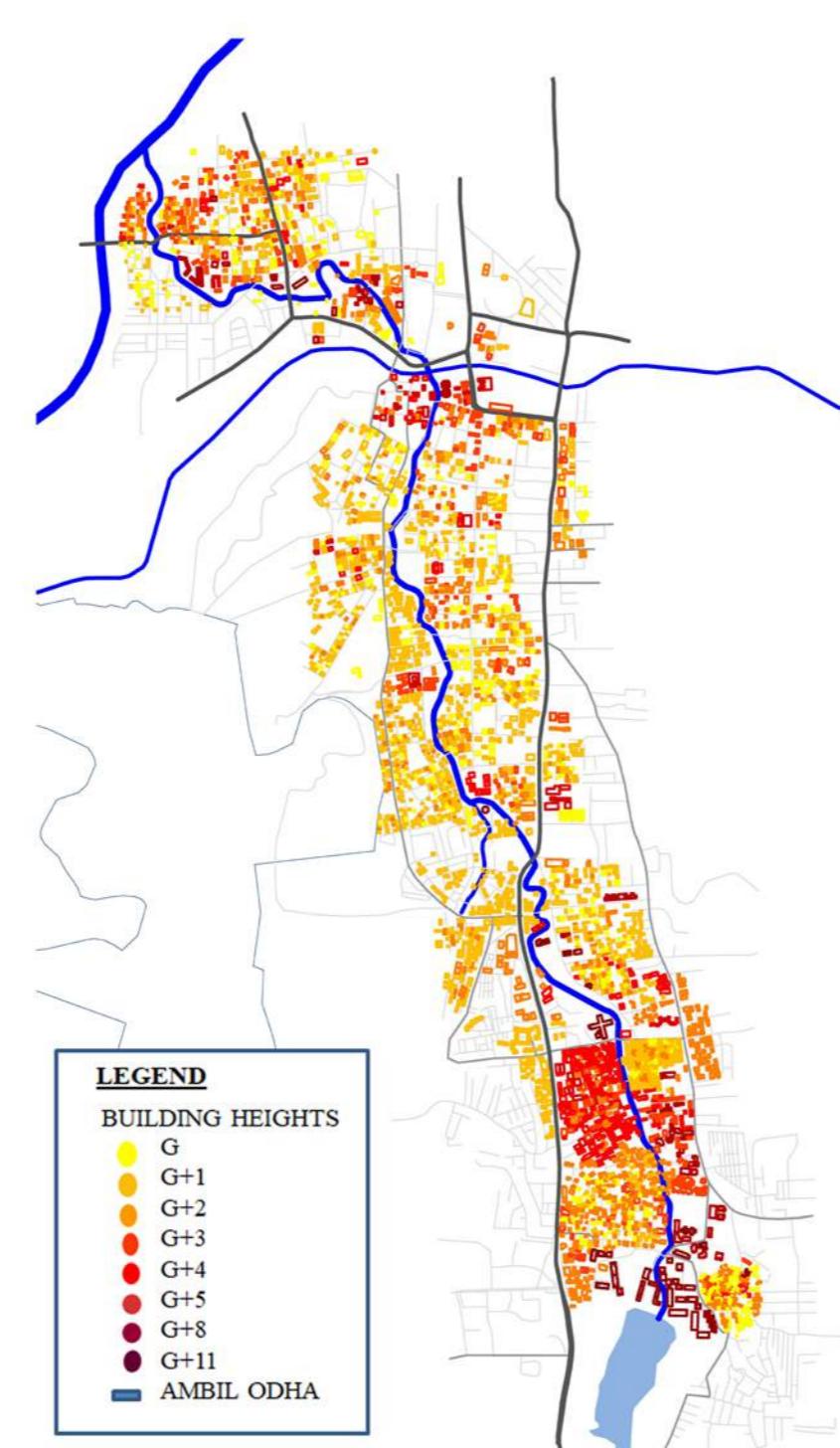
CONTOURS

TOPOGRAPHY

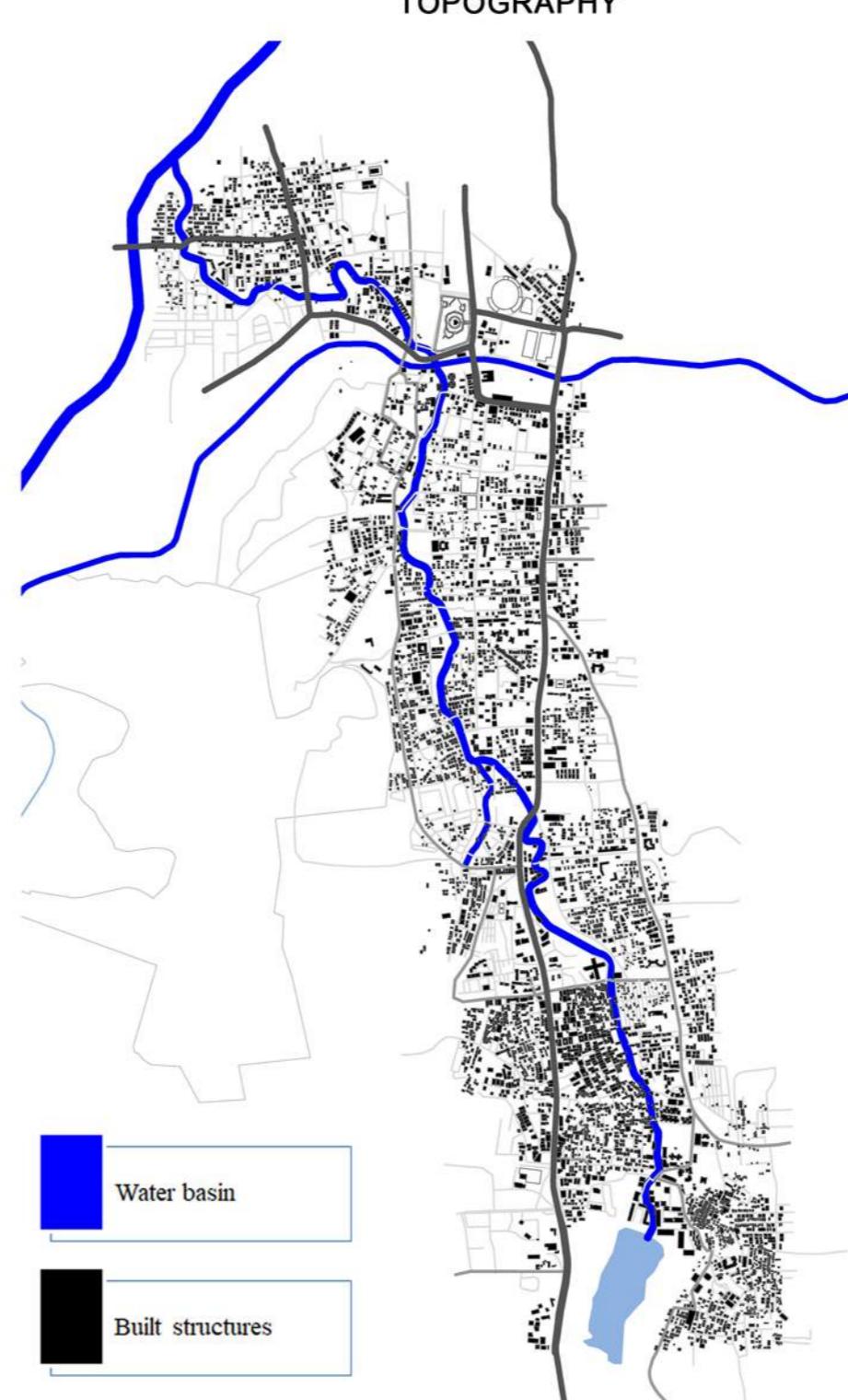
LANDUSE MAP



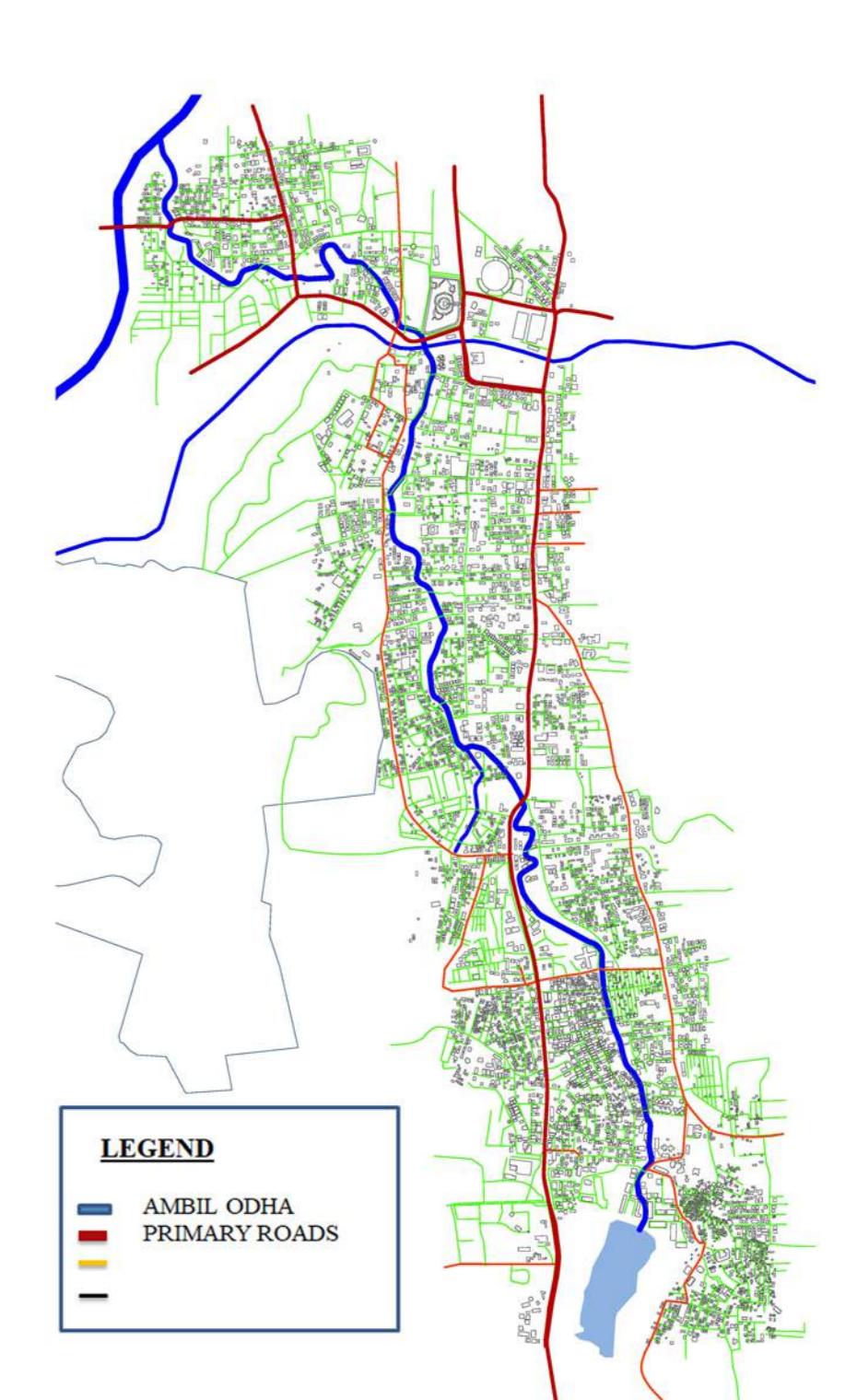
DENSITY MAP



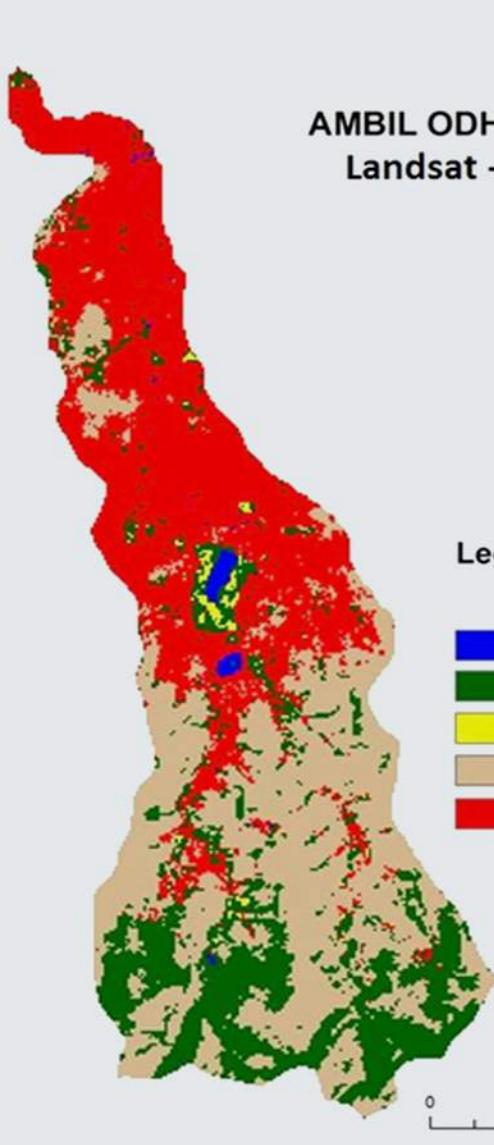
HEIGHT HIERARCHY



BUILT UNBUILT



ROAD NETWORK

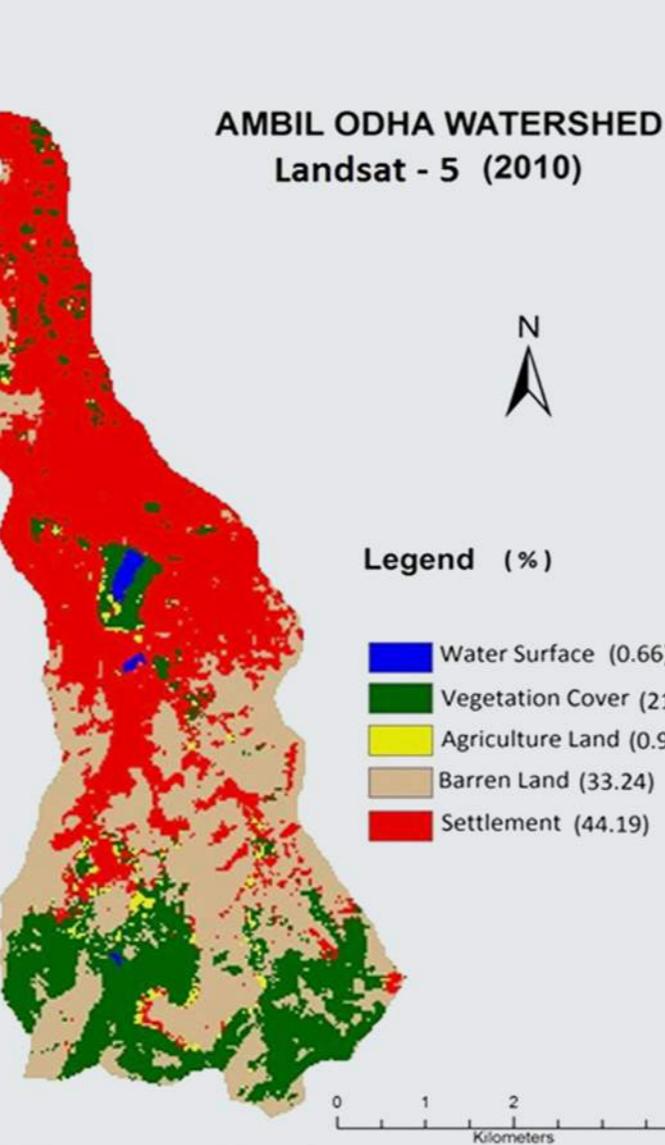


AMBIL ODHA WATERSHED

Landsat - 5 (1991)

Legend (%)

- Water Surface (0.75)
- Vegetation Cover (21.29)
- Agriculture Land (0.29)
- Barren Land (39.26)
- Settlement (37.91)

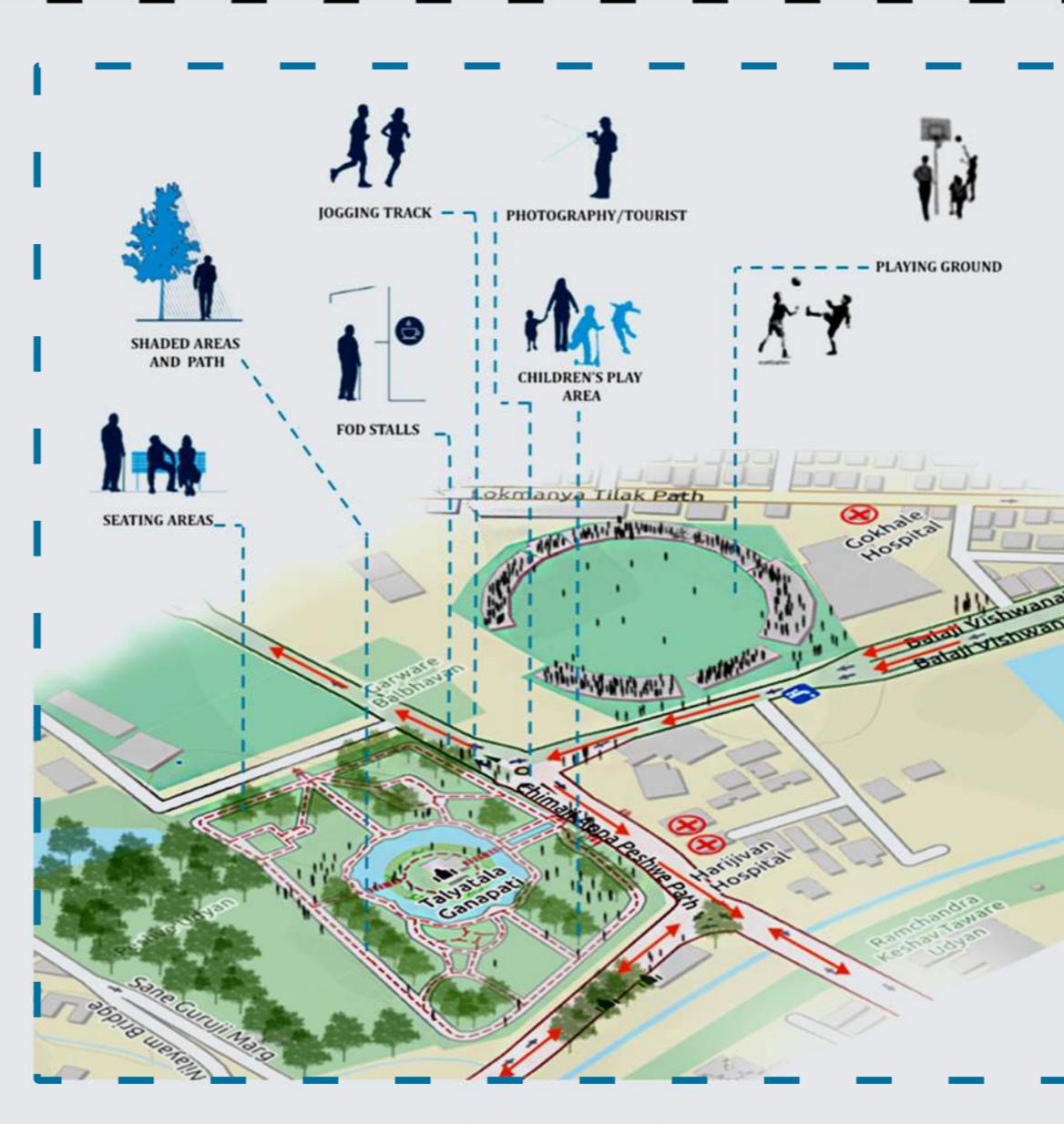


AMBIL ODHA WATERSHED

Landsat - 5 (2010)

Legend (%)

- Water Surface (0.66)
- Vegetation Cover (21.0)
- Agriculture Land (0.91)
- Barren Land (33.24)
- Settlement (44.19)



SARASBAUG NODE

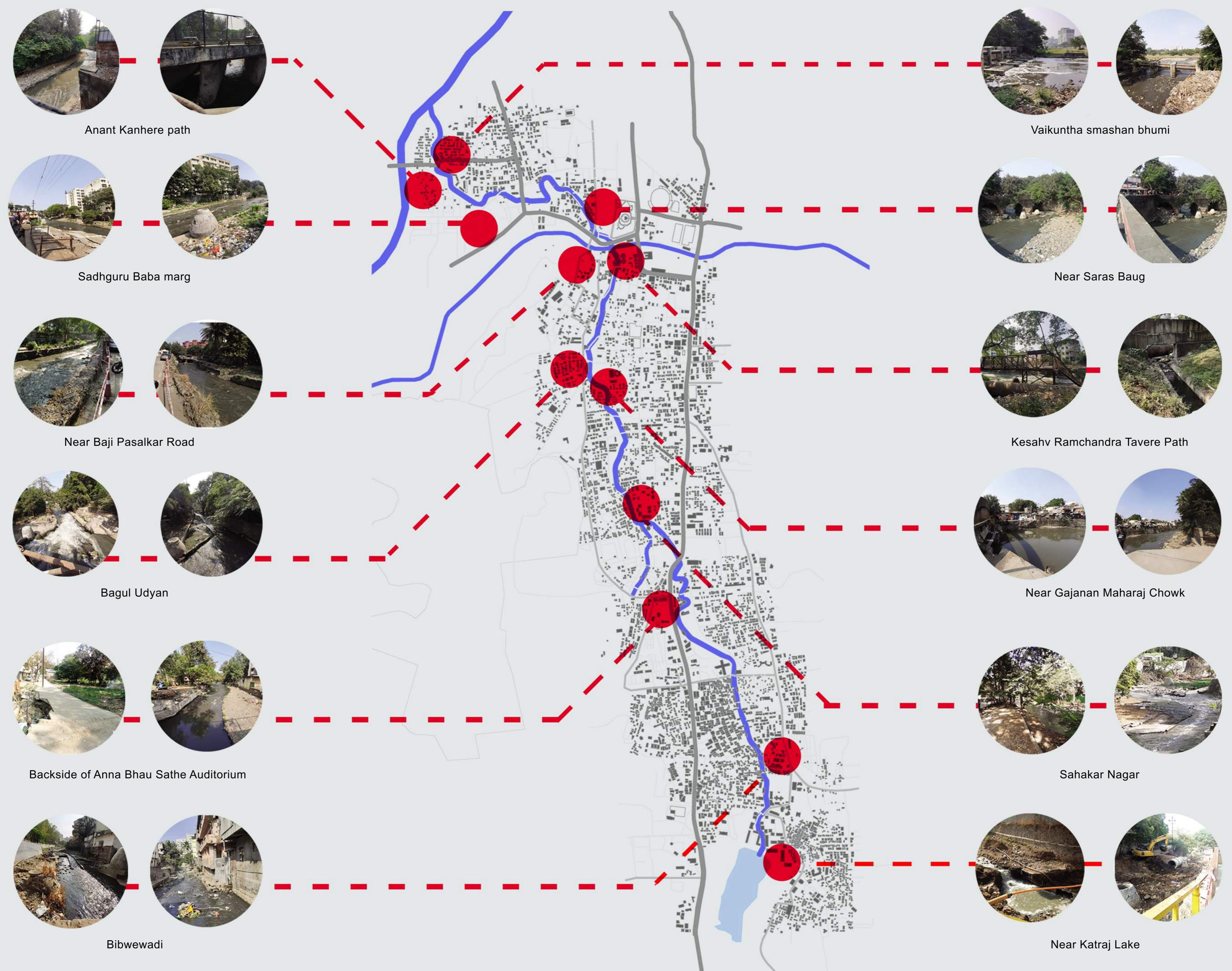


KK MARKET NODE

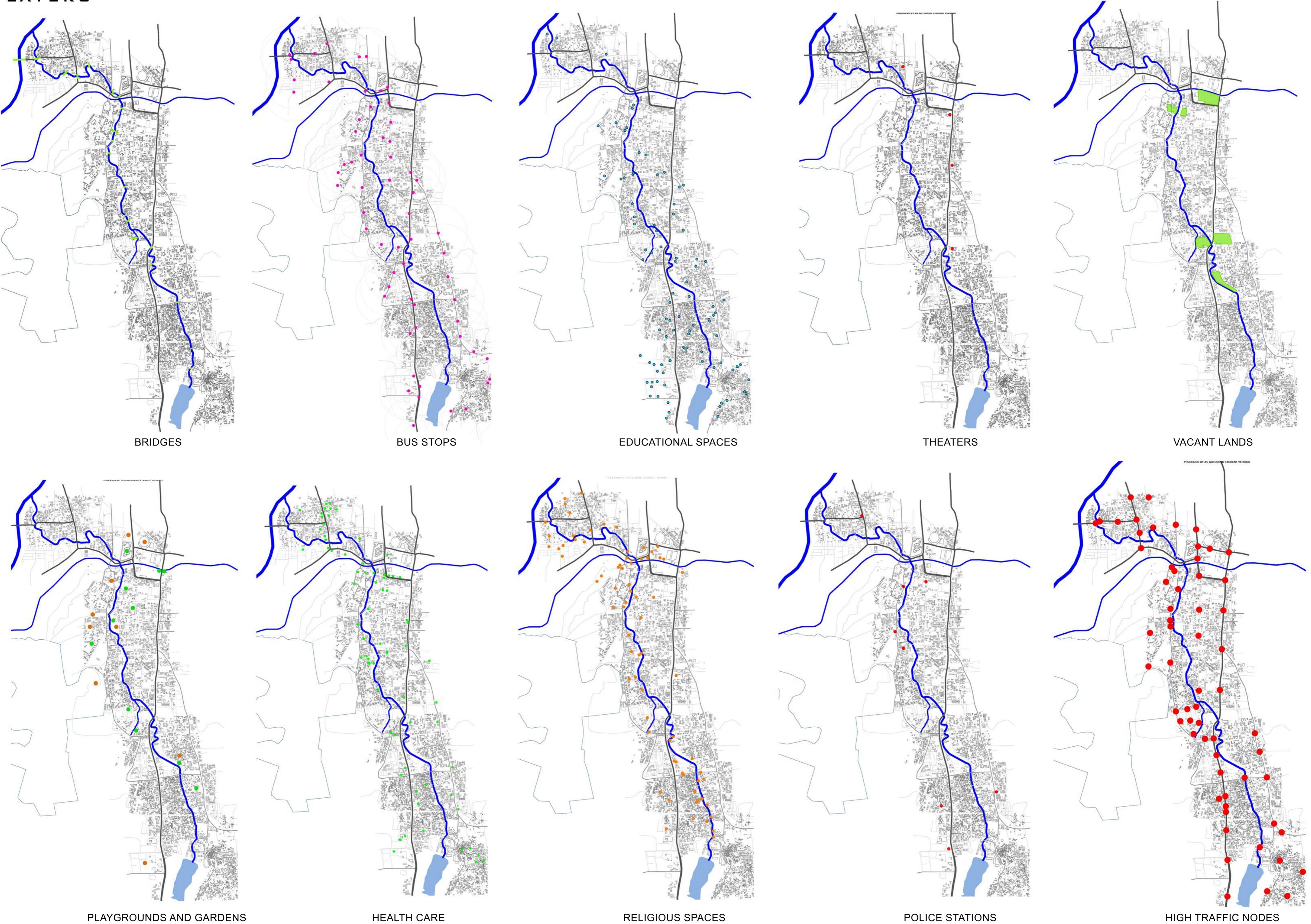
## ON-FIELD STUDY

URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?





## LAYERS

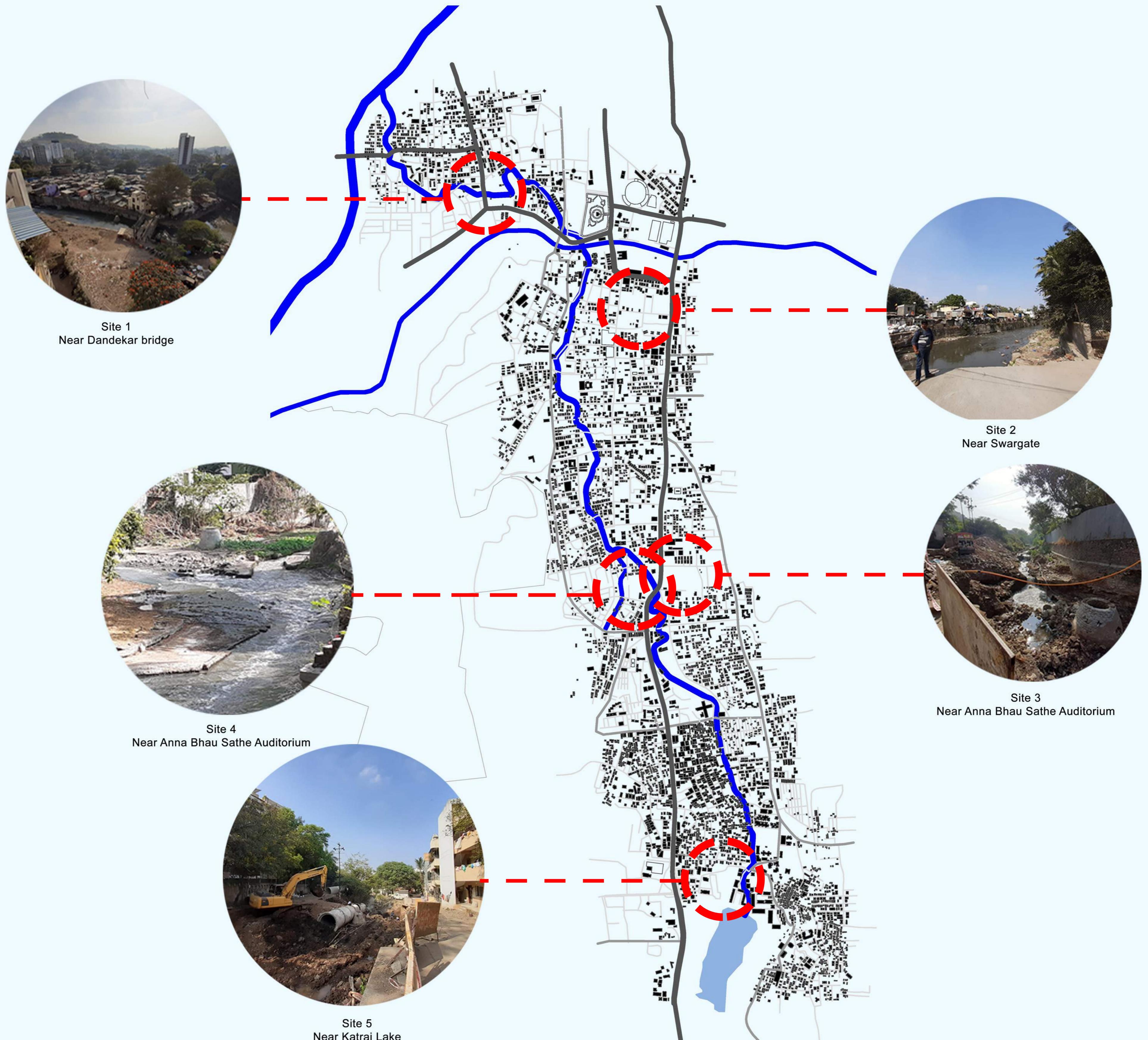


## ON-FIELD STUDY

URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?



TEAM 1-B  
 Pranita Badade  
 Sanskruti Jadhav  
 Prathamesh Nazarkar



RESOURCES

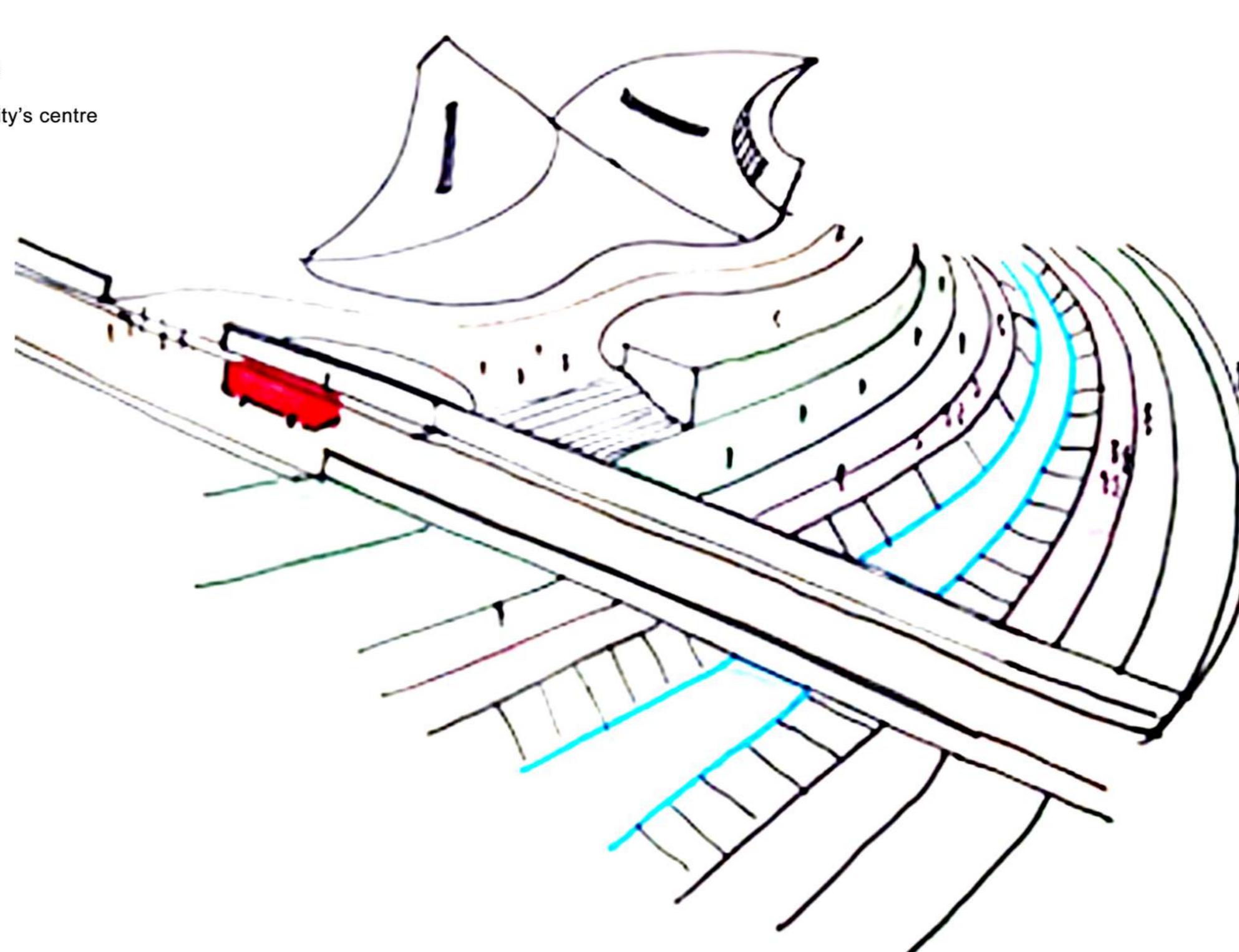
- Historical importance of the nala
- Major historical landmarks along the stretch which are, Sarasbaug, Parvati Paytha, Swargate, Vaikuntha Smashan Bhumi, Katraj lake
- Major modern landmarks along the stretch such as, Central mall, Swargate bus stand, KK market, Annabhau sathe auditorium.
- Knowledge about nala among people
- Nala's origin at katraj lake which can be considered as Pune city's edge
- Nala's confluence at Sadashiv peth which can be considered as Pune city's centre
- Nala passing through major neighbourhoods of the city.
- Ambil odha was the most affected nala during 2019 floods.
- Old temples along the stretch
- Ample of water
- Good road connectivity
- Future developments along the stretch

CONSTRAINTS

- Pollution of water at a large scale
- Less land available for further development
- Floods
- Increasing encroachments
- Increasing social threats
- Decreasing green cover
- People's ignorance and non attachment towards nala

VULNERABILITY

- Religious rituals at vaikuntha smashanbhumi and other temples which cause water pollution
- Religious festivals along the nala which cause water pollution
- People's daily activities associated with the nala water which cause pollution
- Encroachments that are very near to the nala
- Construction in the flood line area
- Width of the nala is not uniform throughout its length
- Garbage in the nala reducing the water's velocity
- Foul smell of water
- Construction waste being dumped into the nala
- Cremation near the nala
- Very dense residential areas
- Unhealthy environment due to nala in the slum areas
- Less accessibility to the nala
- Illegal construction
- Lack of security
- Lack of good public transport facilities
- No measures taken for flood such as no retaining walls



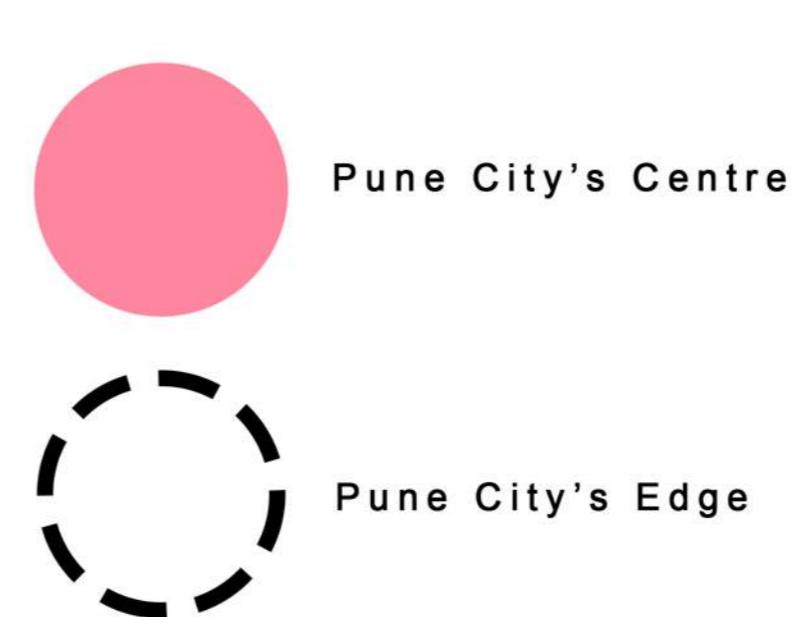
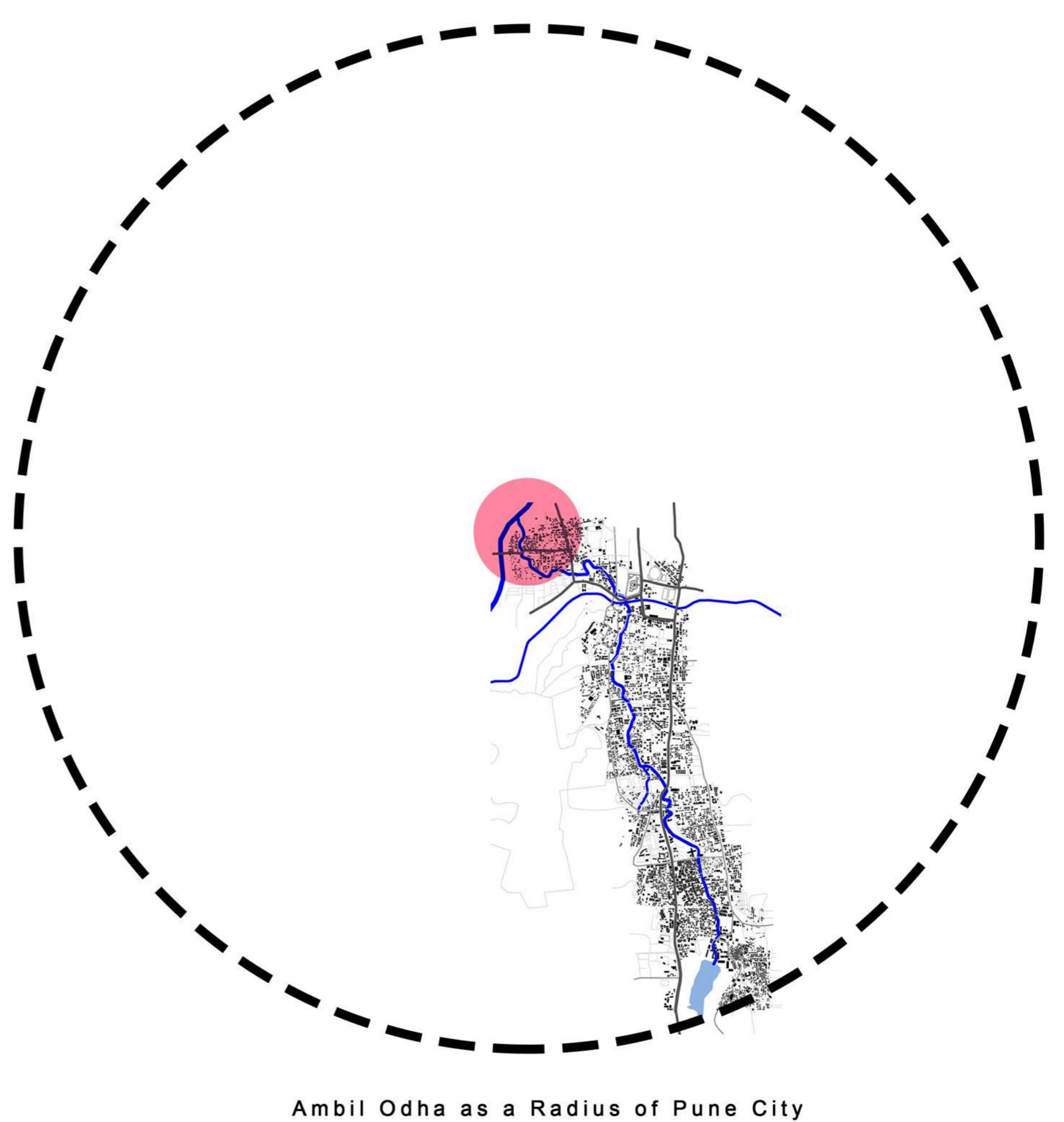
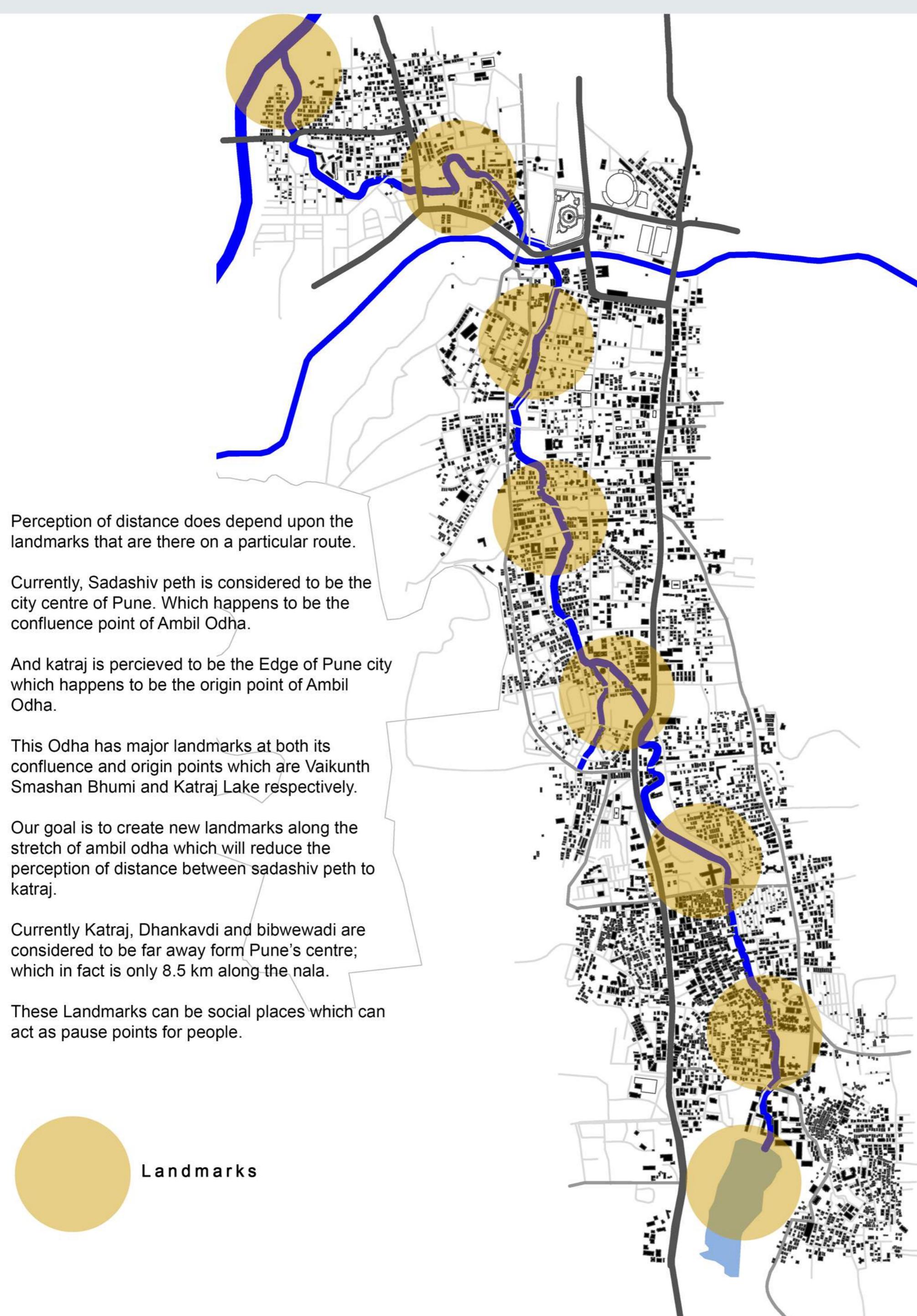
POTENTIALS

- Government reseaved lands
- Governments focus on these nala redevelopments
- Encroached lands as resource
- Transit oriented development plans
- People's perception of water as a entertainment space
- Increasing importance of these Nala corridors



SITE SELECTION AND ANALYSIS

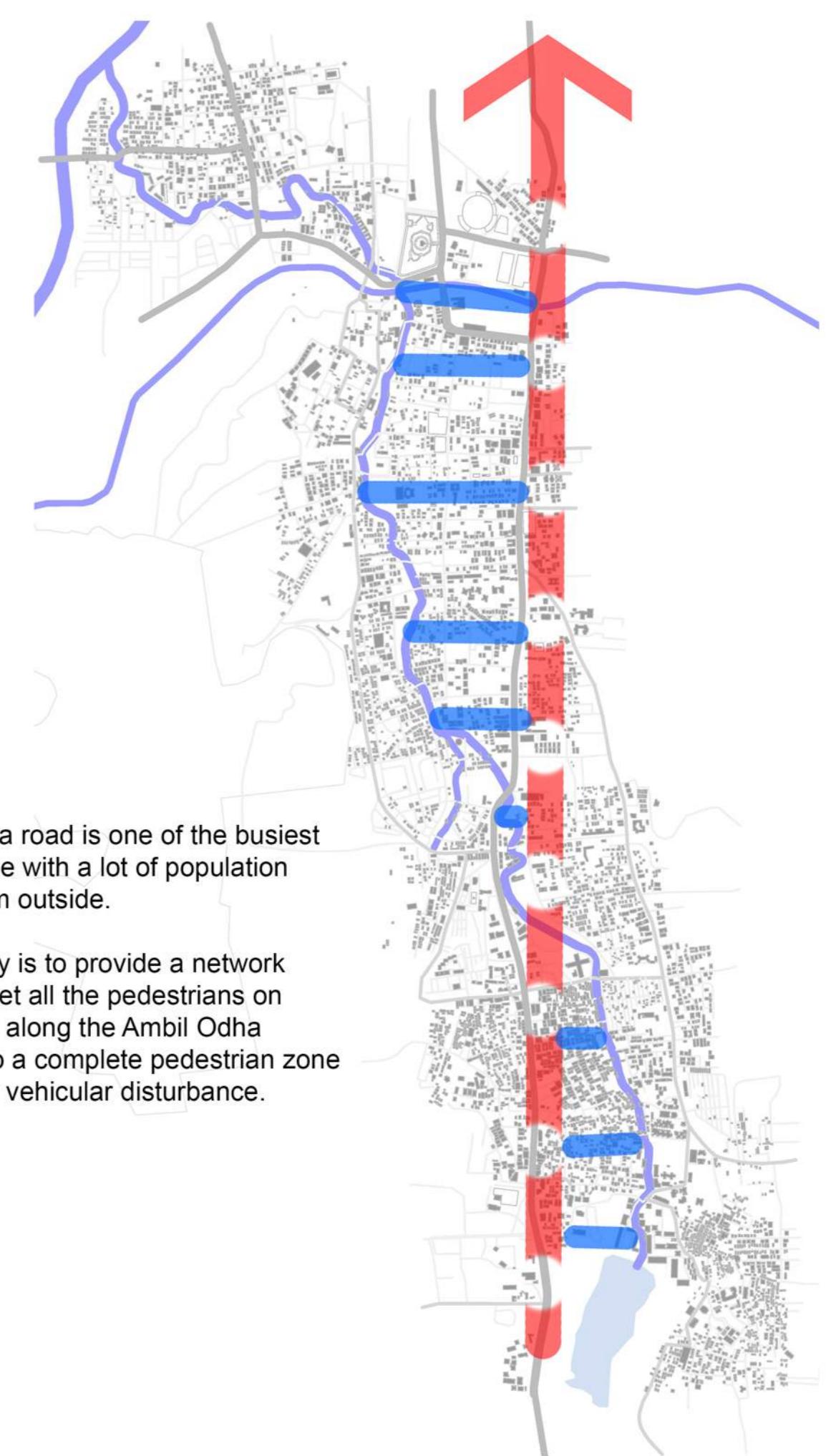
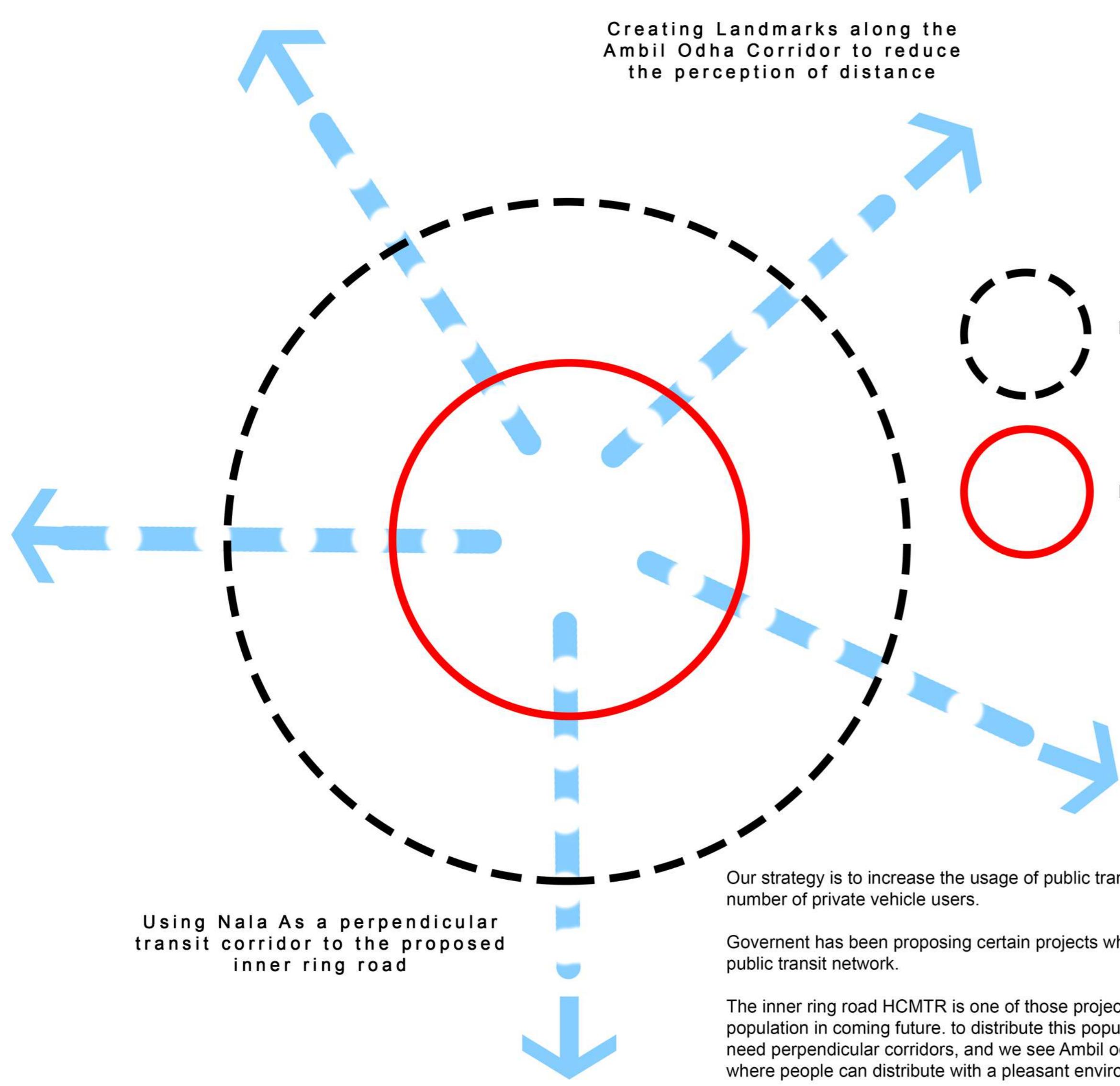
# "AMBIL ODHA AS A LINK BETWEEN TIME AND SPACE"



Pune city's centre is believed to be the Sadashiv Peth which is one of the oldest areas of Pune.

Pune's edge is usually perceived to be Katraj area. Which does have a historical significance but is now developing more in recent times.

We see ambil odha as a radius of Pune city which can connect Pune's edge and city centre by connecting its origin and confluence.



VISION

URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?

TEAM 1-B  
Pranita Badade  
Sanskriti Jadhav  
Prathmesh Nazarkar

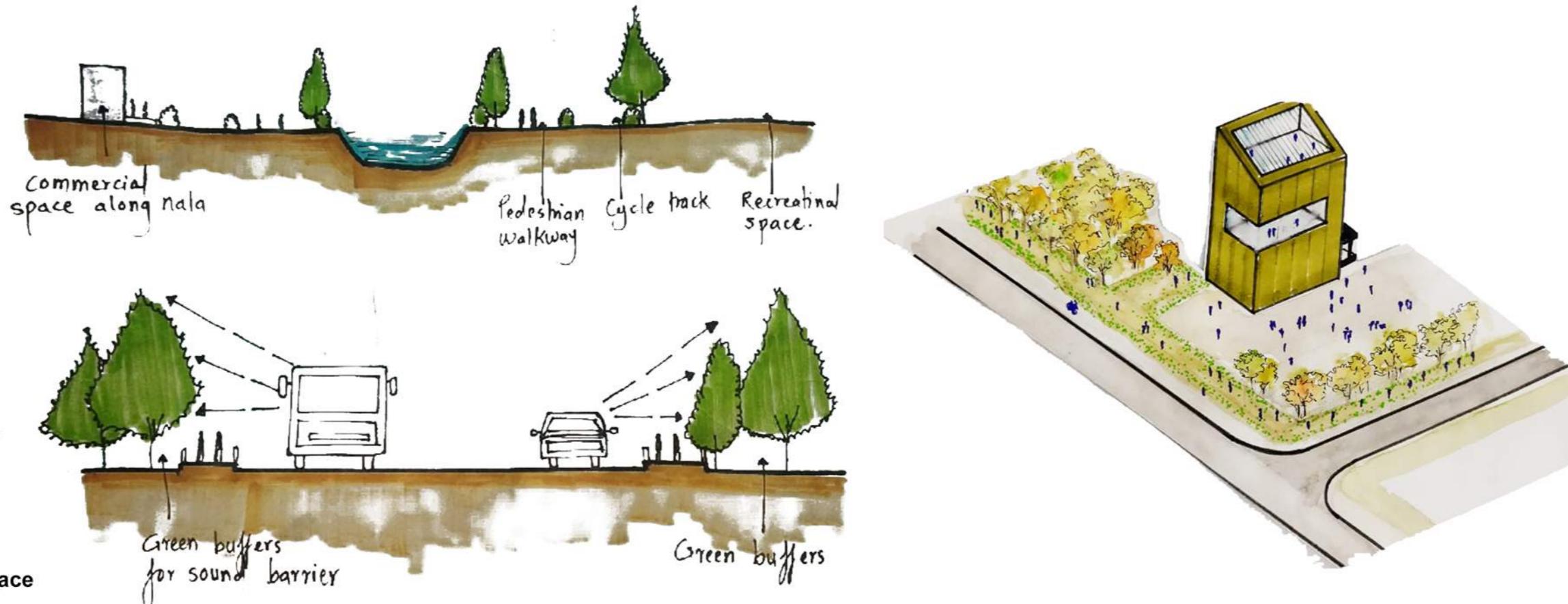
## BUFFER ZONE

Milieu: From Nala, From Road, Setback

Issues: Liveability  
Walkability  
Air and Light Ventilation  
Accessibility

Observations: No Buffer at Slum Areas,  
On Nala And Road Side  
Buffer Zone Used as Parking Space  
Bad Ventilation  
Lack of Green Zone  
No Physical Accessibility to Nala

Guidelines: 1. Buffer Zones with Large Width  
2. No Vehicular Movement in  
Buffer Zone Along Nala  
3. Buffer Zone Shall Be A Public Space  
4. Green Zone to Avoid Noise Pollution  
5. Buffer zone as a social interaction space



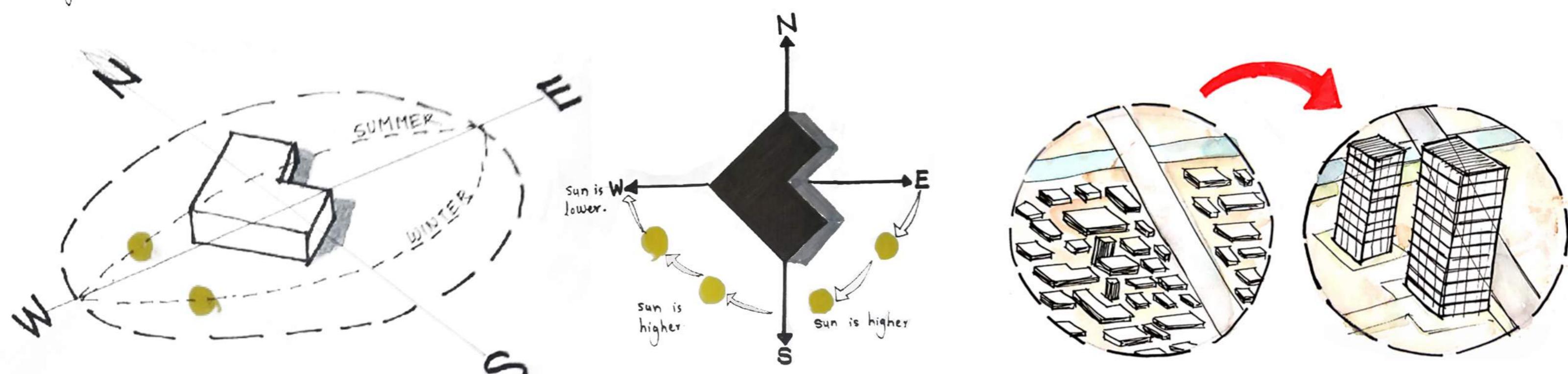
## ORIENTATION

Milieu: Along Nala, Building Orientation

Issues: Climic response  
Views and Vista.  
Fenestrations.  
Envelope.  
Gathering Spaces.  
Acoustics  
Usability

Observations: Towards Sinhgad Road  
Nala has become a neglected backyard

Guidelines: 1. Incorporating Active and passive  
techniques to avoid heat radiation  
2. Maximum Natural Light and Ventilation.  
3. Integrating West and East wind flow



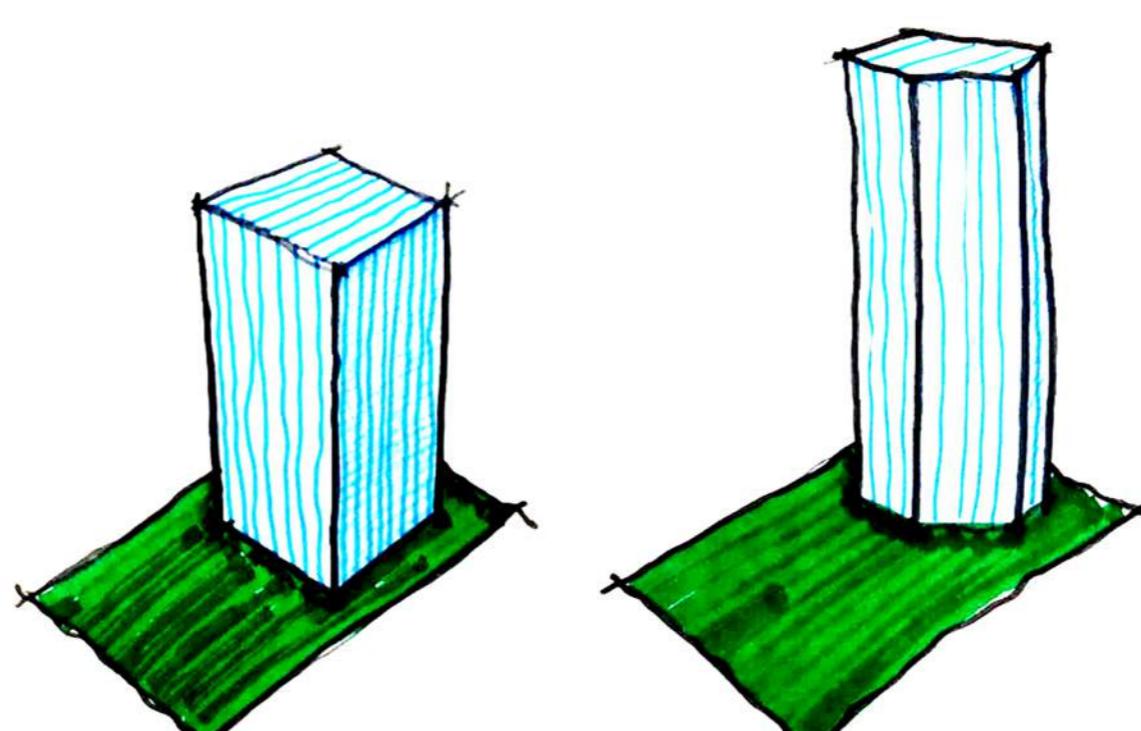
## SITE LOCATION

Milieu: Surrounding context

Issues: Connectivity  
Circulation  
Access

Observations: Lack of Vacant Sites  
Encroached Areas  
Future Developments  
Footfall  
Surroundings

Guidelines: 1. No Redevelopment of Legal Buildings  
2. Encroached Sites Can Be Used for New Proposal  
3. Vacant sites can be used for new proposal



## BUILDING HEIGHT

Milieu: Built form

Issues: Views and vistas  
Setback  
Shadow patterns  
Vertical accessibility  
Skyline

Observations: Dense footprint in surrounding areas  
On-street parking  
Less parking space  
Less pedestrian spaces  
Parvati

Guidelines: 1. Vertical parking system  
2. Achieving accessibility to elevated BRT route  
3. Less than 50% ground coverage

## ACCESSIBILITY

Milieu: Accessibility to Site, Nala

Issues: Pedestrian Access  
Vehicular Access  
Universal Accessibility

Observations: No Proper Segregation of Vehicular and  
Pedestrian Movement  
Negligence Towards Pedestrian Access  
No Universal Accessibility

Guidelines: 1. Segregation of pedestrian and vehicular  
movement to provide a safe environment  
2. Maximum importance to pedestrians with  
minimum vehicular movement  
3. Universal accessibility shall be incorporated  
4. Pedestrians should feel safe and close to nature



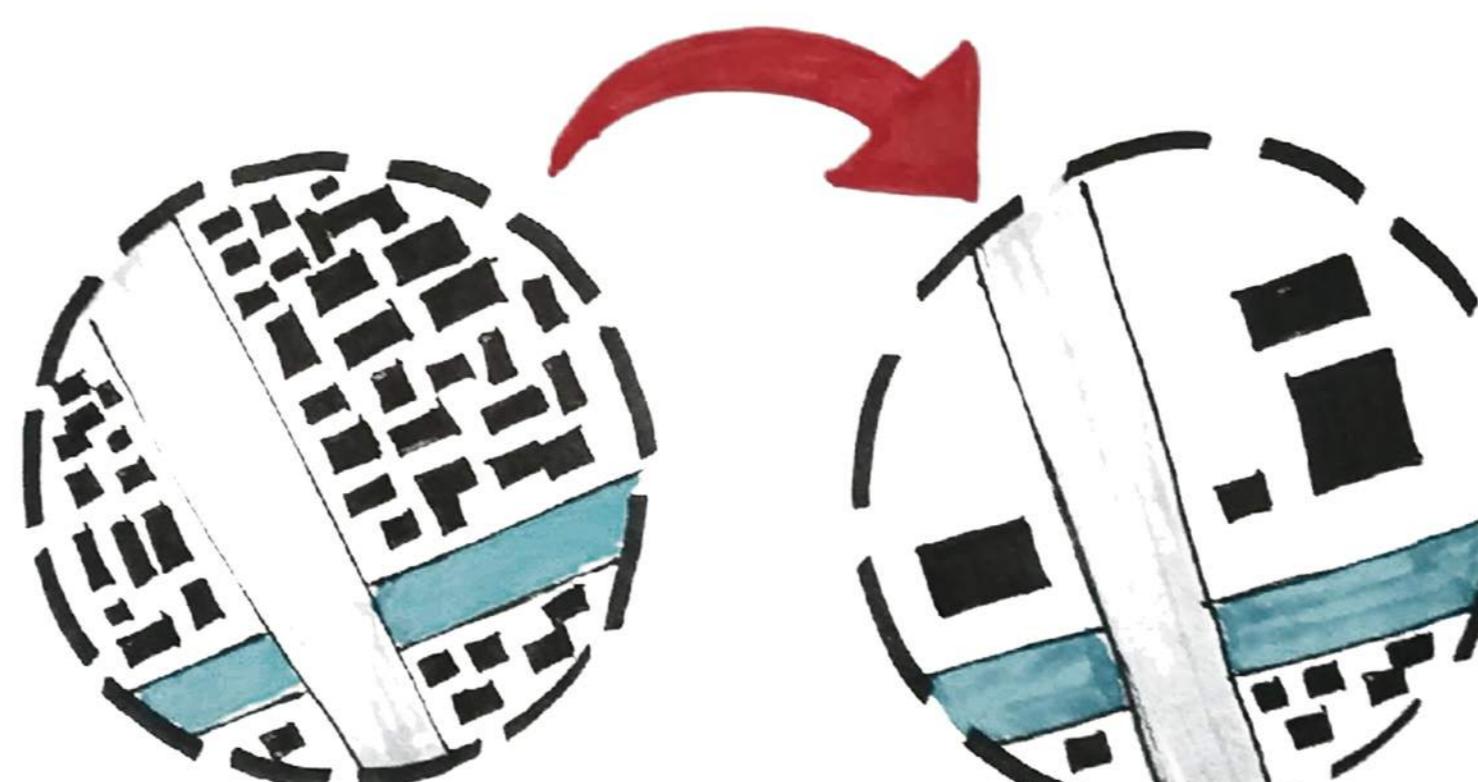
## ROAD WIDTH

Milieu: Along nala, within the site

Issues: Pedestrian roads  
Vehicular roads

Observations: No standard road width is maintained along the existing site.

Guidelines: 1. Separate pedestrian roads,  
2. More importance to pedestrian roads hence large widths  
3. Bus Route will have different road width considering the circulation of buses.



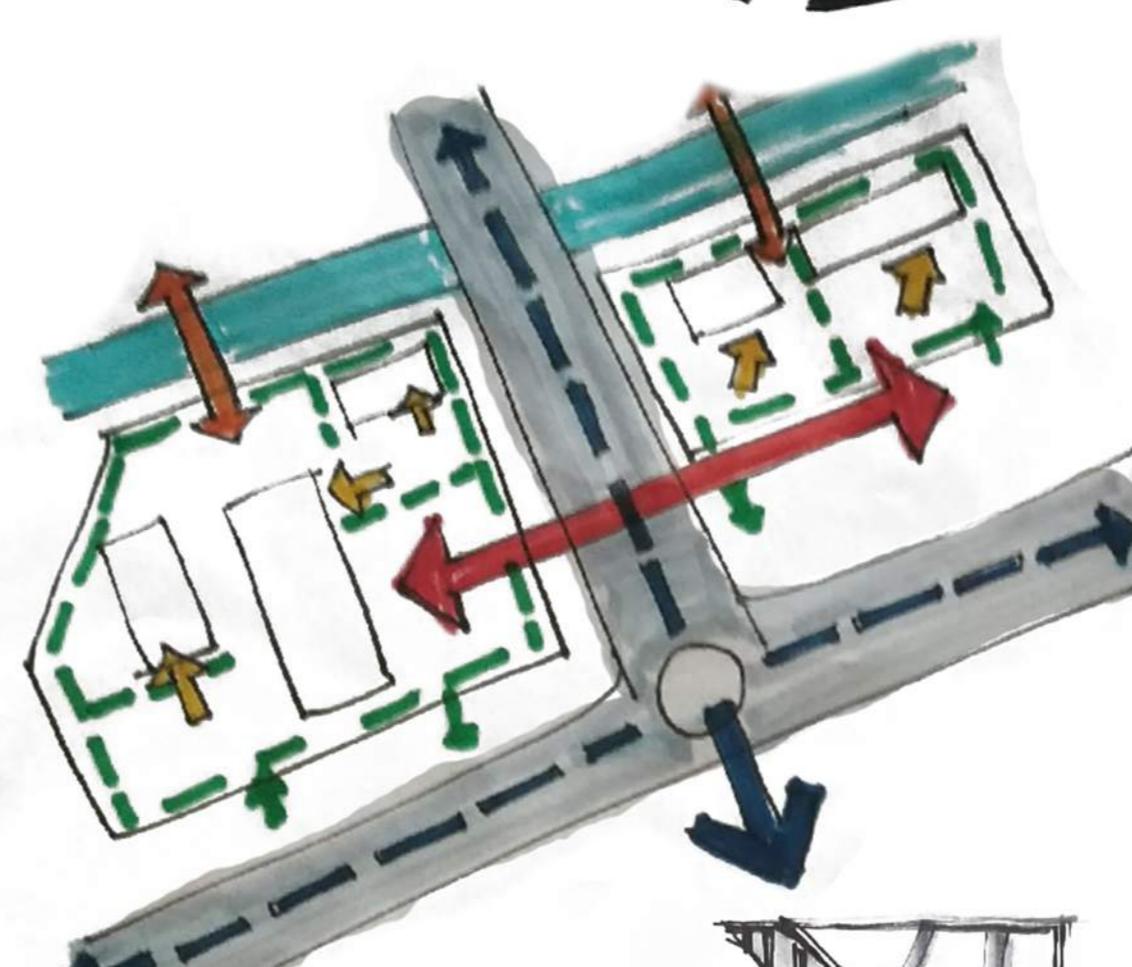
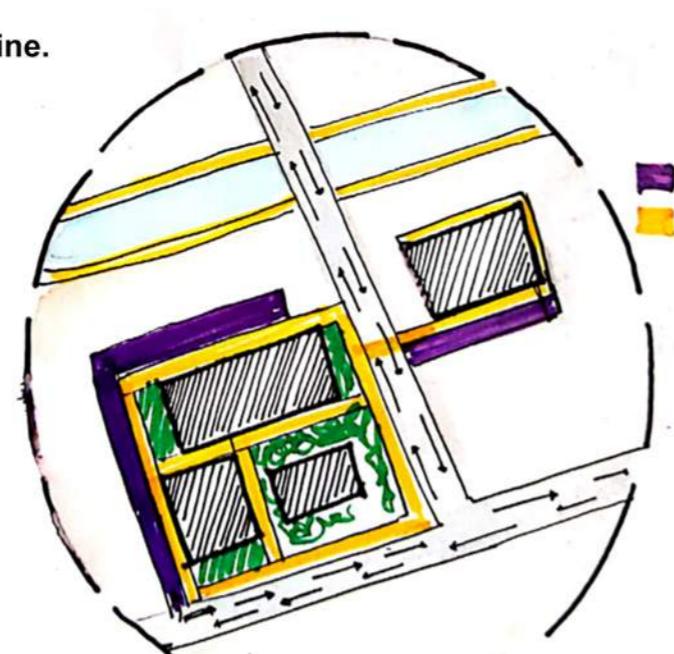
## SKYLINE

Milieu: For built spaces.

Issues: Building heights  
View and vistas  
Shadow pattern

Observation: Low rise buildings and slums with haphazard skyline.  
Feeling of open-ness

Guidelines: 1. Relatively highrise skyline  
2. Broad distance between two buildings



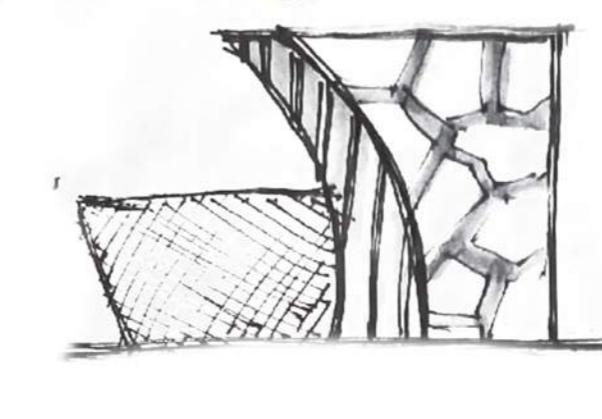
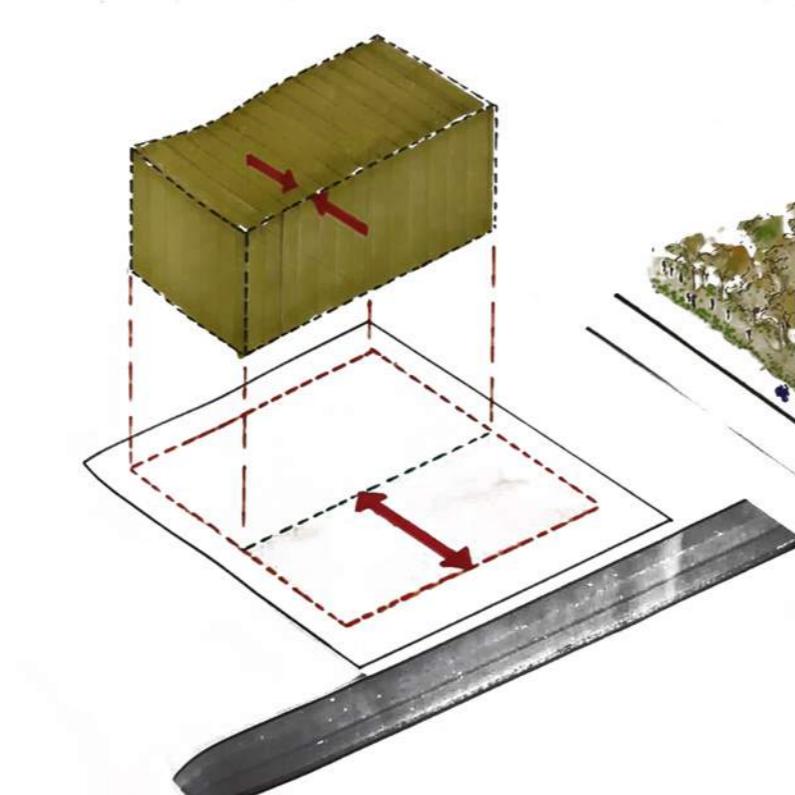
## ZONING

Milieu: For built and unbuilt spaces

Issues: Functionality

Observations: Encroached land  
No proper zoning on existing site.

Guidelines: 1. Separate vehicular zone.  
2. Parking building separate from the main structure.  
3. Separate recreational zone  
4. Recreational zone to be close to Ambil Odha.  
5. Ambil odha corridor as a social interaction zone



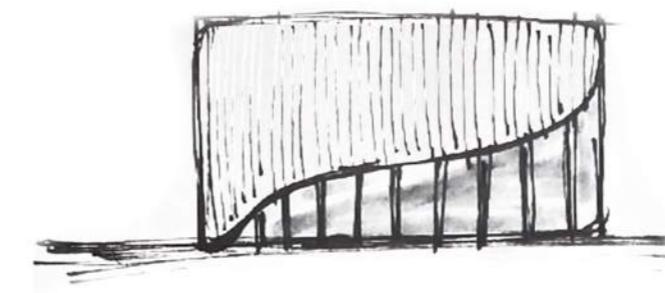
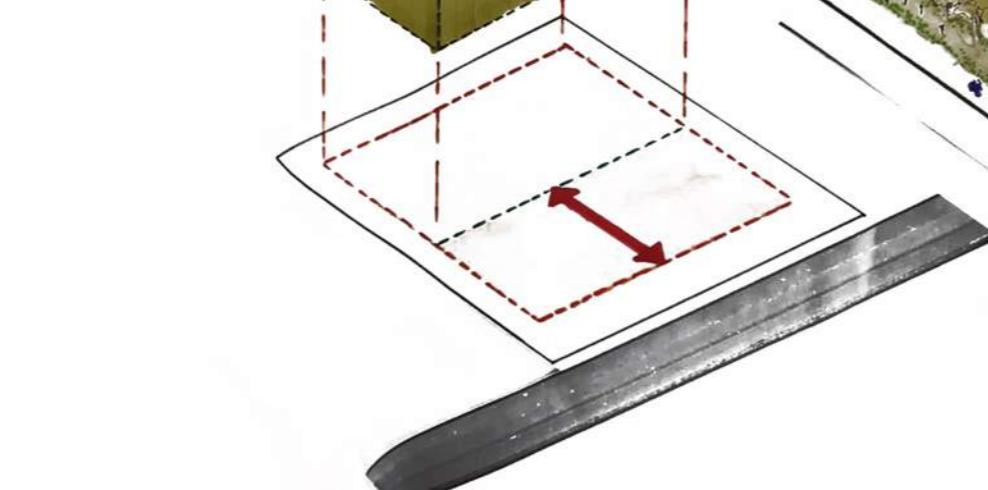
## GROUND COVERAGE

Milieu: For built spaces, Footprint, Along nala

Issues: Massing  
Density

Observation: Ground coverage/Footprint not  
maintained on existing site  
Maximum footprint

Guidelines: 1. Achieving less footprint density  
2. More open space  
3. Less than 40% ground coverage



## SETBACK

Milieu: Building line

Issues: Public space  
Convneticity to the structure  
Landscape  
Safety and services

Observations: No setbacks in encroached areas  
Setbacks used for parking  
Buildings within red line areas  
No space for road widening

Guidelines: 1. Walkable setback on the nala edge  
2. Green buffer on road sides for noise reduction  
3. No projections in setback area  
4. Visual and physical connectivity to nala

## BUILDING HEIGHT

Milieu: Built form

Issues: Views and vistas  
Setback  
Shadow patterns  
Vertical accessibility  
Skyline

Observations: Dense footprint in surrounding areas  
On-street parking  
Less parking space  
Less pedestrian spaces  
Parvati

Guidelines: 1. Vertical parking system  
2. Achieving accessibility to elevated BRT route  
3. Less than 50% ground coverage

## UNIVERSAL ACCESSIBILITY

Milieu: Access

Issues: Vertical circulation  
Walkability  
Materials and Textures

Observations: No specific universal design introduced.

Guidelines: 1. Appropriate ramps and lifts wherever necessary  
2. Natural textures  
3. Watercourse accessible to everyone

## BUILT-UNBUILT

Milieu: For built forms  
Recreational and open spaces  
Pathways

Issues: Massing  
Circulation  
Building edge  
Concourses and concaves  
Orientation  
air and light ventilation

Observations: Very dense development  
Indifferent building edges  
Less unbuilt spaces with bad connectivity

Guidelines: More interactive unbuilt spaces  
Nala as the primary unbuilt space linked  
to other unbuilt areas

## CIRCULATION

Milieu: Linkages

Issues: Accessibility  
vehicular and pedestrian circulation  
Displacement

Observations: Heavy vehicular traffic  
No physical accessibility to nala  
No pedestrian and vehicular segregation  
Congestion

Guidelines: 1. Entry/exit away from nodes to avoid congestion  
2. Access from elevated BRT route  
3. Minimum vehicular circulation on site  
4. Maximum pedestrian circulation on site

## ENVELOPE

Milieu: Façade, Character

Issues: Imageability  
Climate response  
Orientation

Observations: No designed envelopes around  
No certain character or form  
Slums are not climate responsive

Guidelines: 1. Modern  
2. Futuristic  
3. Climate responsive  
4. Minimum mechanical light and air  
5. Locally available materials

## GUIDELINES

## STRUCTURE PLAN

1. Connecting Ambil Odha and right bank canal with a underpass below Sinhgad road so that people can walk along the two water corridors with an easy connection.

2. Providing a large social gathering space on the watercourse near vaikuntha smashan bhumi specially dedicated for religious rituals.

3. connecting sarasbaug rith righbank canal using a underpass. Shifting sarasbaug's entire food court and gaming area along the nala. In a way this connects the site two to site one. Having a connection of swargate bus station and right bank canal will connect the site 1 to the swargate bus station by the means of right bank canal.

4. western boundary of Pune - Satara road as a commercial zone which has a heavy footfall.

5. Having perpendicular green roads which shall have wider footpaths and narrow roads to promote the pedestrian linkage from satara road to the ambil odha corridor.

6. At the nodes of these green roads and ambil odha, there shall be social interaction zones at certain distances.

7. Providing underground wells or tanks at the major turn of ambil odha, which will help in reducing the water level during flood times and which shall also store the excess water for future use.

8. Connecting site 3 and 4 with a underpass below satara road and designing the entire node as a cultural district.

9. Site 5 as an extension of Katraj zoo premises which will have an advantage of footfall at katraj zoo.



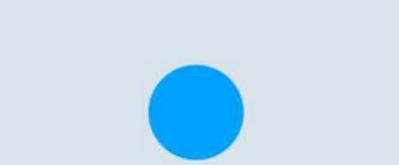
PEDESTRIAN CONNECTIVITY



SOCIAL GATHERING SPACE



GREEN ROADS



UNDERGROUND WELL



SITES OF INTERVENTION



PUNE - SATARA ROAD



COMMERCIAL ZONE



## CONCEPTUALIZING

URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?

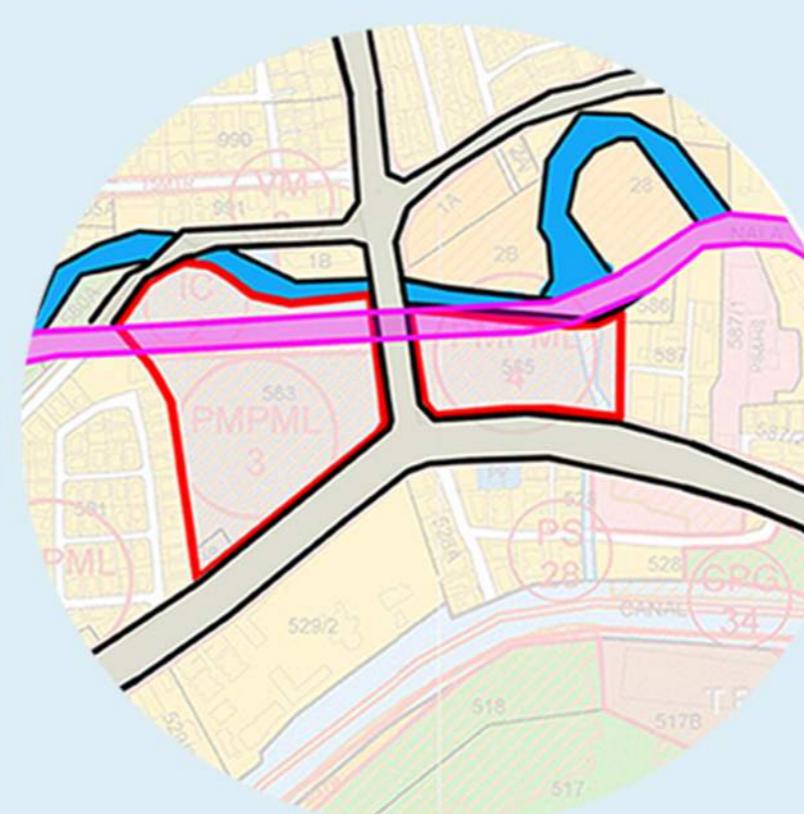
TEAM 1-B  
Pranita Badade  
Sanskriti Jadhav  
Prathmesh Nazarkar



Area of intervention



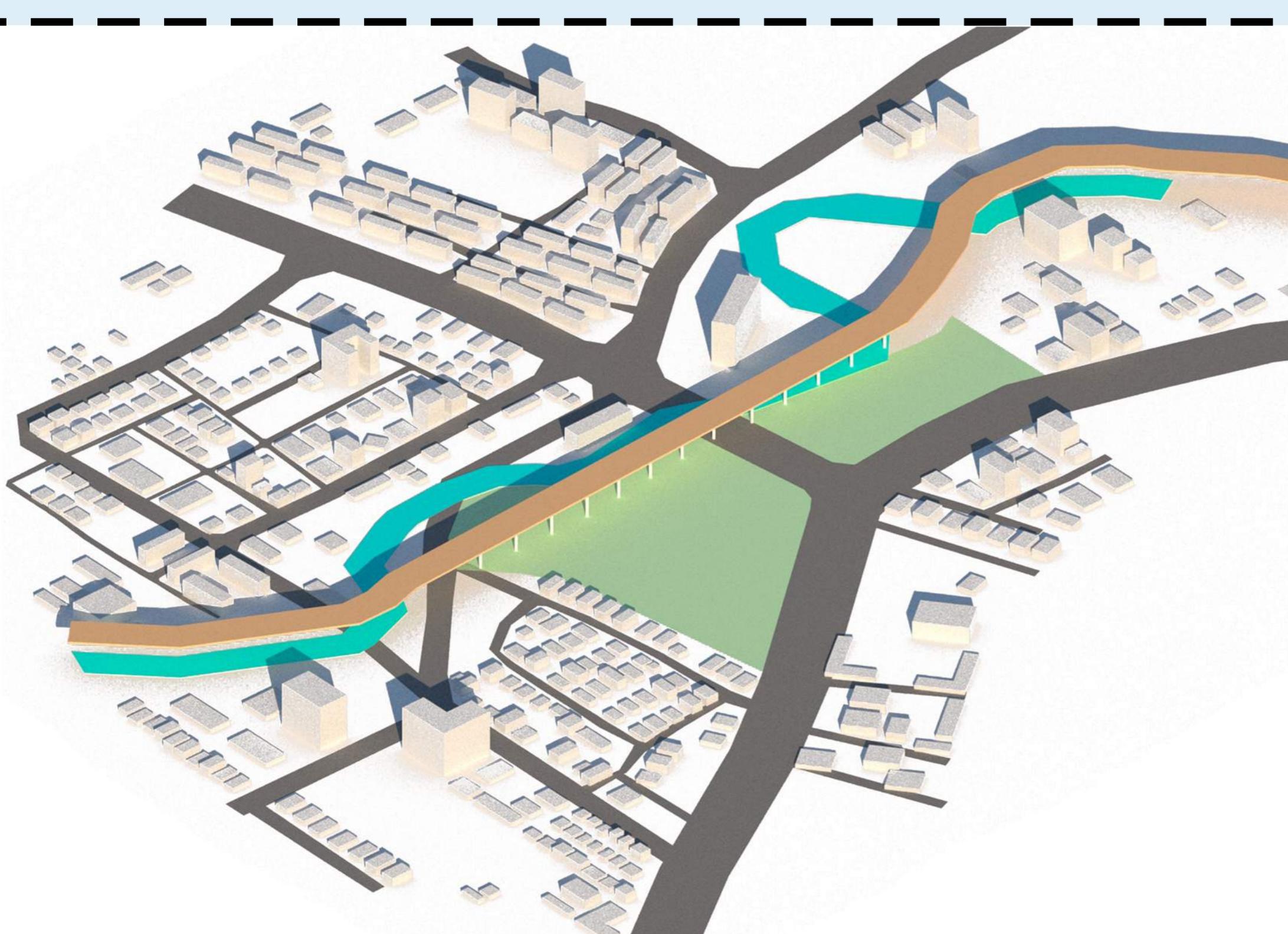
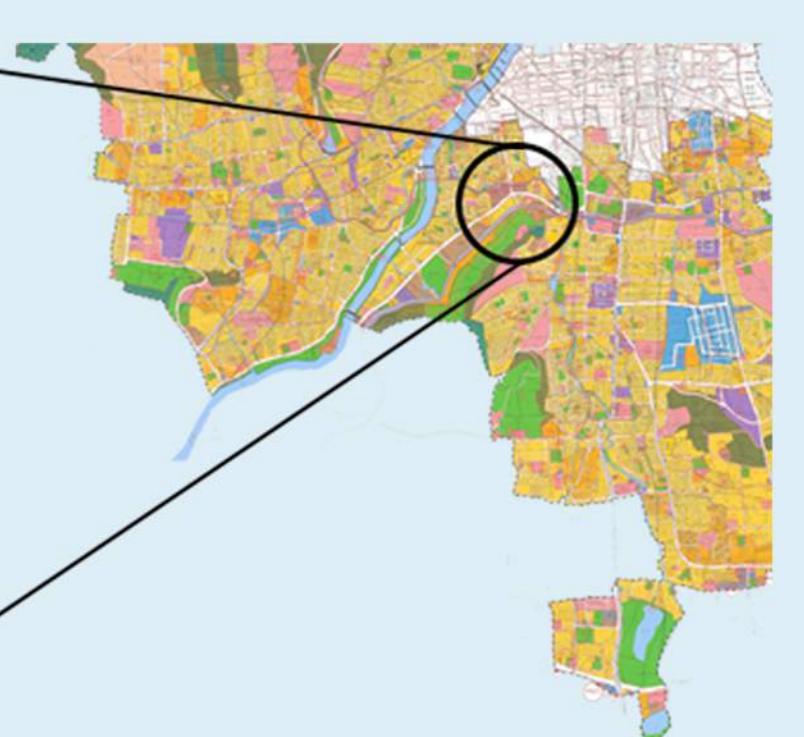
Satellite view



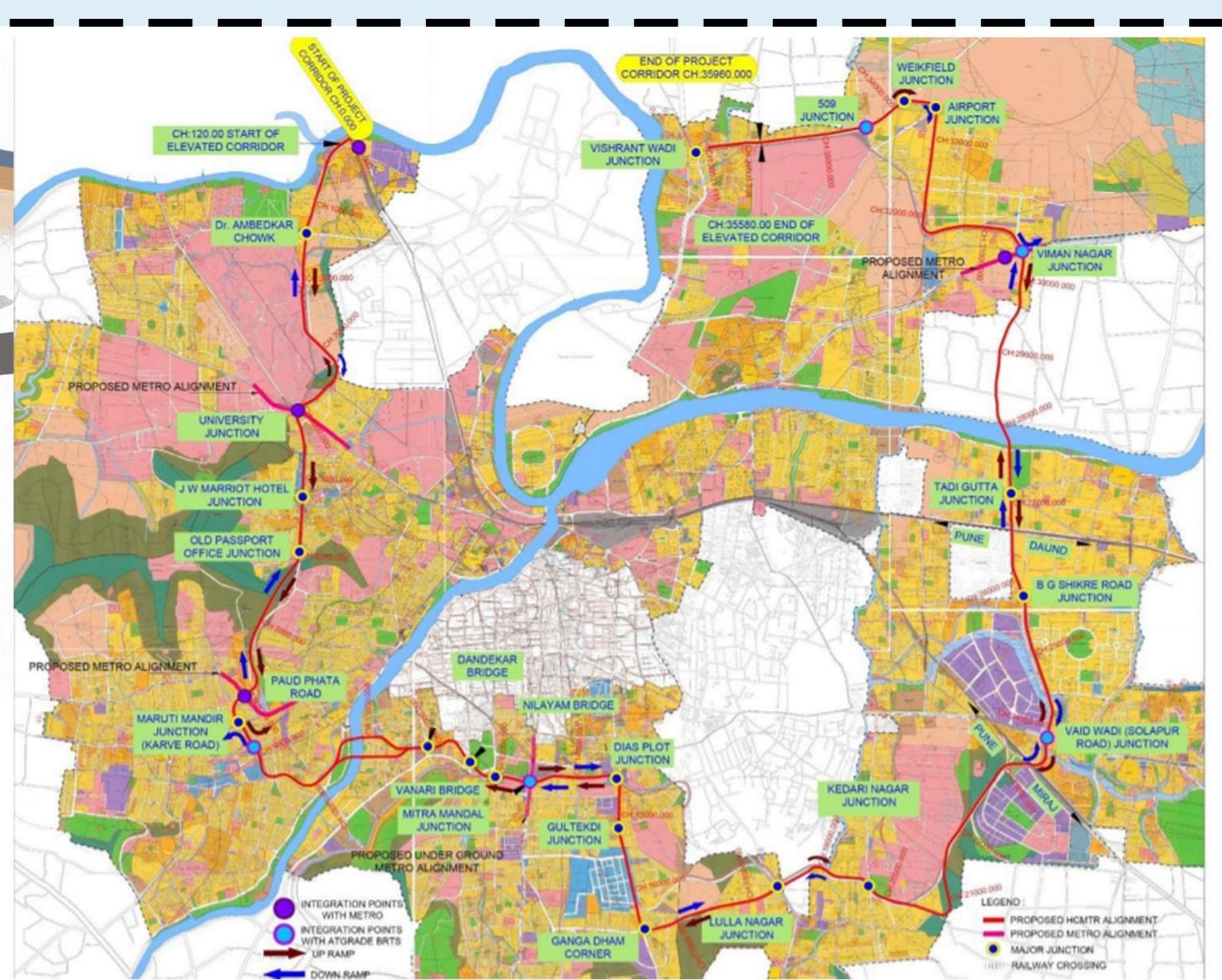
Road network



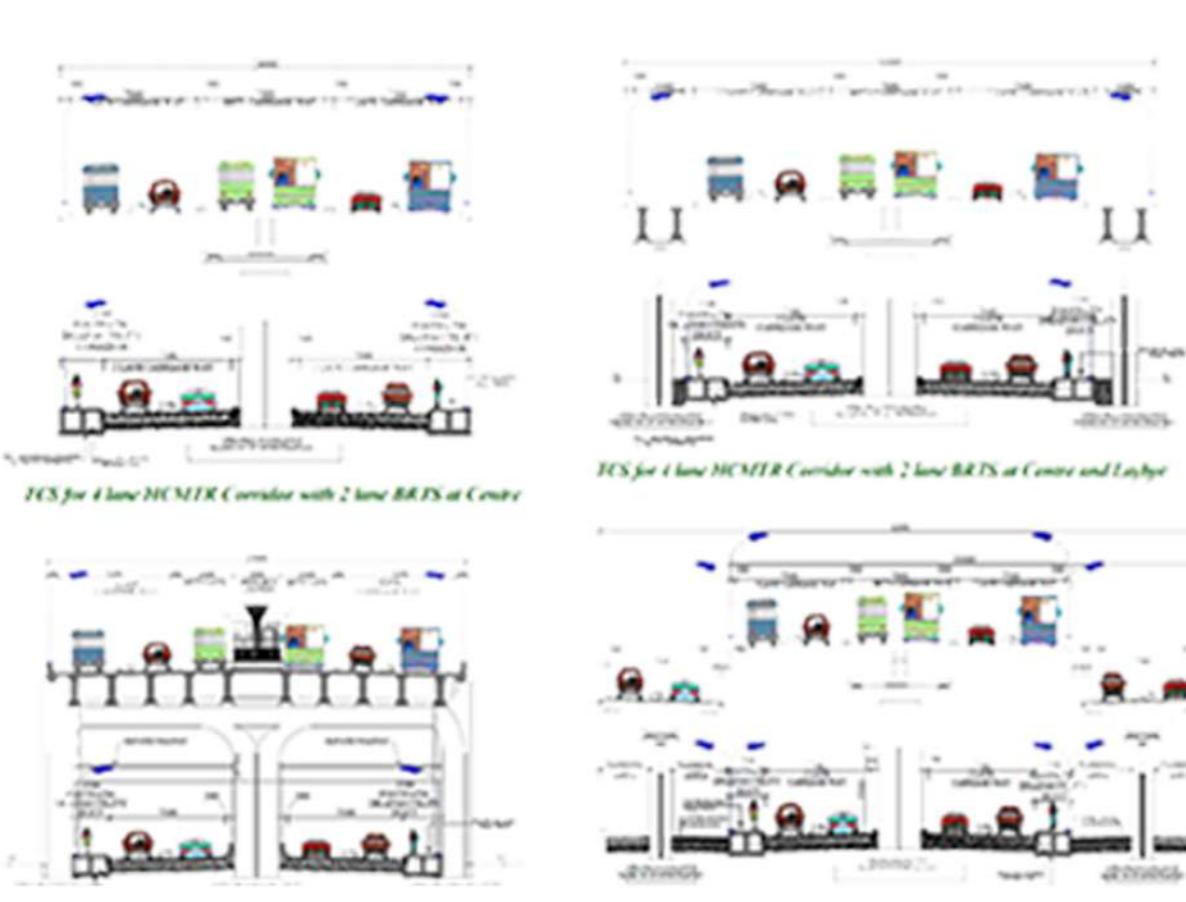
Development plan



Site view



HCMTR network



#### HCMTR AIM AND OBJECTIVES

Aim of this project is to de-congest roads in the city as heavy vehicles can travel via the ring road to bypass Pune instead of entering the city

#### OBJECTIVES

Improve the Public Transportation System

Improve Safety and Level of Service for Private Traffic, both Local and Through Traffic by increasing the mobility

To meet the future travel demand and to Reduce the traffic congestion on existing roads

Facilitate Continuous and Uninterrupted Traffic Movements for Through Traffic

Savings in Travel Time and Reduction in Vehicle Operating Costs

Reduce Negative Impact on Environment and Social Issues

Reduction in Pollution Levels

#### Traffic Demand on HCMTR for Horizon Year 2041

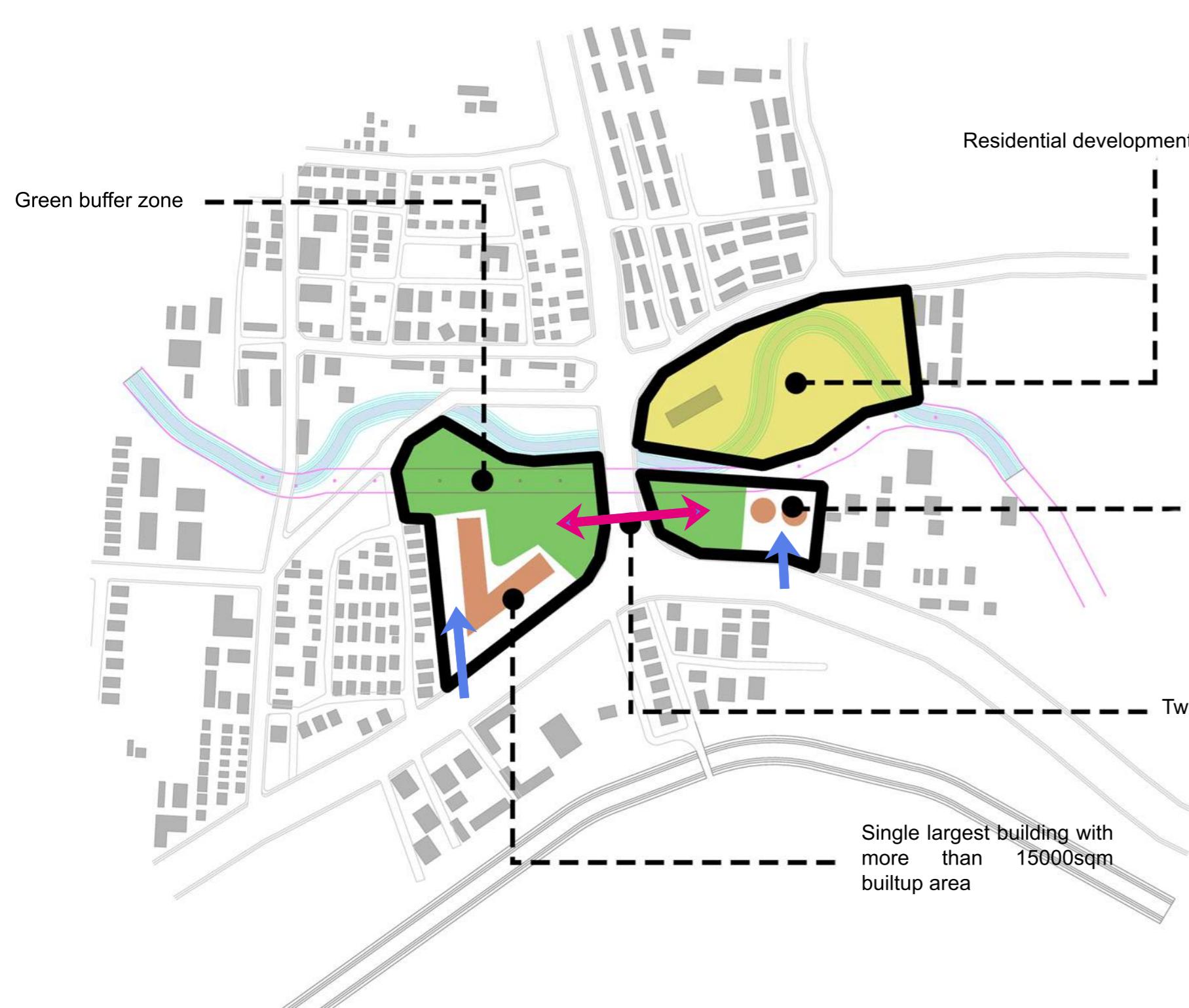
CATEGORY / YEAR	HS-1	HS-2	HS-3
	HCMTR CORRIDOR (PCU/DAY)		
Car/Jeep/Van -White Board	32,956	23,916	26,374
Car/Jeep/Van -Yellow Board	13,933	10,325	19,667
Mini Bus/Maxi Cab	1,076	1,611	1,572
Bus	2,549	1,053	403
<b>Total Private Vehicle Trips</b>	<b>50,514</b>	<b>36,905</b>	<b>48,016</b>
LCV	1,907	5,400	636
Truck 2 Axle	2,884	3,362	513
Truck 3 Axle	2,022	4,833	1,060
Trucks 4 to 6 Axle	3,576	5,368	2,632
MAV/ HCM / EMV	96	0	0
<b>Total Goods Trips</b>	<b>10,485</b>	<b>18,963</b>	<b>4,841</b>
<b>Total Trips in PCU/Day</b>	<b>60,999</b>	<b>55,868</b>	<b>52,857</b>
Maximum Section Traffic	60,999	PCU/Day	
Peak Hour Factor, k	0.1		
Peak Hour Section Traffic	6,099 PCU/Hr		4 Lanes are required

The horizon year Private vehicle traffic demand for the HCMTR corridor during 2041 is estimated as 60,999 PCU/Day. 4 lanes are adequate to cater to the Private vehicles traffic movement for the horizon years



## SITE ANALYSIS- SITE !

URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?



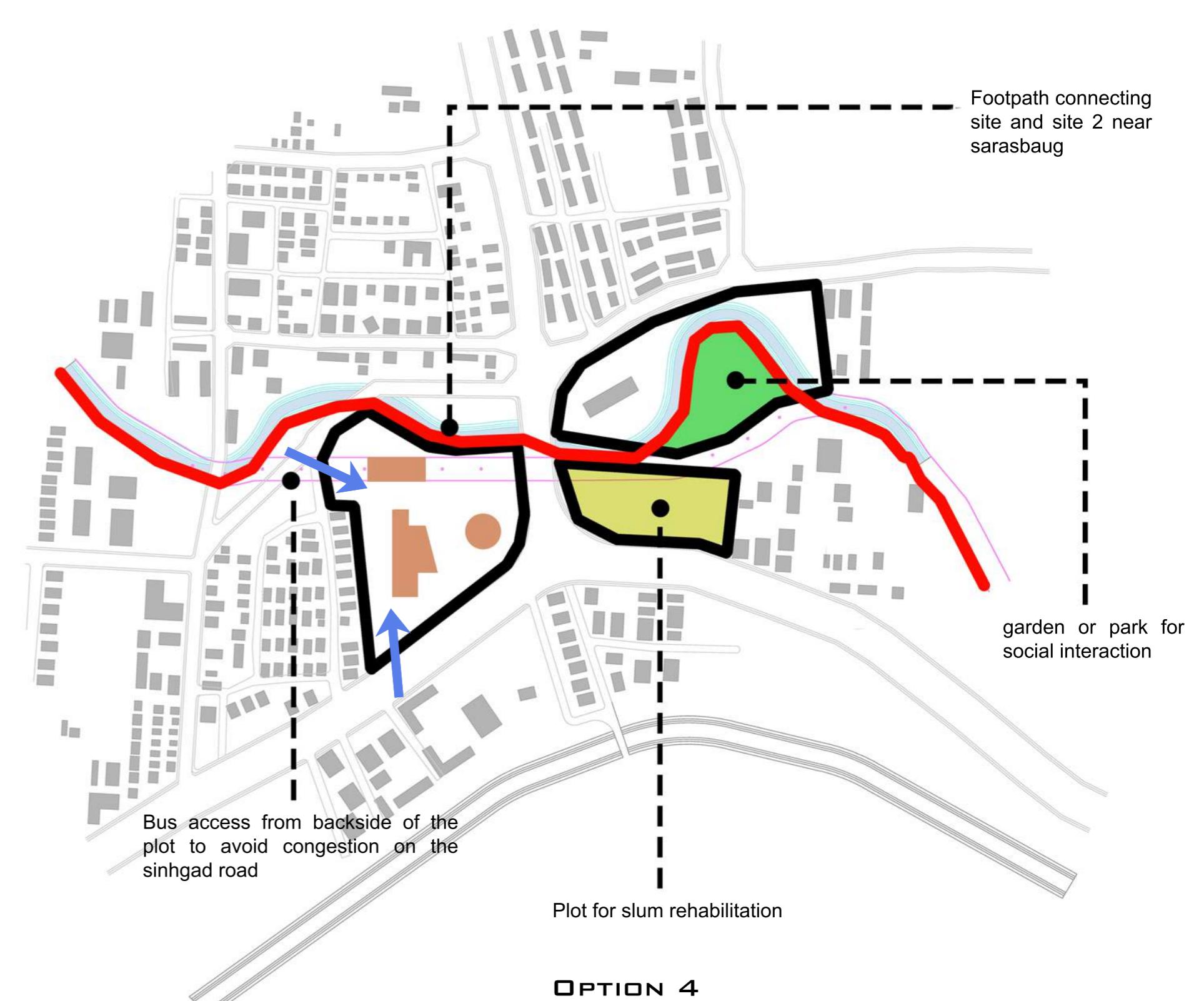
OPTION 1



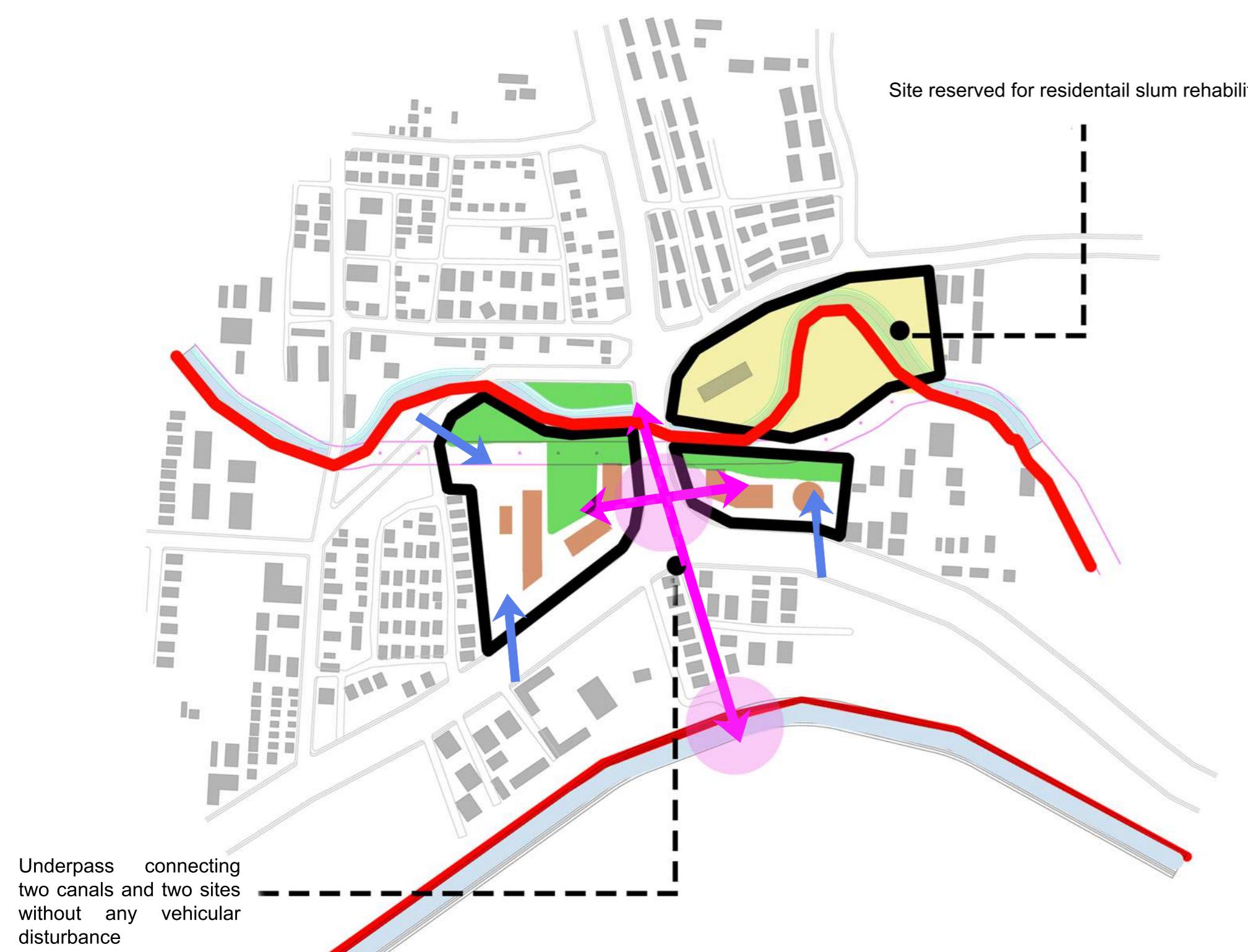
OPTION 2



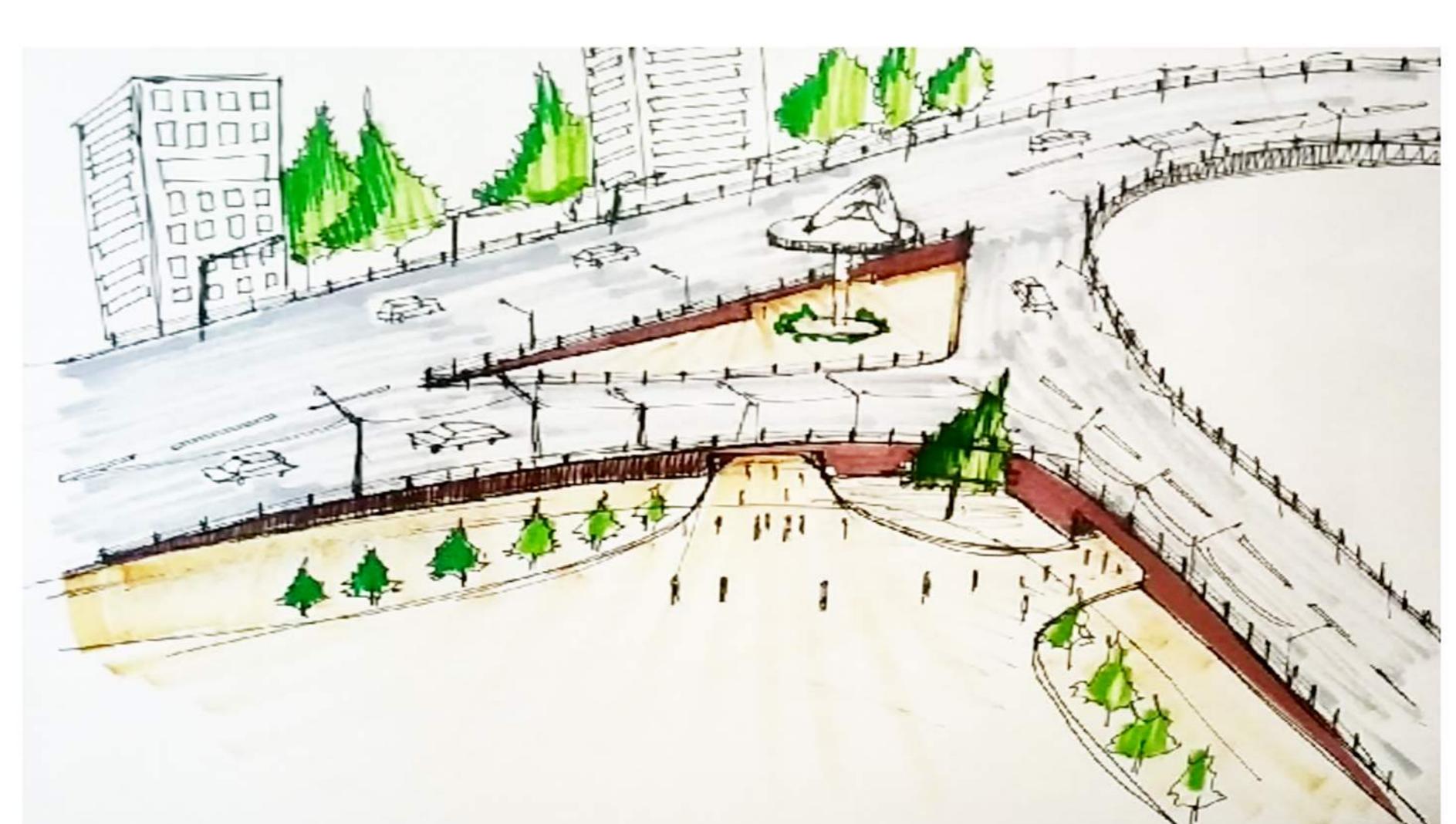
OPTION 3



OPTION 4



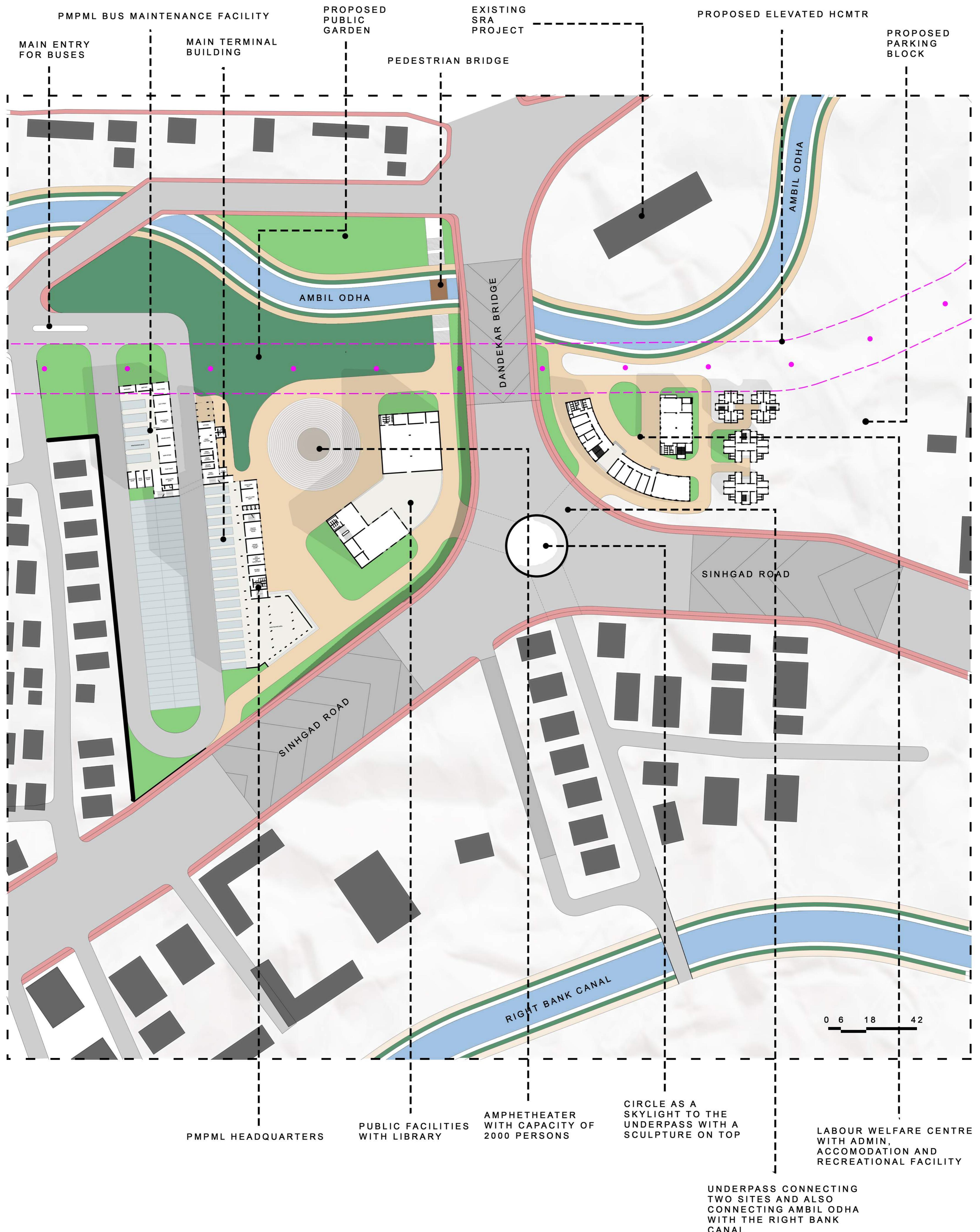
OPTION 5

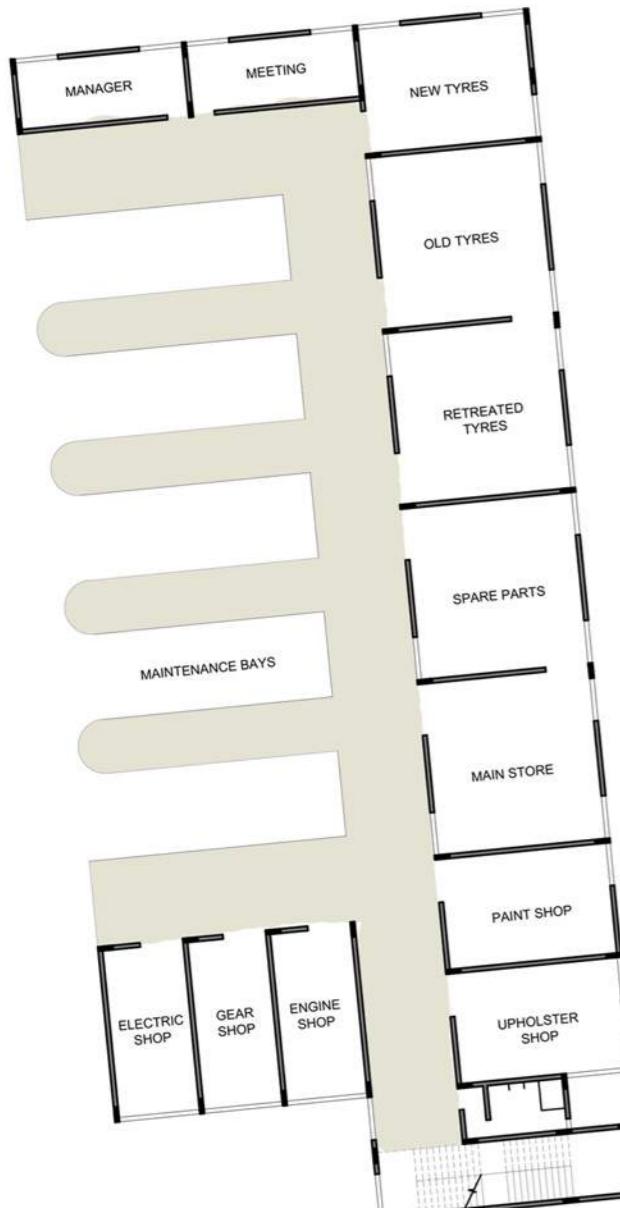


## IDEATION LAYERS

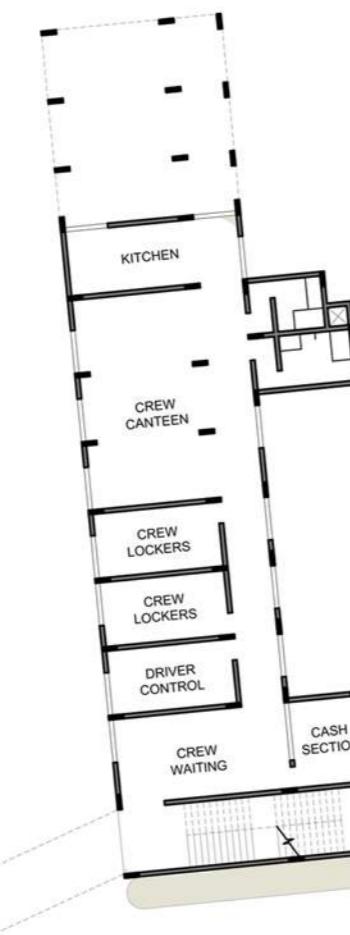
URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?

TEAM 1-B  
Pranita Badade  
Sanskriti Jadhav  
Prathmesh Nazarkar

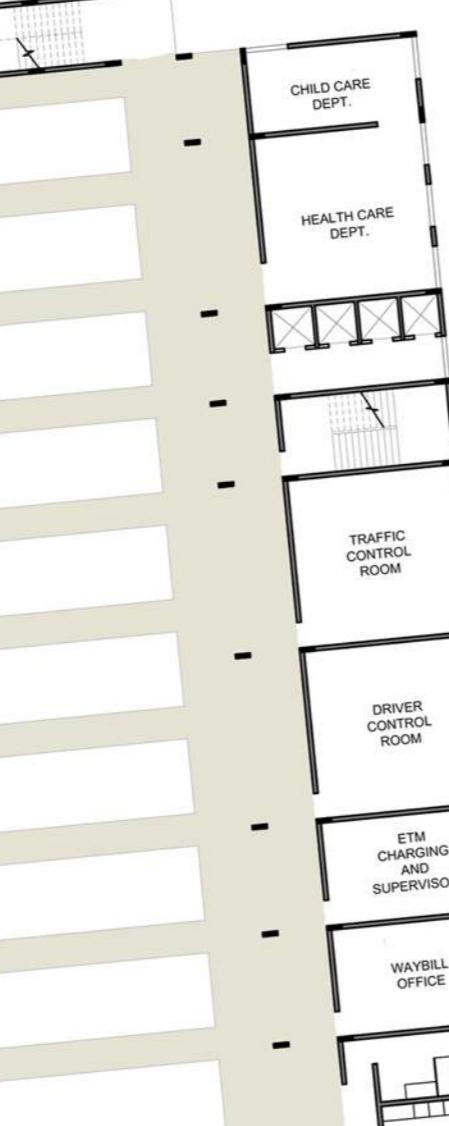




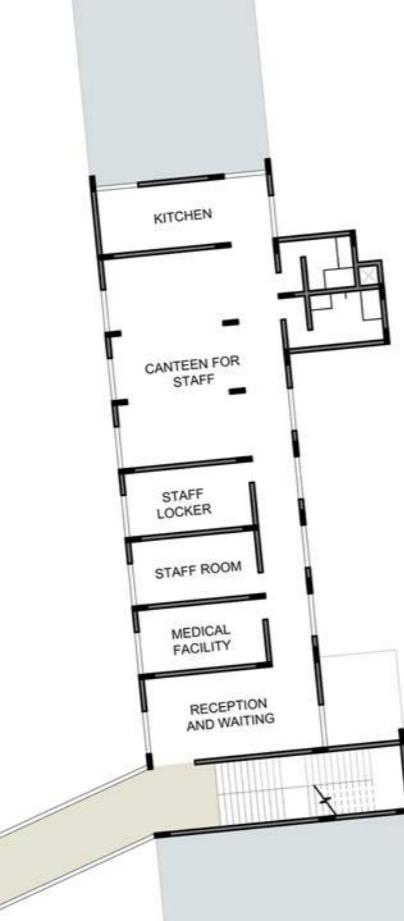
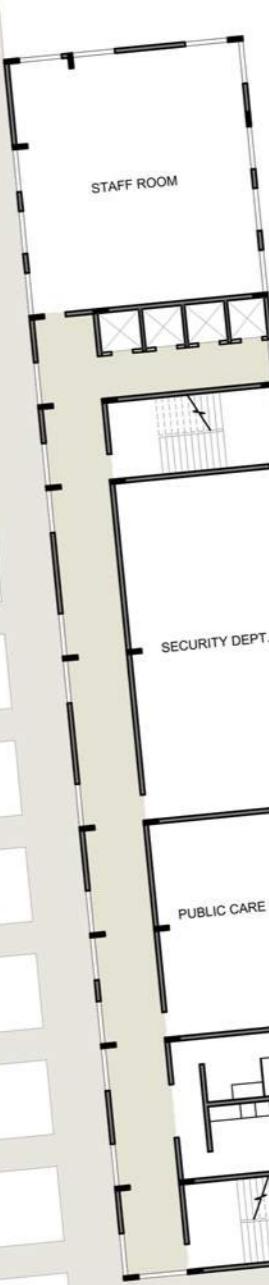
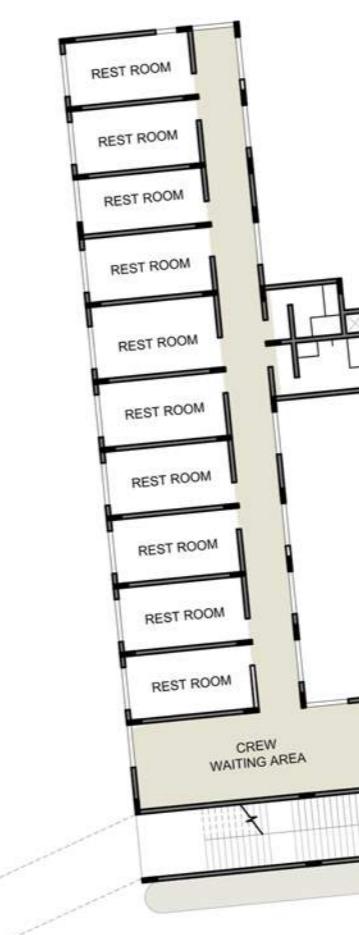
GROUND FLOOR PLAN



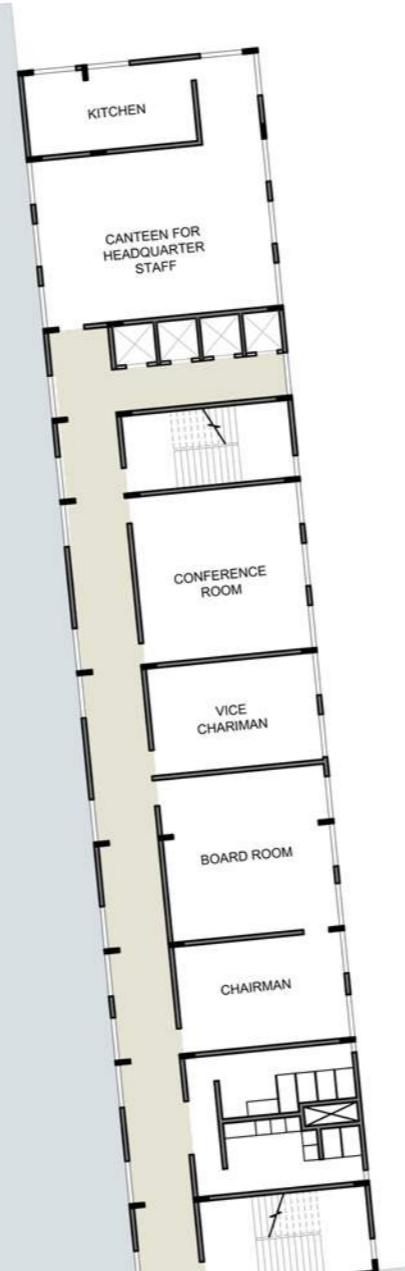
FIRST FLOOR PLAN



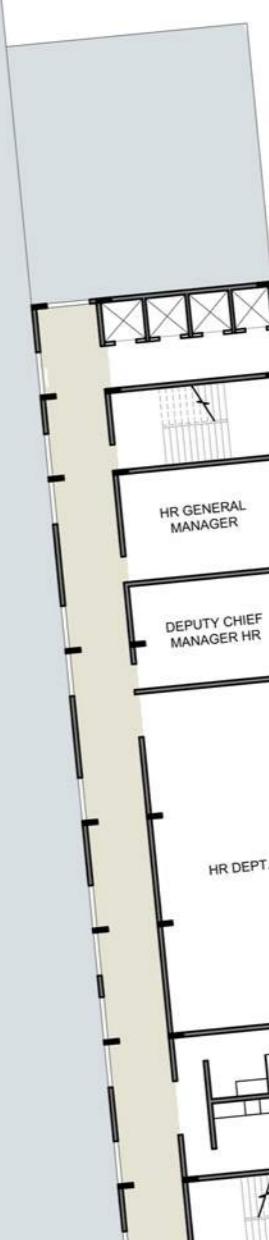
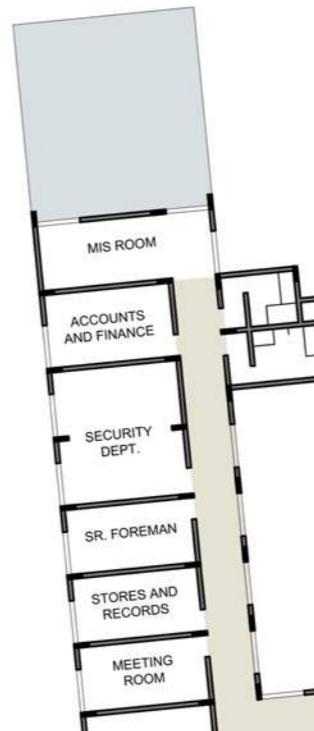
MAIN WAITING AREA



SECOND FLOOR PLAN



THIRD FLOOR PLAN



0 3 9 27

## PMPML-FLOOR PLANS

URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?



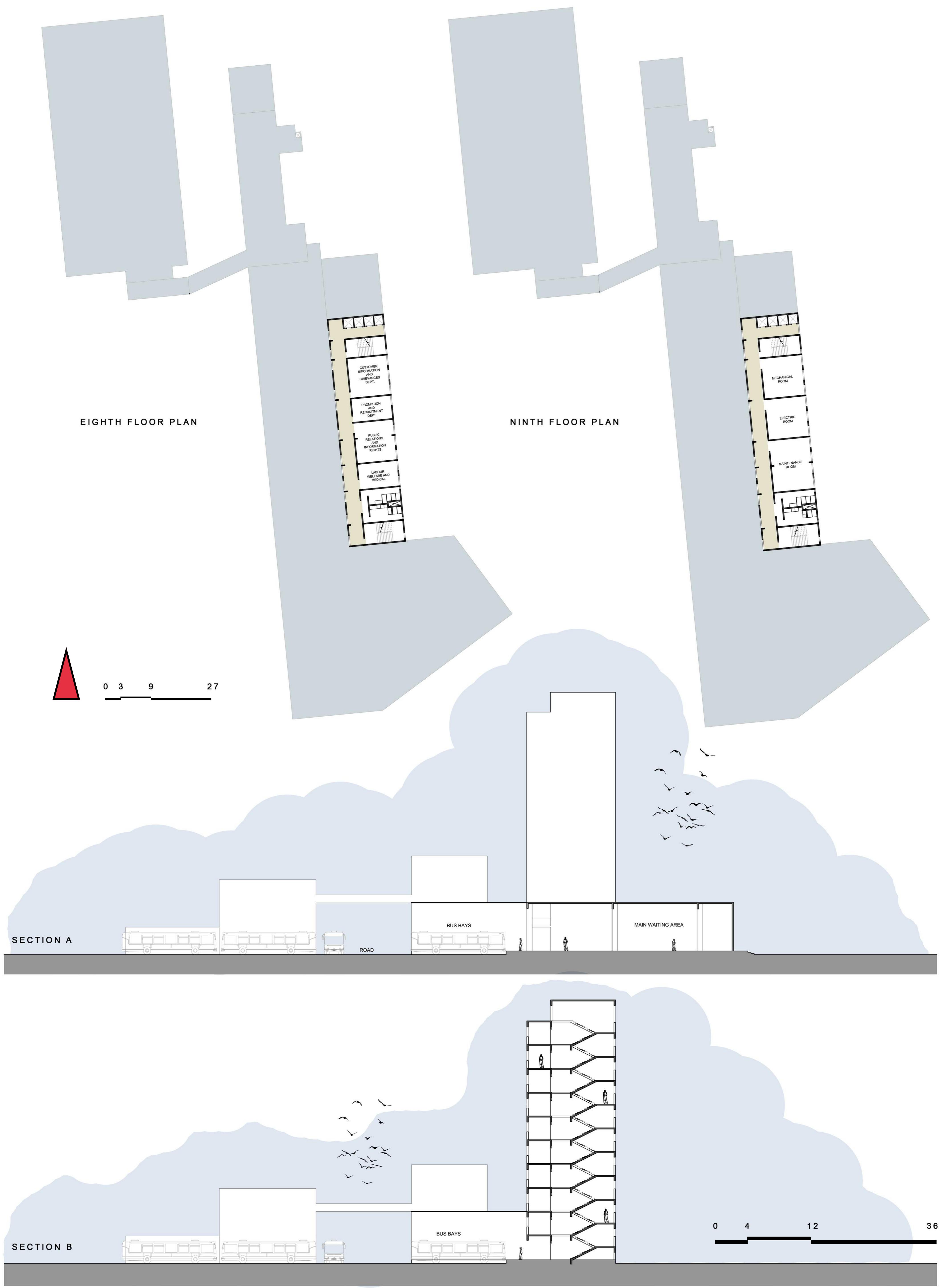


## PMPML-FLOOR PLANS

URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?

“यथे बहुताचे हित”

TEAM 1-B  
Pranita Badade  
Sanskriti Jadhav  
Prathamesh Nazarkar



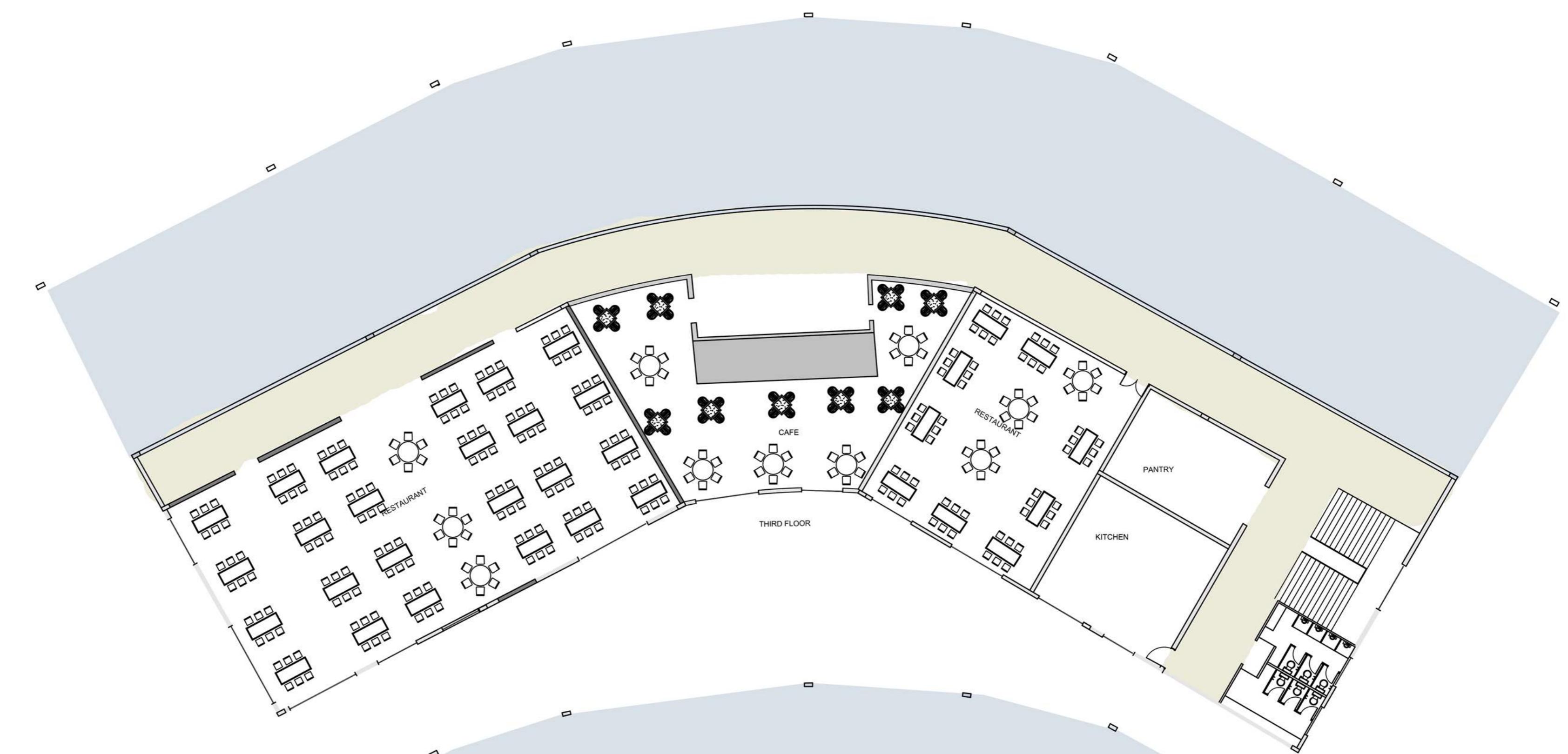
## PMPML-FLOOR PLANS

URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?

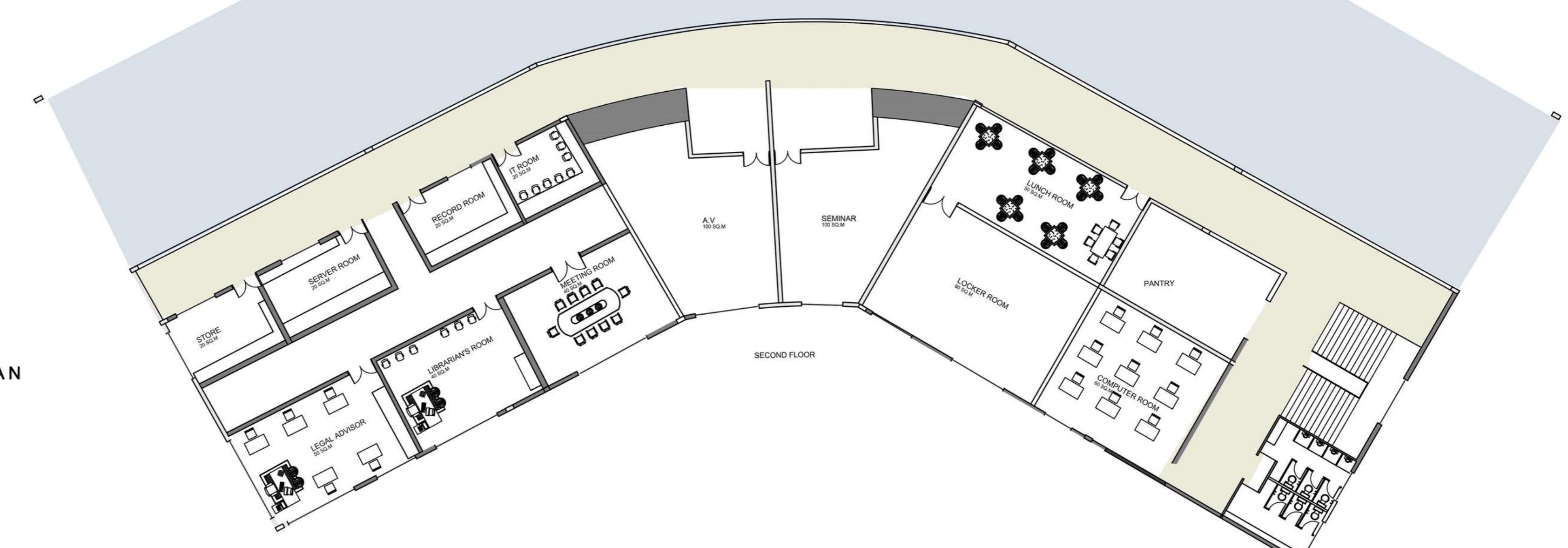
“यथे बहुताचे हित”

TEAM 1-B  
Pranita Badade  
Sanskriti Jadhav  
Prathmesh Nazarkar

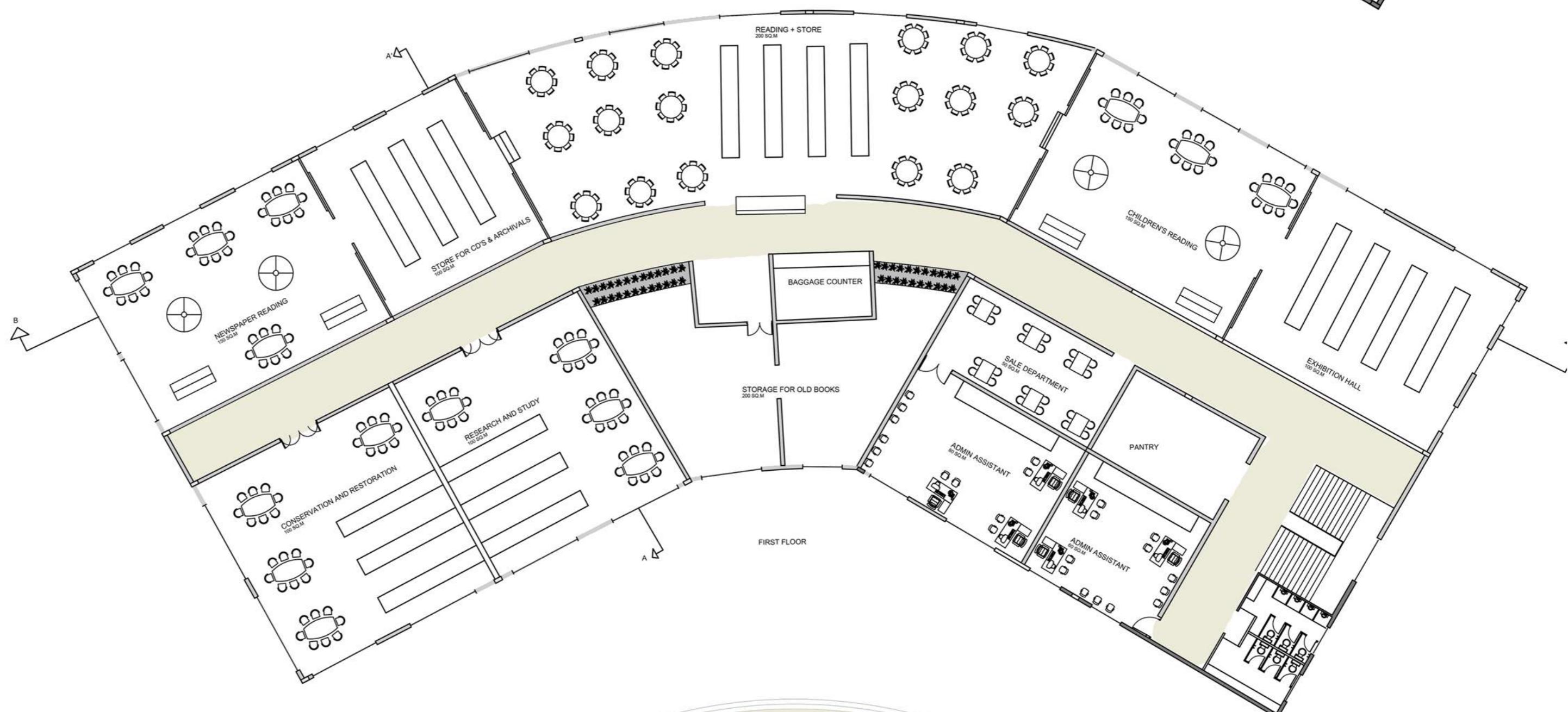
THIRD FLOOR PLAN



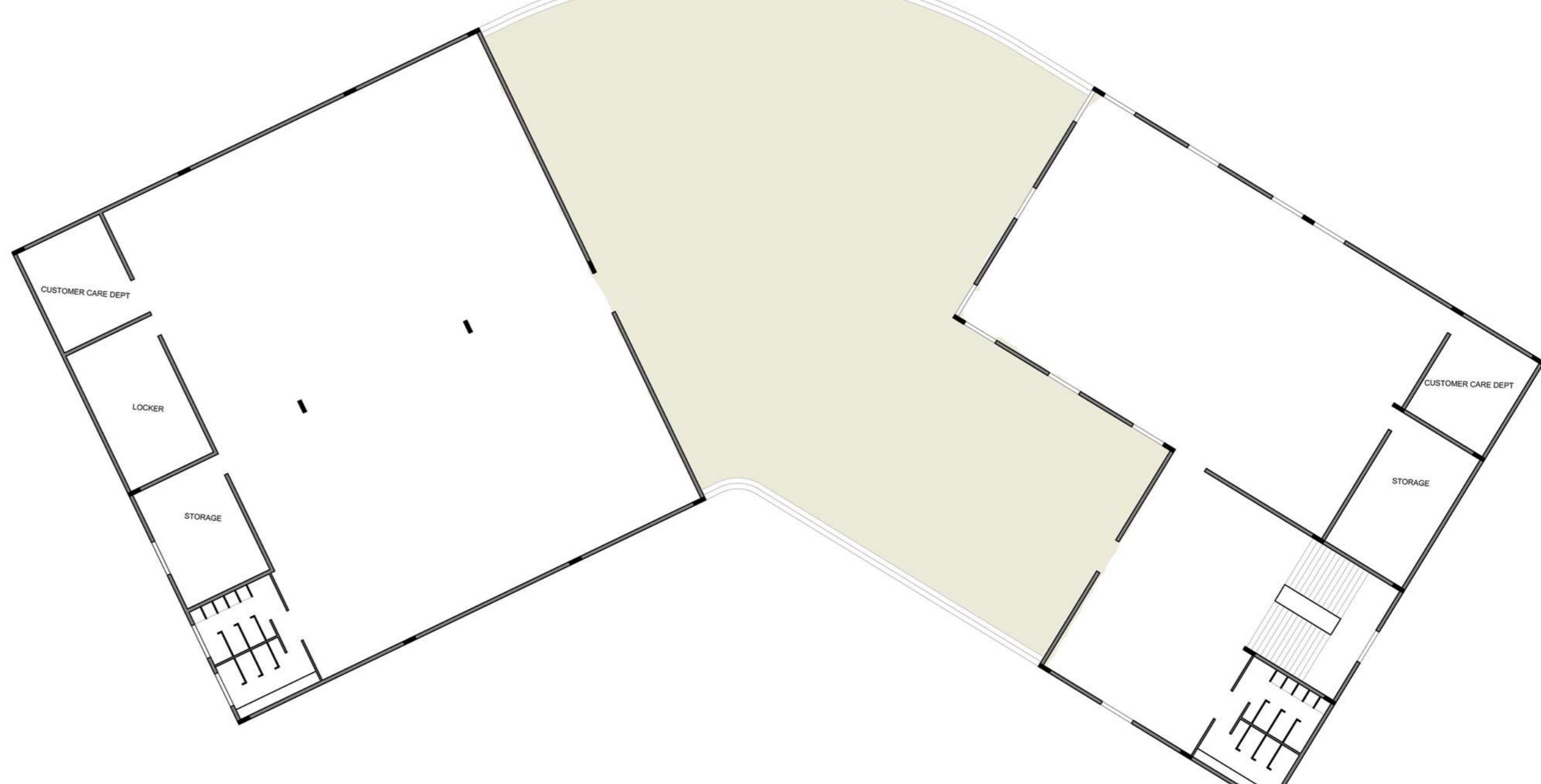
SECOND FLOOR PLAN



FIRST FLOOR PLAN



GROUND FLOOR PLAN



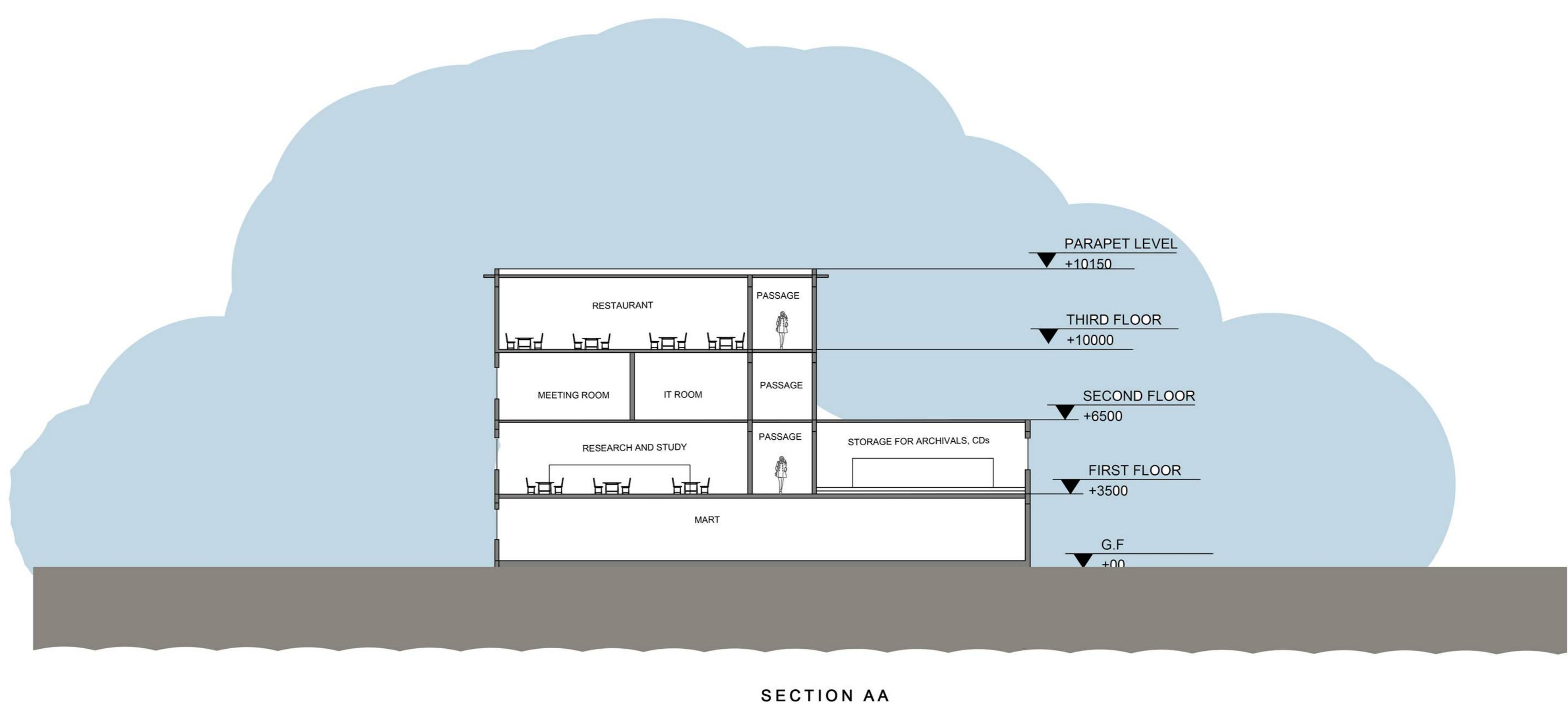
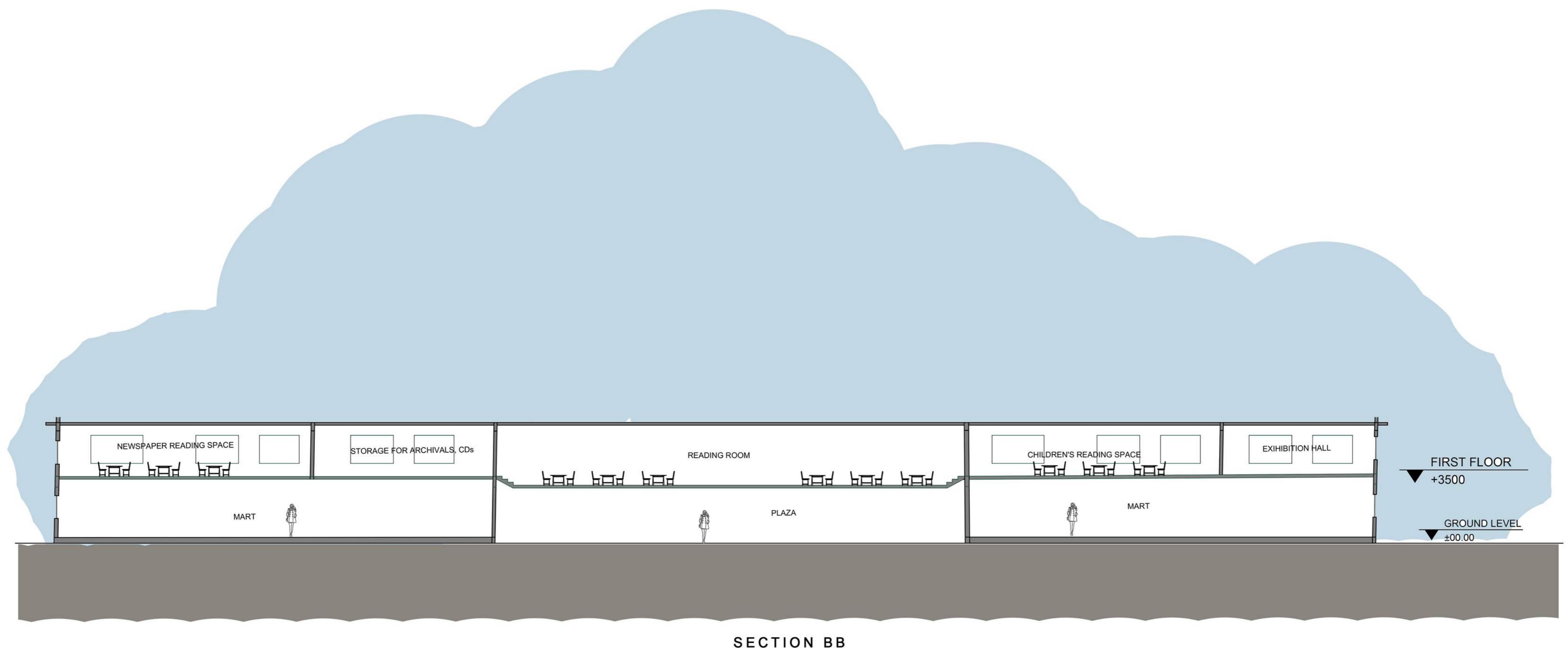
0 2.5 7.5 22.5

## LIBRARY FLOOR PLANS

URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?



TEAM 1-B  
Sanskriti Jadhav



0 3 9 27

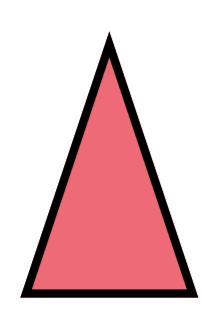
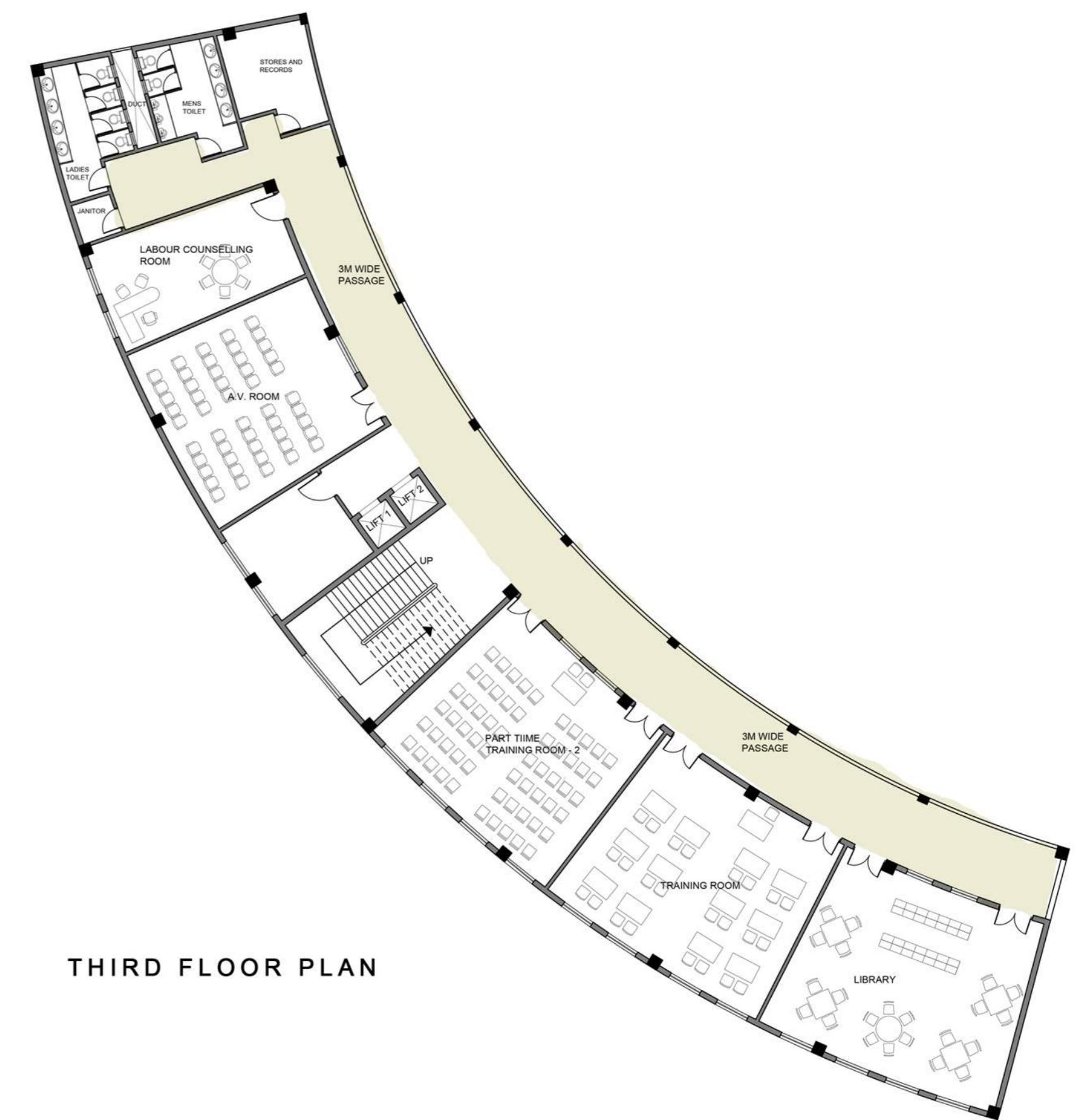


## LIBRARY SECTIONS

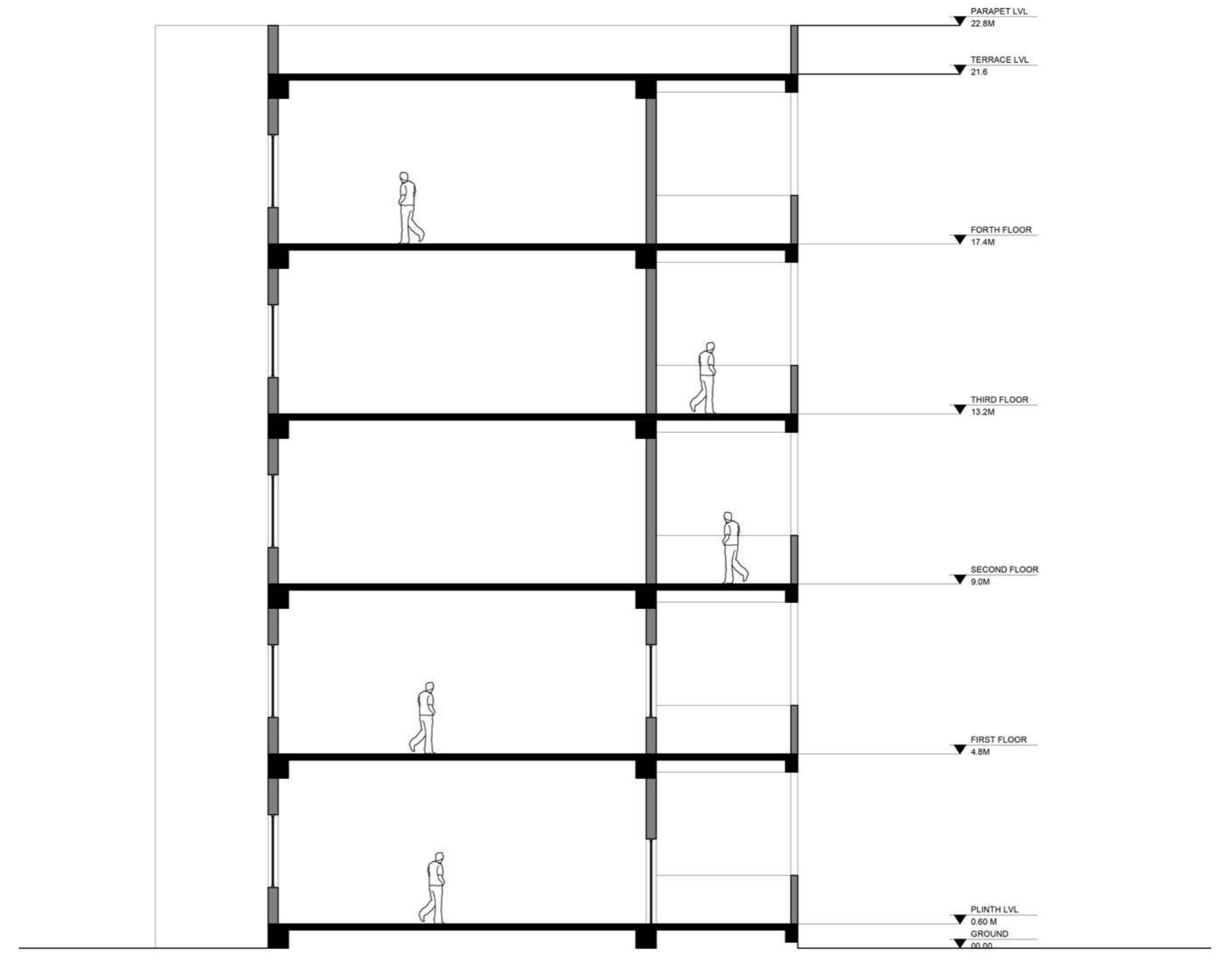
URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?

TEAM 1-B  
Sanskruti Jadhav

“यथे बहुताचे हित”



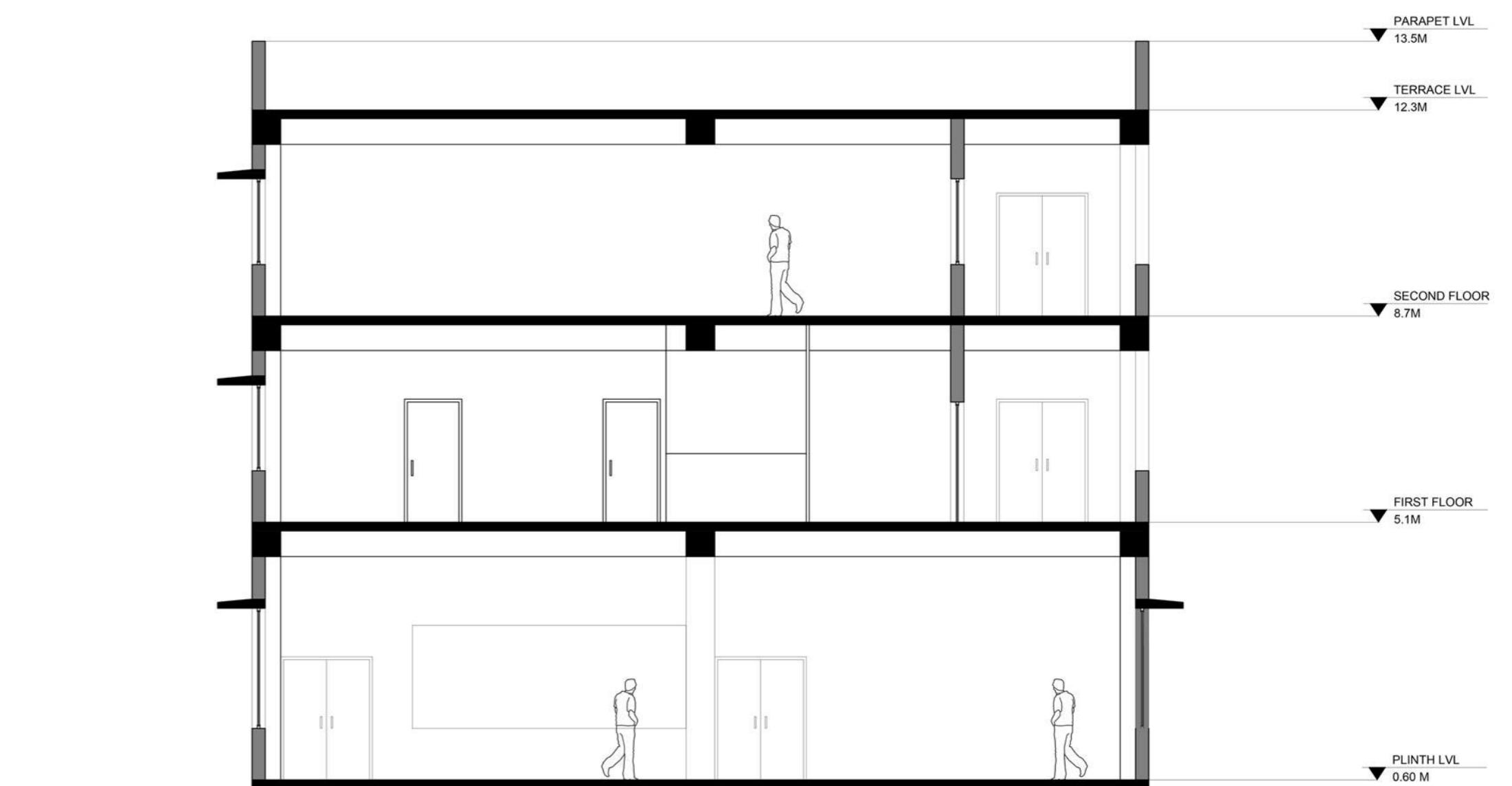
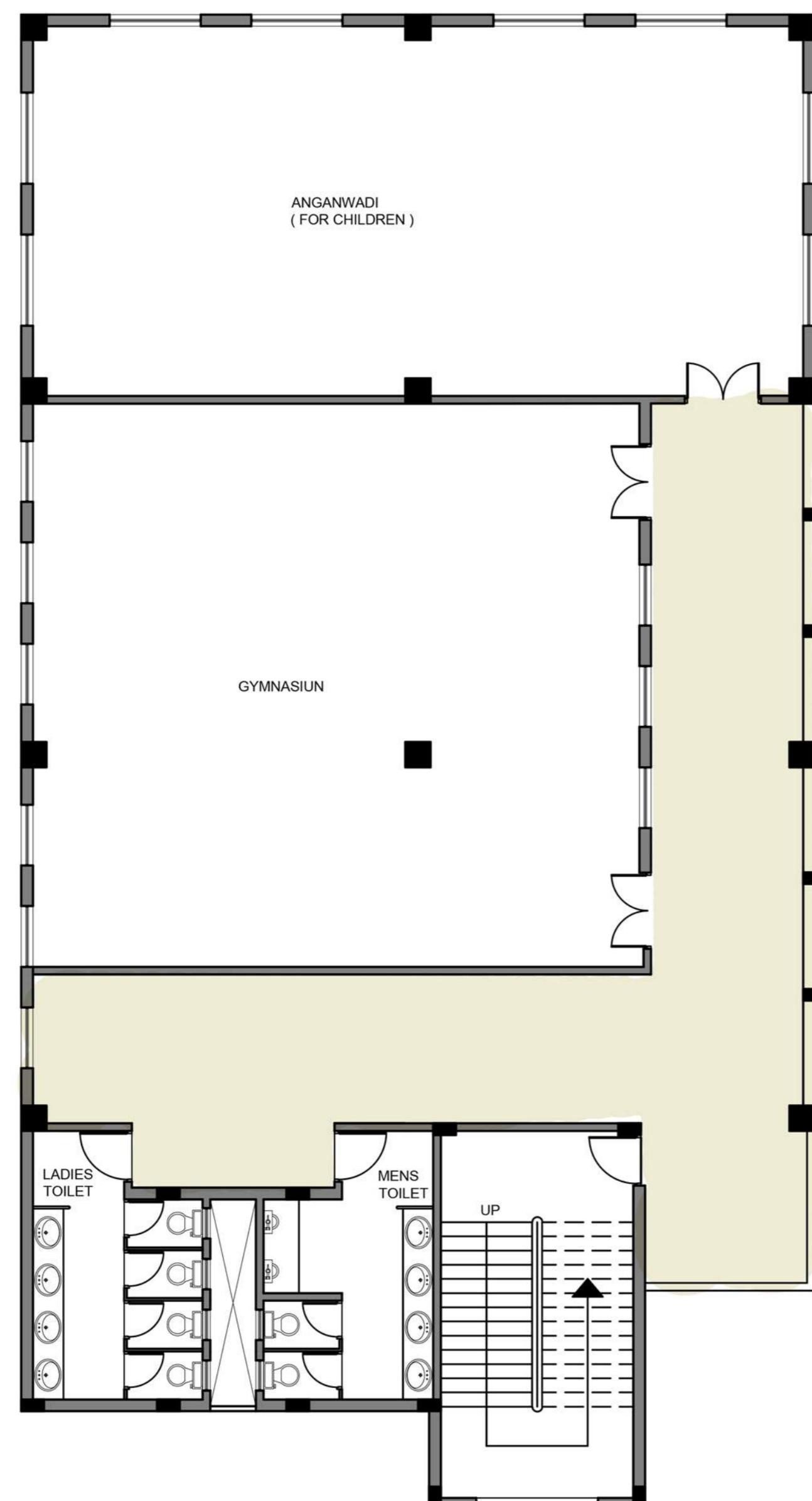
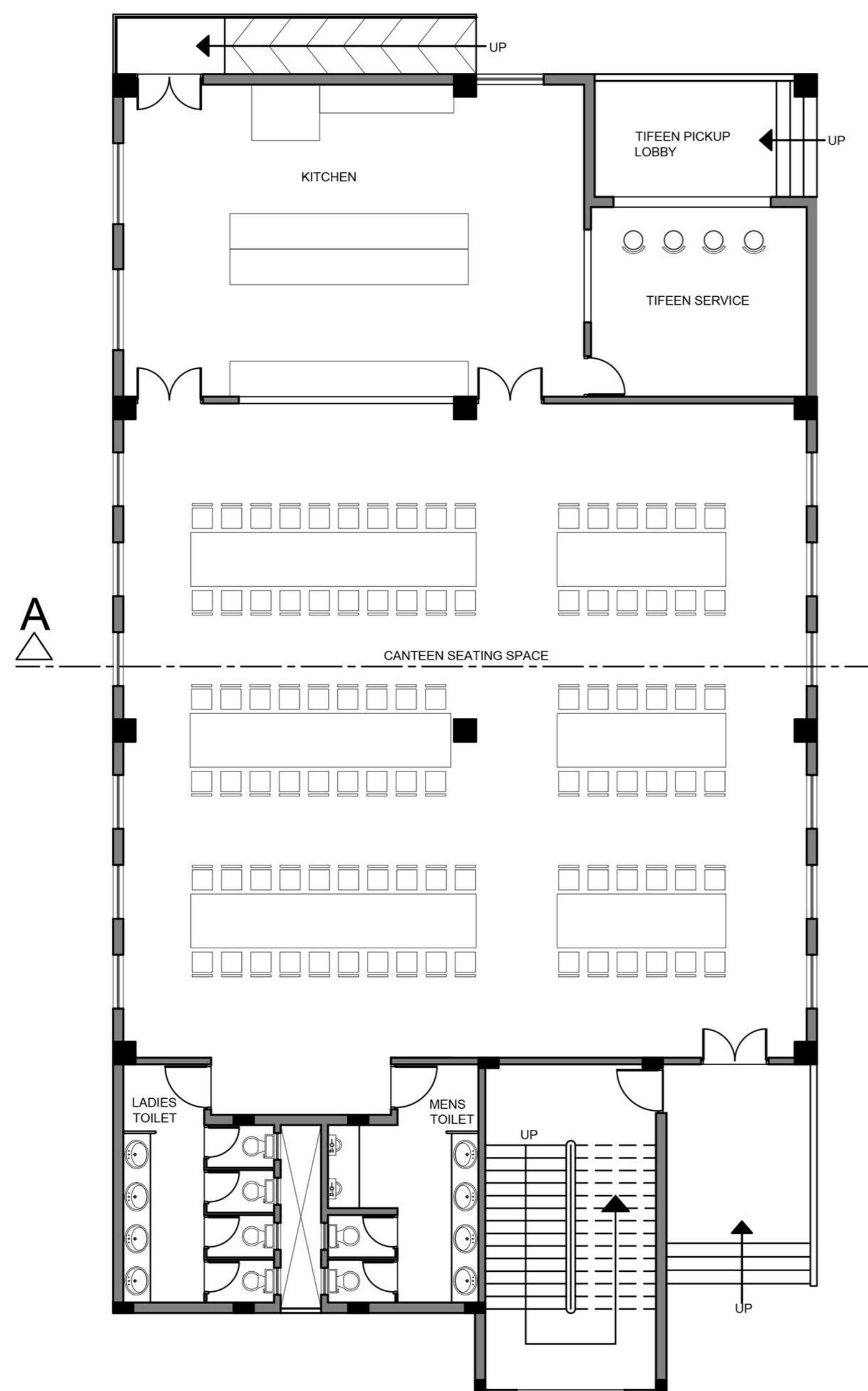
0 3 9 27



## LABOUR WELFARE CENTRE-FLOOR PLANS

URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?

TEAM 1-B  
Pranita Badade



GROUND FLOOR PLAN

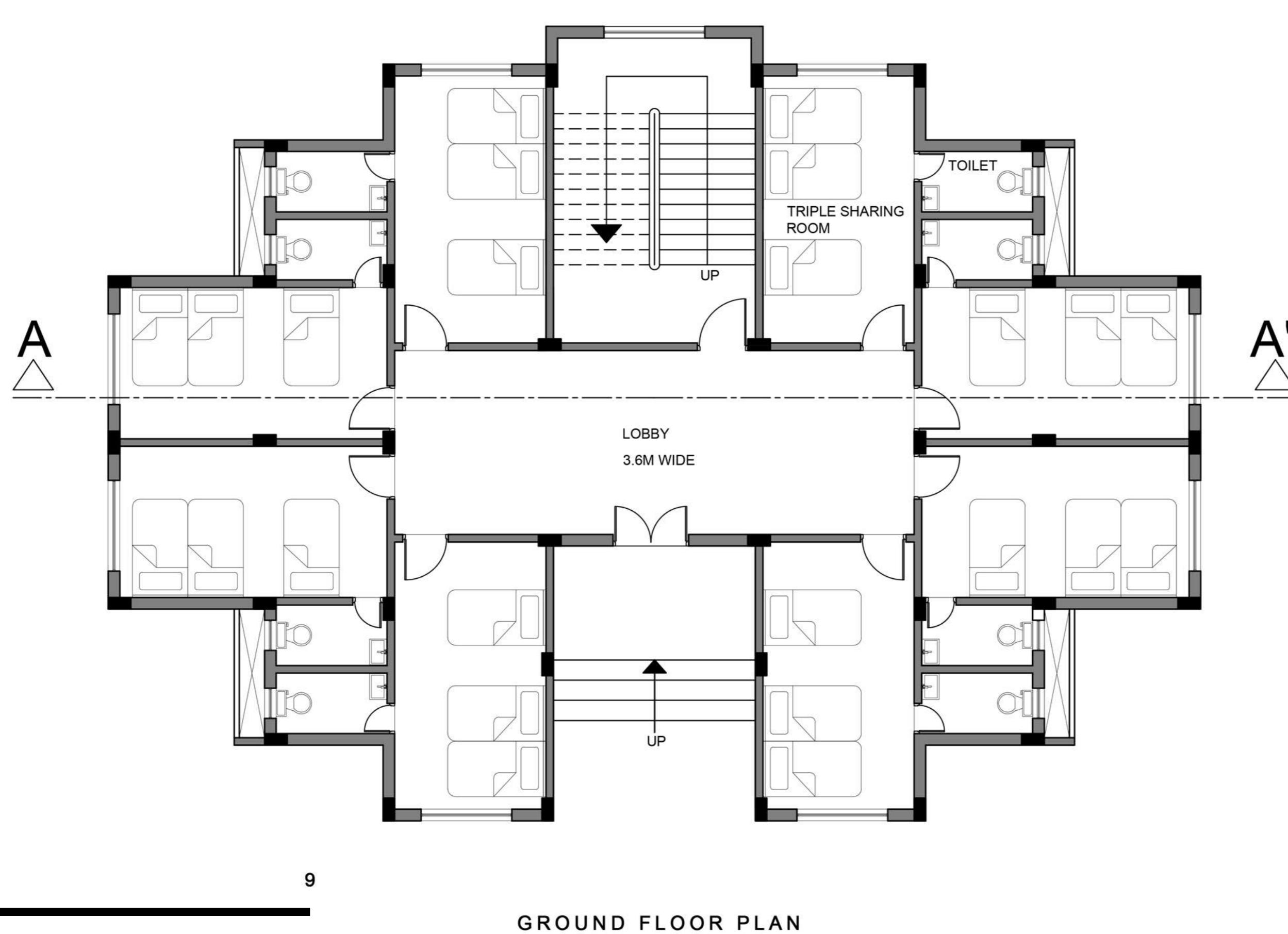
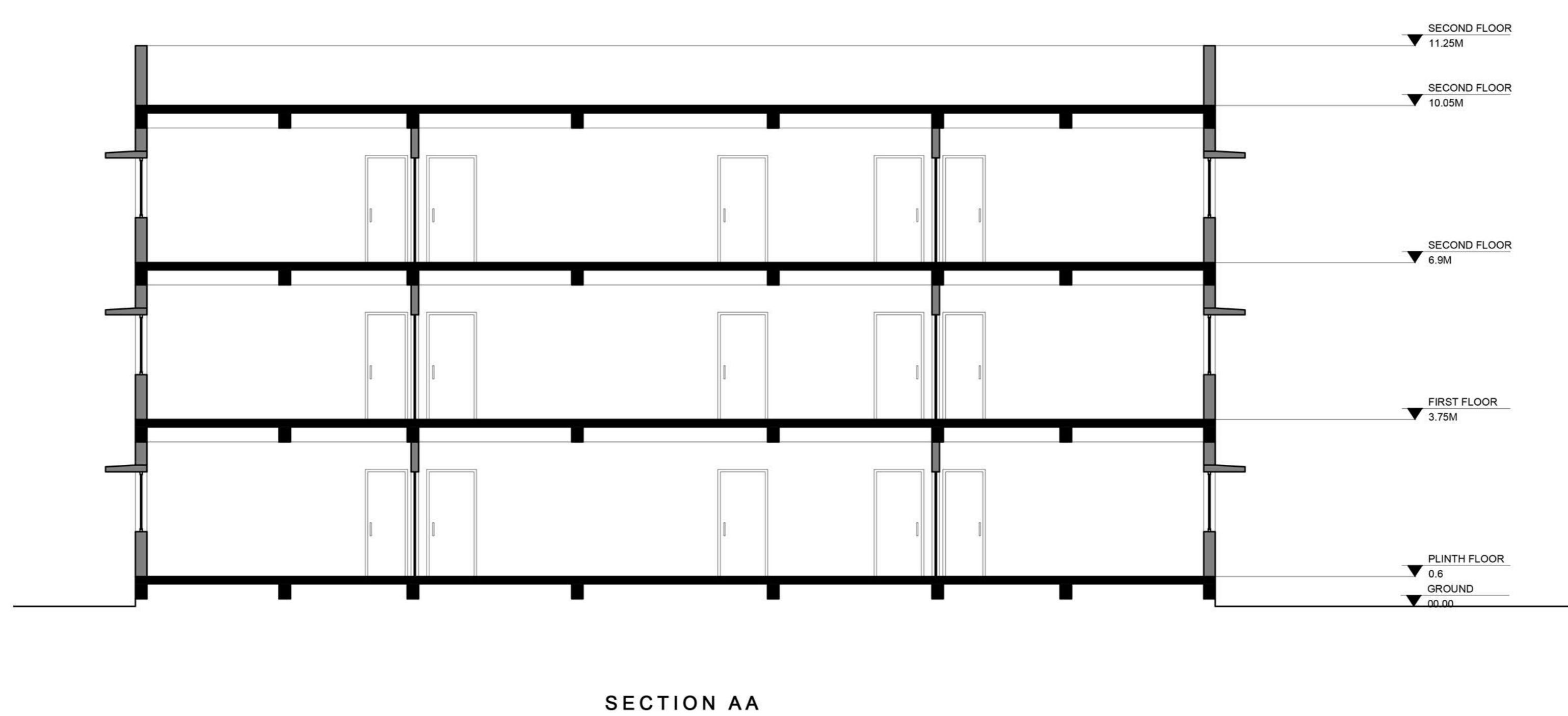
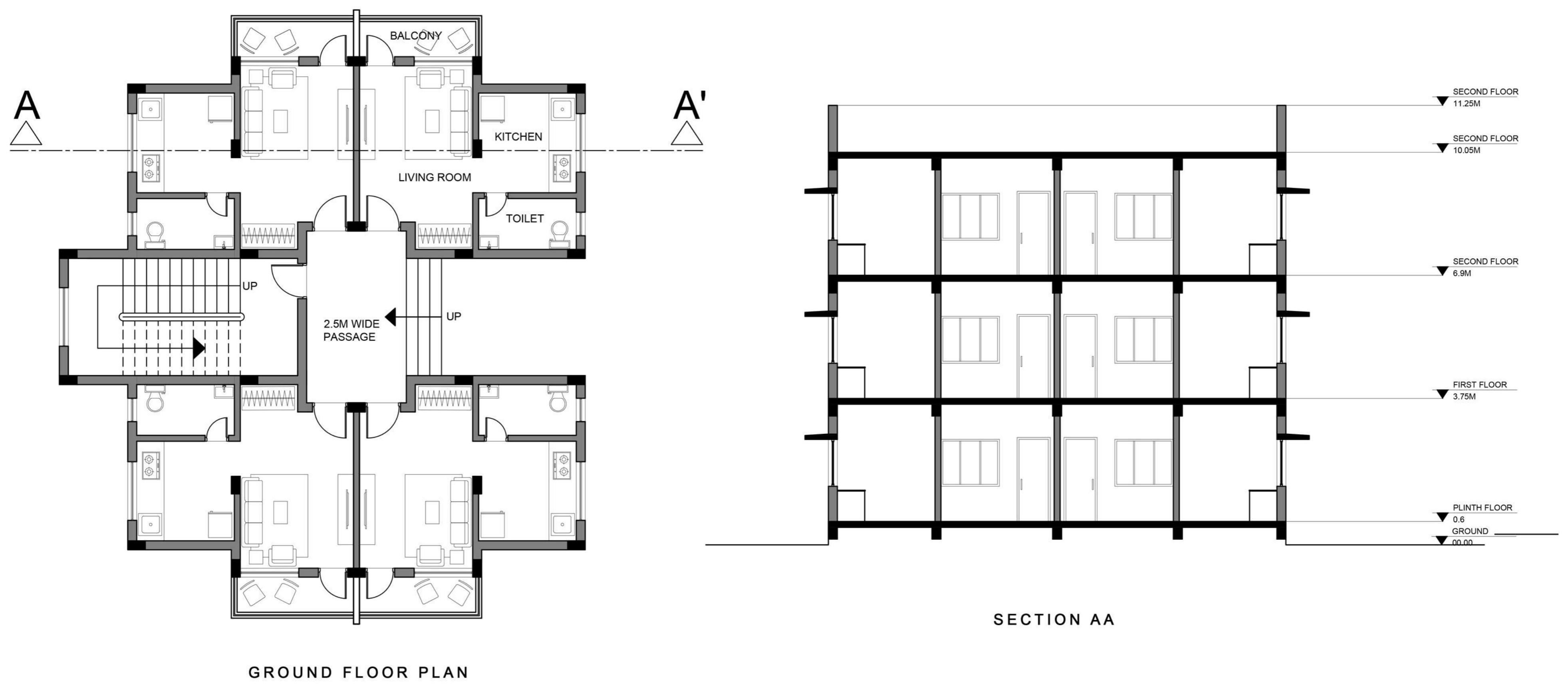
0 1.5 4.5 13.5



## LABOUR WELFARE CENTRE-FLOOR PLANS

URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?

TEAM 1-B  
Pranita Badade



## LABOUR WELFARE CENTRE-FLOOR PLANS

URBAN DESIGN- WATERS' EDGE IN THE CITY - RELIC OF URBAN IMAGEABILITY?

TEAM 1-B  
Pranita Badade